NE 1/4, SECTION 36, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.

RUDOLF RESIDENCE

8253 W MERCER WAY
MERCER ISLAND, WA 98040

CAUTION!

CALL BEFORE YOU DIG!

BURIED UTILITIES EXIST IN THE AREA AND UTILITY INFORMATION SHOWN MAY NOT BE COMPLETE. CONTACT THE ONE- CALL UTILITY LOCATE SERVICE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION

1-800-424-5555

OWNER

JAMES RUDOLF
500 108TH AVE NE, SUITE 905
BELLEVUE, WA 98004
646.773.2018

CONSULTANTS

ARCHITECT
TRWEBB HOMES
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13256 NE 20TH ST, SUITE 16
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425.747.5618
CONTACT: ROBERT WARD

SURVEYOR
LANKTREE LAND SURVEYING, INC
421 "B" ST NE
AUBURN, WA 98002
253.653.6423

GENERAL NOTES

GENERAL NOTES

1. STANDARD SPECIFICATIONS:
   A. ALL WORK TO BE PERFORMED AND MATERIALS TO BE USED SHALL BE IN ACCORDANCE WITH THE WSDOT/APWA 2016 STANDARD SPECIFICATIONS AND STANDARD PLANS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, AS APPLICABLE AND AS MODIFIED BELOW, AND UNLESS OTHERWISE NOTED, SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF MERCER ISLAND.
   B. LOCAL AMENDMENTS TO THE STANDARD SPECIFICATIONS, CONSISTING OF STANDARD DRAWINGS AND SPECIAL TECHNICAL CONDITIONS ARE REFERENCED IN THESE NOTES. COPIES OF THESE DOCUMENTS ARE AVAILABLE AT THE OFFICE OF THE CITY ENGINEER, CITY OF MERCER ISLAND, 9611 SE 36TH STREET, MERCER ISLAND, WA 98040.
   C. THESE SPECIFICATIONS SHALL BE APPLICABLE FOR, BUT NOT LIMITED TO, PUBLIC AND PRIVATE STREETS, DRIVEWAYS, PARKING LOTS, COMMERCIAL AND INDUSTRIAL DEVELOPMENTS, APARTMENTS, ETC. WORK IN PRIVATE DEVELOPMENTS SHALL CONFORM TO THE SAME STANDARDS OF WORKMANSHIP AND MATERIALS AS ARE SPECIFIED WITHIN THE CITY RIGHT-OF-WAY, EXCEPT AS INDICATED ON THE PLANS.

2. PERMITS:
   PRIOR TO CONSTRUCTION, AND IN ADDITION TO ANY OTHER PERMITS REQUIRED, A CITY OF MERCER ISLAND "STREET USE PERMIT" MUST BE OBTAINED FOR ANY AND ALL WORK WITHIN THE CITY RIGHT-OF-WAY.

3. PLANS:
   IT IS A REQUIREMENT OF THE CITY OF MERCER ISLAND ENGINEERING DEPARTMENT, THAT AN APPROVED SET OF CONSTRUCTION PLANS FOR ALL WORK BE KEPT ON THE CONSTRUCTION SITE AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

4. INSPECTION:
   THE ENGINEERING DEPARTMENT CONSTRUCTION INSPECTOR 236-5300, OR 236-3587. (24-HR TAPED INSPECTION LINE) SHALL BE NOTIFIED24-HOURS PRIOR TO STARTING ANY TYPE OF CONSTRUCTION INCLUDING CLEARING, SANITARY SEWERS, WATER MAINS, STORM DRAINS, CURB AND UTTERS, SIDEWALKS, DRIVEWAYS, STREET GRADING AND PAVING.

CONTROL OF MATERIAL

THE SOURCE OF SUPPLY AND A DETAILED LIST OF EACH LIST OF EACH OF THE MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO DELIVER. ONLY MATERIALS CONFORMING TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPROVED BY THE CITY SHALL BE USED IN THE WORK. TESTING OF MATERIALS MAY INCLUDE TESTS OF ACTUAL SAMPLES, MANUFACTURER'S CERTIFICATIONS, APPROVAL OF CATALOGUE CUTS, OR FIELD ACCEPTANCE REPORTS. TESTING OF MATERIALS FOR INCORPORATION IN PRIVATE WORK SHALL BE PERFORMED AT OTHER THAN CITY EXPENSE.

EROSION AND SEDIMENTATION CONTROL

1. THE IMPLEMENTATION OF THESE EROSION SEDIMENTATION CONTROL (ESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMIT HOLDER/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.

2. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO INSURE THAT SEDIMENT-LADEN WATER DIES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS, AND MUST BE COMPLETED PRIOR TO ALL OTHER CONSTRUCTION.

3. 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), 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.

4. THE ESC FACILITIES SHALL BE INSPECTED DAILY DURING NONRAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT AND AT THE END OF EVERY RAINFALL BY THE PERMIT HOLDER/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMP. SILTATION PONDS AND ALL TEMP. 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.

5. ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF SEVEN (7) DAYS, SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED ESC METHODS (E.G. SEEDING, MULCHING, NETTING, EROSION BLANKETS, ETC…).

6. ANY AREAS NEEDING ESC MEASURE, NOT REQUIRING IMMEDIATE ATTENTION, SHALL BE

7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.

8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER DOWNSTREAM SYSTEM.

9. STABILIZED CONSTRUCTION ENTRANCES AND WASH PADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL REQUIREMENTS SHALL BE ENFORCED BY THE INSPECTOR TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN OF SILT FROM CONSTRUCTION VEHICLES.

10. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE. (E.G. ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE)

EROSION AND SEDIMENTATION CONTROL (CONT)

11. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF THREE INCHES.

12. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.

13. EROSION/SEDIMENTATION CONTROL FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS IF DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

14. A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

15. TEMPORARY EROSION/SEDIMENTATION CONTROLS SHALL BE INSTALLED AND OPERATING PRIOR TO ANY GRADING OR LAND CLEARING.

16. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.

17. ALL CUT AND FILL SLOPES 5:1 (5 FEET HORIZONTAL TO 1 FOOT VERTICAL) OR STEEPER THAT WILL BE LEFT EXPOSED FOR MORE THAN 7 DAYS SHALL BE PROTECTED BY JUTE MATTING, PLASTIC SHEETING, MULCH, OR OTHER APPROVED STABILIZATION METHOD AND PROVIDED WITH ADEQUATE RUNOFF CONVEYANCE TO INTERCEPT RUNOFF AND CONVEY IT TO AN APPROVED STORM DRAIN.

18. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET, THE STREET SHALL BE CLEANED. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION VEHICLE ENTRANCE AND SHALL BE CLEANED OF MUD PRIOR TO EXITING ONTO THE STREET. SILT SHALL BE CLEANED FROM ALL CATCH BASINS WHEN THE BOTTOM HALF BECOMES FILLED WITH SILT.

19. ANY CATCH BASIN COLLECTING WATER FROM THE SITE, WHETHER THEY ARE ON OR OFF OF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION.

20. WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCES SHALL BE REPLACED AND THE FABRIC CLEANED IF CLOGGED BY SILT. ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.

21. IF ANY PORTION OF THE EROSION/SEDIMENTATION CONTROL ELEMENTS ARE DAMAGED OR NOT FUNCTIONING, OR IF THE CLEARING LIMIT BOUNDARY BECOMES NON-DEFINED, IT SHALL BE REPAIRED IMMEDIATELY.

STORM DRAINAGE CONSTRUCTION

1. STORM DRAINAGE PIPE:
   PIPE SHALL BE CONCRETE OR ALUMINUM METAL, WITHIN THE PUBLIC RIGHT OF WAY. CONCRETE PIPE UP TO AND INCLUDING 24" DIAMETER SHALL BE UNREINFORCED AND SHALL CONFORM TO ASTM C-14, TABLE II, EXTRA STRENGTH, RUBBER GASKETED. CORRUGATED ALUMINUM ALLOY CULVERT PIPE SHALL BE AASHTO M-196, M-197, M-211, AND M-219, HELICAL, GAUGES AND TYPES SHALL BE AS NOTED ON THE PLANS. REINFORCED PIPE SHALL CONFORM TO ASTM DESIGNATION C-76 UNLESS OTHERWISE SPECIFIED. STORM SEWER DETENTION PIPE GREATER THAN 24" DIAMETER SHALL BE RUBBER GASKETED, HELICAL CORRUGATED ALUMINUM PIPE. BEDDING TO BE CLASS "C". GAUGE OF PIPE WILL BE AS SHOWN ON THE PLANS. INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 7-04 OF THE SPECIFICATIONS AND MAY BE SUBJECT TO EXFILTRATION TEST.

2. OTHER MATERIALS:
   OTHER MATERIALS FOR STORM DRAINAGE CONSTRUCTION REQUIRE WRITTEN APPROVAL OF THE CITY ENGINEER.

3. BACKFILL RESTRICTIONS:
   A. BEDDING SHALL CONFORM TO STANDARD PLAN B-11
   B. MINIMUM COVER OVER STORM DRAIN SHALL BE 18".
   C. TRENCH BACKFILL COMPACTED TO 95% OF MAXIMUM DENSITY SHALL BE REQUIRED WHEREVER TRENCH EXCAVATION IS MADE IN PAVED ROADWAY, SIDEWALK OR ANY OTHER AREA WHERE MINOR SETTLEMENT WOULD BE DETRIMENTAL.

4. CATCH BASIN:
   A. TYPE 1, CATCH BASIN INLET SHALL CONFORM TO SECTION 7-05 OF THE STANDARD SPECIFICATIONS AND AS SHOWN ON STANDARD PLAN B-1. THE MAXIMUM DISTANCE TO INVERT IS 5'0" WITH A MAXIMUM PIPE DIAMETER UP TO 15" FOR CONCRETE PIPE, 18" FOR CMP. THE GRIT DROP CHAMBER IS A MINIMUM OF 18".
   B. TYPE 2, CATCH BASIN INLET SHALL CONFORM TO SECTION 7-05 OF THE STANDARD SPECIFICATION AND AS SHOWN ON STANDARD PLAN B-1B. MAXIMUM PIPE DIAMETER OF 24" FOR CONCRETE PIPE, 30' FOR CMP; A MINIMUM OF 8" BETWEEN HOLES. THE GRIT DROP CHAMBER IS A MINIMUM OF 24".

5. INLETS:
   CURB INLETS SHALL CONFORM TO SECTION 8-04 OF THE STANDARD SPECIFICATIONS AND AS SHOWN ON STANDARD PLAN B-41.

6. GRATE COVERS:
   A. COVERS FOR CATCH BASINS AND INLETS SHALL CONFORM TO OLYMPIC FOUNDRY CO. #SM50G OR EQUAL FOR SLOPES LESS THAN 3%. WHERE SLOPES EXCEED 3%, USE OLYMPIC FOUNDRY CO. #SM50V. GRATES SHALL BE DUCTILE IRON AND HAVE THE LETTERS "DUCTS" CAST IN THE COVER.
   B. SOLID COVERS FOR MANHOLES, WHERE PERMITTED, SHALL BE 24" DIAMETER, WITH "DRAIN" CAST IN COVER IN 2" LETTERS, CONFORMING TO OLYMPIC FOUNDRY CO. MH43, INLAND FOUNDRY NO. 835, OR APPROVED EQUAL.
   C. DRAINAGE STRUCTURES NOT WITHIN PUBLIC RIGHT-OF-WAY SHALL HAVE LOCKING LIDS.

7. FRAMES:
   FRAMES FOR CATCH BASINS AND INLETS SHALL BE OF CAST IRON OR DUCTILE IRON CONFORMING TO OLYMPIC FOUNDRY CO. SM50 OR EQUAL. VANED GRATES(SM50V) SHALL BE INSTALLED WHERE SHOWN ON THE PLANS, EXCEPT THROUGH-CURB INLET FRAMES WHICH SHALL CONFORM TO OLYMPIC FOUNDRY CO. SM52 OR EQUAL.

LEGAL DESCRIPTION

(PER FIDELITY NATIONAL TITLE INSURANCE COMPANY SUBDIVISION GUARANTEE NO. 611086191, DATED SEPTEMBER 10, 2014 AT 12:00AM)

FOR AUDITOR'S PARCEL NUMBER: 335850 0490

THAT PORTION OF TRACT 572, C. D. HILLMAN'S SEA SHORE - LAKE FRONT GARDEN OF EDEN ADDITION TO THE CITY OF SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 12 OF PLATS, PAGE(S) 44, IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT AN IRON POST LOCATED AT THE MOST NORTHERLY CORNER OF TRACT 572, SAID IRON POST BEING LOCATED SOUTH 41°40' WEST A DISTANCE OF 37.00 FEET FROM AN INTERSECTION WITH THE CENTERLINE TANGENT PRODUCED OF WEST MERCER WAY, SAID TANGENT HAVING A BEARING OF 50° EAST, AND SAID POST BEING THE INTERSECTION OF THE NORTHWESTERLY MARGIN OF TRACT 572 AND THE SOUTHWESTERLY MARGIN OF COUNTY ROAD (WEST MERCER WAY) RECORDED UNDER RECORDING NUMBER 928842, IN KING COUNTY, WASHINGTON, AND THE TRUE POINT OF BEGINNING;
THENCE SOUTH 41°40' WEST A DISTANCE OF 230.33 FEET;
THENCE SOUTH 46°44'44" EAST A DISTANCE OF 100.12 FEET;
THENCE NORTH 41°38'48" EAST A DISTANCE OF 230.33 FEET TO THE SOUTHERLY MARGIN OF WEST MERCER WAY;
THENCE NORTH 46°44'44" WEST A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

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C4.1	WATER & SEWER PLAN

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1	SURVEY
2	SURVEY

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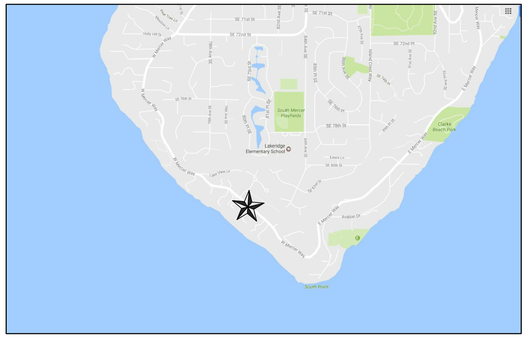
L2.2	IRRIGATION SPECIFICATIONS

BASIS OF ELEVATION

VERTICAL DATUM FOR THIS SURVEY IS NAVD88 PER CITY OF MERCER ISLAND. CITY OF MERCER ISLAND CONTROL POINT NO. 4332 WAS HELD FOR ELEVATION, BEING 140.594'

PARCEL NUMBER

3358500490



VICINITY MAP

NTS ★ = PROJECT SITE

LEGEND

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE	━━ ━ ━ ━━	━━ ━ ━ ━━
ADJACENT PROPERTY LINE	—— — — ——	—— — — ——
CENTERLINE	—— — ——	—— — ——
CLEARING LIMITS		∧∧∧∧∧∧∧∧
SILT FENCE	— X — X —	— X — X —
CONTOUR LINE	— — — 100 — — —	—— 100 ——
FENCE	—□—□—□—	—□—□—□—
SANITARY SEWER LINE	→ — SS — → — SS	→ SS → SS
MANHOLE	○	●
STORM DRAIN MAIN	→ — SD — → — SD	→ SD → SD
STORM DRAIN PIPE	— — — — ▷	——— ▶
ROOF DRAIN	— — R — — R — — R —	— R — R —
FOOTING DRAIN	— — F — — F — — F —	— F — F —
PRESSURE LINE	— — P — — P — — P —	— P — P —
CATCH BASIN (TYPE 1)	□	■
CATCH BASIN (TYPE 2)	▢	■
CLEANOUT	∘	•
CLEANOUT AND WYE		
GRADE BREAK	— — — — —	━ ━ ━ ━ ━
SURFACE SWALE	· > — · · > — ·	· > — · · > — ·
DRAINAGE ARROW	→	→
WATER LINE	— — WA — — WA —	— WA — WA —
WATER METER	⊞	■
FIRE HYDRANT		
FDC		
PIV	○	●
GATE VALVE	⧖	⧗
TEE	⊥	⊥
90° BEND	┘	┘
THRUST BLOCKING	△	▲
CAP	⌴	⌴
CONCRETE PAVEMENT	▨	▨
ASPHALT PAVEMENT		▨
CRUSHED SURFACING	▨	▨
ROCKERY	○○○○○○○○○	○○○○○○○○○
SPOT ELEVATION	20.0	20.0
TELEPHONE LINE	— — T — — T — — T —	— T — T —
POWER LINE	— — E — — E — — E —	— E — E —
GAS LINE	— — G — — G — — G —	— G — G —
SIGN	⊓	⊓

ABBREVIATIONS			
ABN	ABANDONED	MIN	MINIMUM
BLDG	BUILDING	MJ	MECHANICAL JOINT
BOW	BOTTOM OF WALL	MON	MONUMENT
℄	CENTERLINE	NTS	NOT TO SCALE
CB	CATCH BASIN	OC	ON CENTER
CMP	CORRUGATED METAL PIPE	PC	POINT OF CURVATURE
CO	CLEANOUT	PI	POINT OF INTERSECTION
CONC	CONCRETE	PIV	POST INDICATOR VALVE
CONST	CONSTRUCTION	⅊	PROPERTY LINE
CP	CONCRETE PIPE	PT	POINT OF TANGENCY
CU YD	CUBIC YARD	PVC	POLYVINYL CHLORIDE PIPE
DDCVA	DOUBLE DETECTOR CHECK VALVE ASSEMBLY	PVI	POINT OF VERTICAL INTERSECTION
DI	DUCTILE IRON PIPE	PVMT	PAVEMENT
DIA	DIAMETER	PVT	POINT OF VERTICAL TANG.
DIP	DUCTILE IRON PIPE	R	RADIUS
EA	EACH	REINF	REINFORCEMENT
EJ	EXPANSION JOINT	RJ	RESTRAINED JOINT
ELEV	ELEVATION	RET	RETAINING
EOP	EDGE OF PAVEMENT	RT	RIGHT
EX	EXISTING	SD	STORM DRAIN
FDC	FIRE DEPT. CONNECTION	SECT	SECTION
FFE	FINISHED FLOOR ELEVATION	SDMH	STORM DRAIN MANHOLE
FH	FIRE HYDRANT	SIM	SIMILAR
FL	FLANGE	SQ	SQUARE
FT	FEET/FOOT	SS	SANITARY SEWER
GV	GATE VALVE	SSMH	SANITARY SEWER MANHOLE
HP	HIGH POINT	STA	STATION
HT	HEIGHT	STD	STANDARD
ID	INSIDE DIAMETER	STL	STEEL
IE	INVERT ELEVATION	TB	THRUST BLOCK
L	LENGTH/LINE	TOC	TOP OF CURB
LCPE	LINED CORRUGATED POLYETHYLENE PIPE	TOW	TOP OF WALL
LF	LINEAL FOOT	TOP	TOP ELEVATION
LP	LOW POINT	TYP	TYPICAL
LT	LEFT	VC	VERTICAL CURVE
MAX	MAXIMUM	W/	WITH
MECH	MECHANICAL	WM	WATER METER
MH	MANHOLE		

CG ENGINEERING
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PHONE (425) 778-8500
FAX (425) 778-5536

GREG GUILLEN
25385
Greg Guillen
05/07/19

MARK	DATE	DESCRIPTION
	04/05/17	PERMIT SUBMITTAL
	03/07/18	PERMIT RESUBMITTAL
	05/11/18	PERMIT SUBMITTAL
	06/08/18	PERMIT RESUBMITTAL
	01/18/19	PERMIT RESUBMITTAL
	05/07/19	PERMIT RESUBMITTAL

DESIGN: VD
DRAWN: ZOS
CHECK: JPU
JOB NO: 15227.20
DATE: 04/05/17

RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

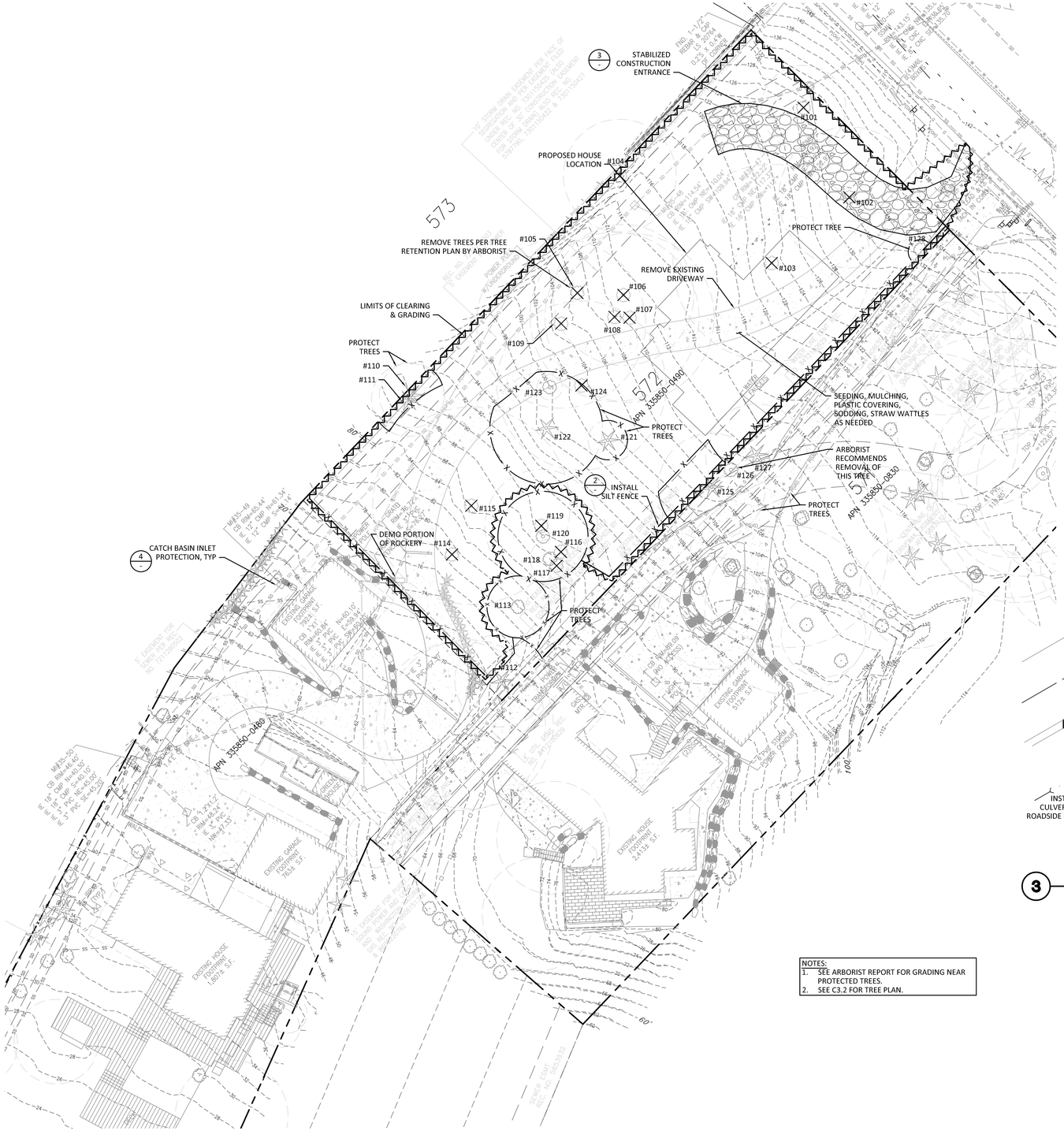
COVER SHEET AND
GENERAL NOTES

FILE NAME:

SHEET:

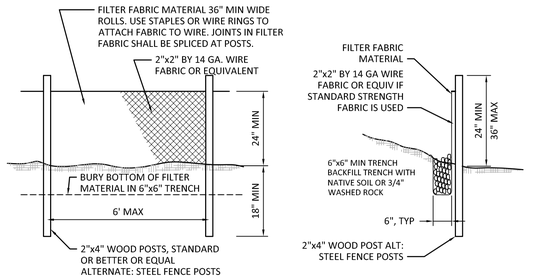
C1.1

NE 1/4, SECTION 36, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.



NOTES:
1. SEE ARBORIST REPORT FOR GRADING NEAR PROTECTED TREES.
2. SEE C3.2 FOR TREE PLAN.

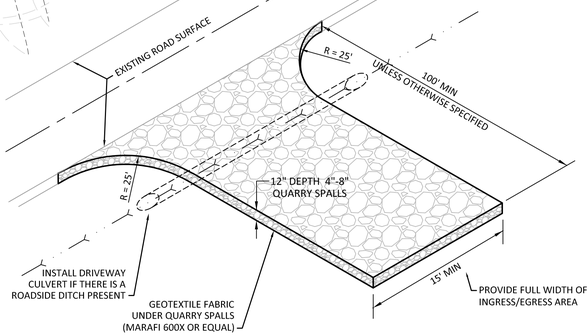
1 TEMPORARY EROSION CONTROL PLAN
SCALE: 1" = 20'



SILT FENCE NOTES:

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6 INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.
2. THE SILT FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS (WHERE FEASIBLE). THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 18 INCHES).
3. A SHALLOW TRENCH SHALL BE EXCAVATED, ROUGHLY 6 INCHES WIDE AND 6 INCHES DEEP, UPSLOPE AND ADJACENT TO THE WOOD POSTS TO ALLOW THE LOWER EDGE OF THE FILTER FABRIC TO BE SECURED WITH GRAVEL.
4. WHEN FILTER FABRIC NOT AS STRONG AS MIRAFI 700X IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE MESH SHALL EXTEND INTO THE SHALLOW TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
5. THE MIRAFI 700X FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND AT LEAST 18 INCHES OF THE FABRIC SHALL BE BURIED IN THE SHALLOW TRENCH. THE FILTER FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT BE STAPLED TO TREES.
6. WHEN EXTRA-STRENGTH FILTER FABRIC (MIRAFI 700X OR EQUAL) AND FOUR (4') POST SPACING IS USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF NOTE 5 APPLYING.
7. THE TRENCH SHALL BE BACKFILLED WITH NATIVE SOIL OR 3/4" -1.5" WASHED ROCK.
8. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED. THE NEWLY DISTURBED AREAS RESULTING FROM SILT FENCE REMOVAL SHALL BE IMMEDIATELY SEEDED AND MULCHED, OR OTHERWISE PERMANENTLY STABILIZED TO THE SATISFACTION OF THE CIVIL INSPECTOR.
9. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
10. MAINTENANCE: ANY DAMAGED OR CLOGGED FENCE SHALL BE REPAIRED/REPLACED IMMEDIATELY. SEDIMENT MUST BE REMOVED WHEN THE SEDIMENT DEPTH IS 6 INCHES OR GREATER. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND.

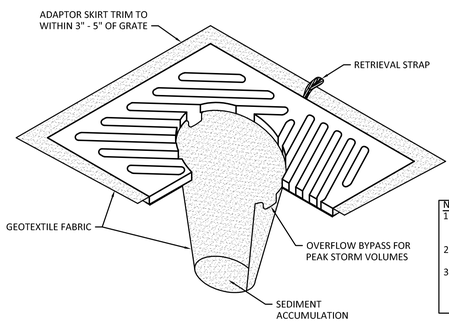
2 SILT FENCE
SCALE: 1/2" = 1'-0"



STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. INSTALLATION: THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL. THE QUARRY SPALLS SHALL BE PLACED TO THE SPECIFIED DIMENSIONS. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS IN THE PLAN. IF WASH RACKS ARE USED, THEY SHOULD BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. AGGREGATE: 4" TO 8" QUARRY SPALLS PER WSDOT STD. SPECS. SEC. 9-13.6.\
3. ENTRANCE DIMENSIONS: THE AGGREGATE LAYER MUST BE AT LEAST 12" THICK. IT MUST EXTEND THE FULL WIDTH OF THE VEHICULAR INGRESS AND EGRESS AREA. THE LENGTH OF THE ENTRANCE MUST BE AT LEAST 100 FEET (UNLESS OTHERWISE APPROVE BY CIVIL INSPECTOR).
4. WASHING: IF CONDITIONS ON THE SITE ARE SUCH THAT MOST OF THE MUD IS NOT REMOVED FROM VEHICLE TIRES BY CONTACT WITH THE ROCK ENTRANCE, THEN THE TIRES MUST BE WASHED BEFORE VEHICLES ENTER A PUBLIC ROAD. WASH WATER MUST BE CARRIED AWAY FROM THE ENTRANCE TO A SETTLING AREA TO REMOVE SEDIMENT. A WASH RACK MAY ALSO BE USED TO MAKE WASHING MORE CONVENIENT AND EFFECTIVE.
5. MAINTAINENCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2" STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAY OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY BY SWEEPING. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY.

3 STABILIZED CONSTRUCTION ENTRANCE
SCALE: NTS



NOTES:
1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY OR UPON PLACEMENT OF A NEW CATCH BASIN.
2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, AND RE-INSERTING INTO THE CATCH BASIN.

4 CATCH BASIN INSERT
SCALE: NTS

CG ENGINEERING
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GREG GUILLEN — STATE OF WASHINGTON — 23385 REGISTERED PROFESSIONAL ENGINEER
05/07/19

MARK	DATE	DESCRIPTION
	04/05/17	PERMIT SUBMITTAL
	03/07/18	PERMIT RESUBMITTAL
	05/11/18	PERMIT SUBMITTAL
	06/08/18	PERMIT RESUBMITTAL
	01/18/19	PERMIT RESUBMITTAL
	05/07/19	PERMIT RESUBMITTAL

DESIGN:	VD
DRAWN:	ZOS
CHECK:	JPU
JOB NO:	15227.20
DATE:	04/05/17

RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

TEMPORARY EROSION CONTROL PLAN

FILE NAME:

SHEET:
C2.1

NE 1/4, SECTION 36, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.

CATCH BASIN SCHEDULE

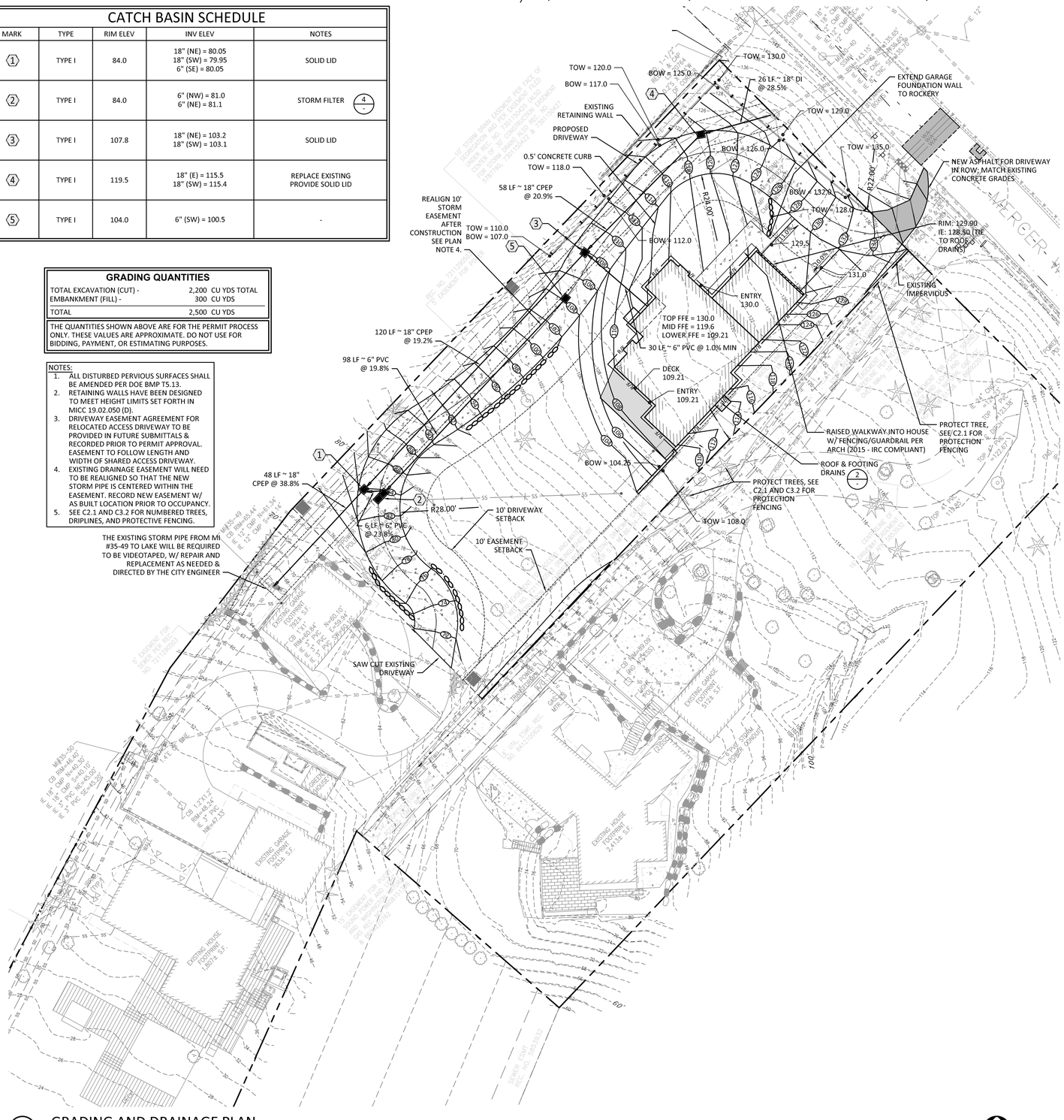
MARK	TYPE	RIM ELEV	INV ELEV	NOTES
1	TYPE I	84.0	18" (NE) = 80.05 18" (SW) = 79.95 6" (SE) = 80.05	SOLID LID
2	TYPE I	84.0	6" (NW) = 81.0 6" (NE) = 81.1	STORM FILTER (4)
3	TYPE I	107.8	18" (NE) = 103.2 18" (SW) = 103.1	SOLID LID
4	TYPE I	119.5	18" (E) = 115.5 18" (SW) = 115.4	REPLACE EXISTING PROVIDE SOLID LID
5	TYPE I	104.0	6" (SW) = 100.5	-

GRADING QUANTITIES

TOTAL EXCAVATION (CUT) -	2,200	CU YDS TOTAL
EMBANKMENT (FILL) -	300	CU YDS
TOTAL	2,500	CU YDS

THE QUANTITIES SHOWN ABOVE ARE FOR THE PERMIT PROCESS ONLY. THESE VALUES ARE APPROXIMATE. DO NOT USE FOR BIDDING, PAYMENT, OR ESTIMATING PURPOSES.

NOTES:
1. ALL DISTURBED PERVIOUS SURFACES SHALL BE AMENDED PER DOE BMP T5.13.
2. RETAINING WALLS HAVE BEEN DESIGNED TO MEET HEIGHT LIMITS SET FORTH IN MICC 19.02.050 (D).
3. DRIVEWAY EASEMENT AGREEMENT FOR RELOCATED ACCESS DRIVEWAY TO BE PROVIDED IN FUTURE SUBMITTALS & RECORDED PRIOR TO PERMIT APPROVAL. EASEMENT TO FOLLOW LENGTH AND WIDTH OF SHARED ACCESS DRIVEWAY.
4. EXISTING DRAINAGE EASEMENT WILL NEED TO BE REALIGNED SO THAT THE NEW STORM PIPE IS CENTERED WITHIN THE EASEMENT. RECORD NEW EASEMENT W/ AS BUILT LOCATION PRIOR TO OCCUPANCY.
5. SEE C2.1 AND C3.2 FOR NUMBERED TREES, DRIPLINES, AND PROTECTIVE FENCING.

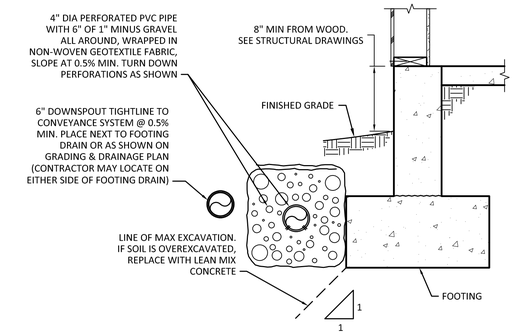


1 GRADING AND DRAINAGE PLAN
SCALE: 1" = 20'

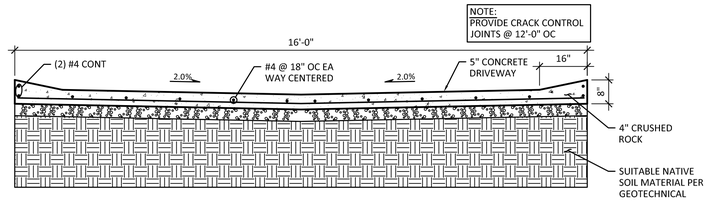
IMPERVIOUS AREAS (SF):

PAVEMENT	=	5,836
ROOF	=	2,493
TOTAL	=	8,329

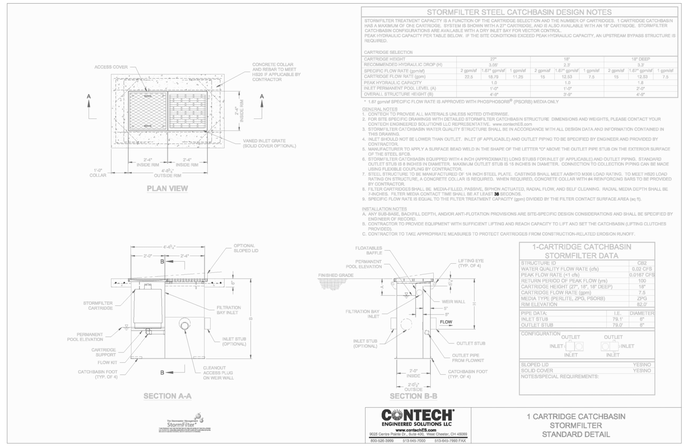
*NOTE: REFER TO ARCH PLANS FOR LOT COVERAGE CALCULATION



2 FOOTING AND ROOF DRAIN SECTION
SCALE: NTS



3 TYPICAL DRIVEWAY CROSS SECTION
SCALE: 1/2" = 1'-0"



4 STORMFILTER DETAIL
SCALE: 1" = 1'-0"

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GREG GUILLEN — STATE OF WASHINGTON — 23381 REGISTERED PROFESSIONAL ENGINEER
05/07/19

MARK	DATE	DESCRIPTION
	04/05/17	PERMIT SUBMITTAL
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	05/11/18	PERMIT SUBMITTAL
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DESIGN:	VD
DRAWN:	ZOS
CHECK:	JPU
JOB NO:	15227.20
DATE:	04/05/17

RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

GRADING AND DRAINAGE PLAN

FILE NAME:

SHEET:

C3.1

NE 1/4, SECTION 36, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.

NOTES:
1. PLAN BUILT IN REFERENCE TO 9/18/18 TREE REPORT BY URBAN FORESTRY SERVICES, INC.
2. TREE DENOTED WITH AN "X" ARE TO BE REMOVED AND ARE NOT DEPICTED IN OTHER "PROPOSED WORK" SHEETS OF THIS SET.
3. ARBORIST TO EVALUATE ALL WORK WITHIN TREE DRIP LINES DURING CONSTRUCTION TO PROTECT TREES. PROVIDE PROTECTION BEYOND DRIP LINES AS FEASIBLE AS CONSTRUCTION OCCURS.
4. BEST BUILDING PRACTICES WILL INSTITUTED TO ADDRESS IMPACTS WITHIN DRIP LINES.
5. SEE ARBORIST REPORT FOR RECOMMENDATIONS ABOUT GRADING NEAR PROTECTED TREES.

TREE LEGEND

○ ✩	NON-EXCEPTIONAL TREE
● ★	EXCEPTIONAL TREE
—— X ——	TREE PROTECTION FENCE-SET @ DRIPLINE OR INTERIOR CRITICAL ROOT ZONE (1/2 CRZ). (SEE TABLE)
▩	IMPACTS PROHIBITING FULL FENCED RADIUS
▨	REMOVE EXISTING DRIVEWAY; ADD FENCE AS SHOWN FOLLOWING REMOVAL

① TREE PLAN
SCALE: 1" = 20'

APPLY 18" OF WOOD CHIPS OR OTHER GROUND PROTECTION WITH FENCING

FENCE LOCATED PER TABLE AND PLAN. STEEL POST W/ 4' ORANGE FENCING. FENCING SHALL NOT BE MOVED W/O AUTHORIZATION BY ARBORIST. NO PARKING, STORAGE OR DUMPING WITHIN FENCE. REQUIRES WEEKLY INSPECTION AND MAINTENANCE.

② TREE PROTECTION DETAIL
SCALE: NTS

Rudolf Property Tree Evaluation Table
Based on Urban Forestry Services Tree Report dated 9/18/18

Tree #	Species	DBH (in)	Dripline (ft)	CRZ (ft)	Preservation Value	Arborist Recommendation	Plan
101	Red alder	17.2	14	17.2	Low	Remove Tree, Construction Risk of Failure	Remove
102	Red alder	14.8, 12.8, 12.8	20	23.4	Low	Remove Tree, Construction Impact	Remove
103	Cherry	23.5	22	23.5	Low	Remove Tree, Construction Impact	Remove
104	Bigleaf maple	25.9	24	25.9	Low	Remove Tree, Construction Risk of Failure	Remove
105	Bigleaf maple	18	12	18	Medium	Remove Tree, Construction Impact - Retain Tree with Plan Adjustments	Remove
106	Bigleaf maple	15.4	9.5	15.4	Low	Remove Tree, Construction Impact	Remove
107	Bigleaf maple	17.8	18.5	17.8	Low	Remove Tree, Construction Impact	Remove
108	Bigleaf maple	13.7	7.5	13.7	Low	Remove Tree, Construction Impact	Remove
109	Bigleaf maple	16.5	12.8	16.5	Low	Remove Tree, Construction Impact	Remove
110	Western red cedar	25.3	11.8	25.3	Medium	Remove Tree, Construction Risk of Failure - Retain Tree with Plan Adjustments. New road development should not impact more than 1/4 critical root zone of tree. Fence around interior crz (15'). Excavation within CRZ will be conducted by hand or with pneumatic tool for air excavation.	**Retain**
111	Western red cedar	29.3	13.5	29.3	High	Remove Tree, Construction Rise of Failure - Retain Tree with Plan Adjustments. New road development should not impact more than 1/4 critical root zone of tree. Fence around interior crz (15'). Excavation within CRZ will be conducted by hand or with pneumatic tool for air excavation.	**Retain**
112	Douglas Fir	20.3	16.5	20.3	Low	Monitor Tree, Risk of Failure - Retain Tree	**Retain**
113	Pacific madrone	10.1, 3.2 (10.59)	11	10.6	Exceptional - High	Fence Around Dripline, 11'. Retain Tree - Tree Protection Required	**Retain**
114	Bigleaf maple	45	13.5	45	None	Remove Tree, Hazard - Cut to Create a Wildlife Tree	Remove
115	Bigleaf maple	15.8, 28 (32.15)	9.5	32.2	None	Remove Tree, Hazard - Create Wildlife Tree	Remove
116	Black cottonwood	37.5	5.5	37.5	None	Remove Tree, Hazard - Cut to Create a Wildlife Tree	Remove
117	Bigleaf maple	14	6.5	14	Low	Remove Tree, Hazard - Create Wildlife Tree	Remove
118	Bigleaf maple	17.1	7	17.1	Medium	Retain Tree - Monitor Tree, During Construction. Fence For 120 Covers Dripline & Interior CRZ.	**Retain**
119	Black cottonwood	35	7.3	35	None	Remove Tree, Hazard	Remove
120	Black cottonwood	38	16	38	Low	Retain Tree - Tree Protection Required. Fence Around Interior CRZ (19'). Retain Snags And Stumps For Large Trees Surrounding This Tree.	**Retain**
121	Western red cedar	21.3	7	21.3	Medium	Retain Tree - Tree Protection Required. Fence Around Interior CRZ (11')	**Retain**
122	Douglas Fir	45.8	20	45.8	Exceptional - High	Retain Tree with Plan Adjustments. Fence Around Interior CRZ (23') Arborist Oversight Should Occur During Excavation For The Wall To Assess Root Damage And Impacts To Tree Stability	**Retain**
123	Bigleaf maple	10.3	4.5	10.3	Low	Retain Tree - Monitor Tree, During Construction. Fence For 122 Covers Dripline And Interior CRZ.	**Retain**
124	Bigleaf maple	18.2	8.5	18.2	Low	Remove Tree, Construction Impact	Remove
125	Douglas Fir	32.5	19	32.5	Exceptional - Low	Monitor Tree, Risk of Failure - Tree Protection Required, Monitor During Construction - Monitor Tree, Construction Impacts	Offsite
126	Bitter cherry	14.5	0	14.5	None	Create Wildlife Tree - Remove Tree, Dead	Offsite
127	Douglas Fir	39.5	18	39.5	Exceptional - Medium	Monitor Tree, Risk of Failure - Tree Protection Required, Monitor During Construction - Retain Tree With Plan Adjustments	Offsite
128	Bigleaf maple	34	14.3	34	None	Crown Clean Prune - Install Tree Protection Fencing - Monitor Tree, Risk of Failure - Cut to Create a Wildlife Tree	Offsite
129	Bigleaf maple	18, 18 (25.46)	15	25.5	None	Remove Tree, Hazard - Cut to Create a Wildlife Tree	Offsite
130	Kwanzan cherry	6	4	6	Medium	Crown Reduction Prune - Install Tree Protection Fencing - Monitor Tree, Construction Impacts	Offsite
131	Kwanzan cherry	6		6	Medium	Crown Reduction Prune - Install Tree Protection Fencing - Monitor Tree, Construction Impacts	Offsite
132	Arborvitae	4	4	4	Low	Install Tree Protection Fencing - Monitor Tree, Construction Impacts	Offsite

③ TREE EVALUATION TABLE (BASED ON TREE REPORT)
SCALE: 1" = 20'

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GREG GUILLEN
25385
05/07/19

MARK	DATE	DESCRIPTION
	04/05/17	PERMIT SUBMITTAL
	03/07/18	PERMIT RESUBMITTAL
	05/11/18	PERMIT SUBMITTAL
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DESIGN:	VD
DRAWN:	ZOS
CHECK:	JPU
JOB NO:	15227.20
DATE:	04/05/17

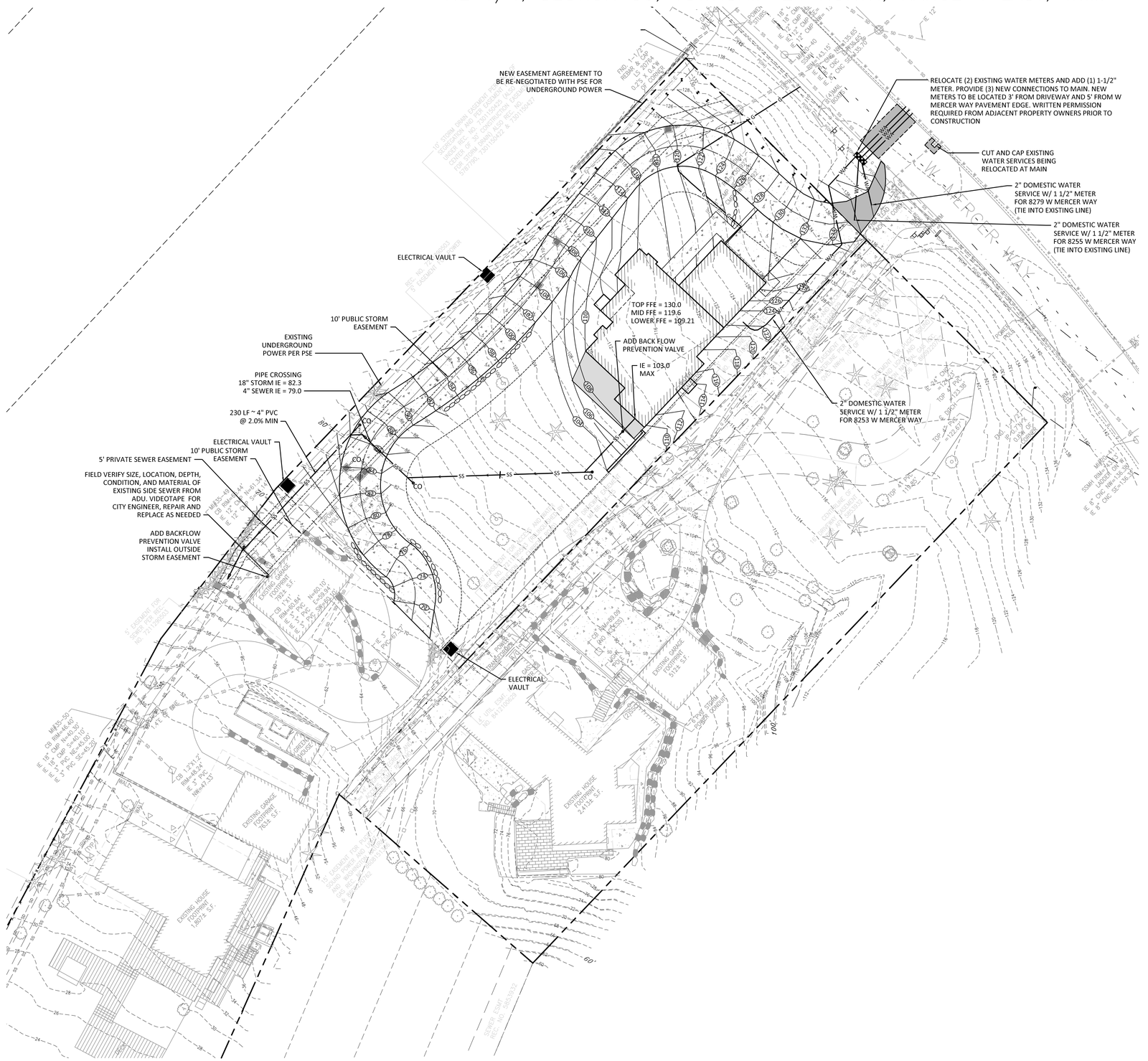
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

TREE PLAN

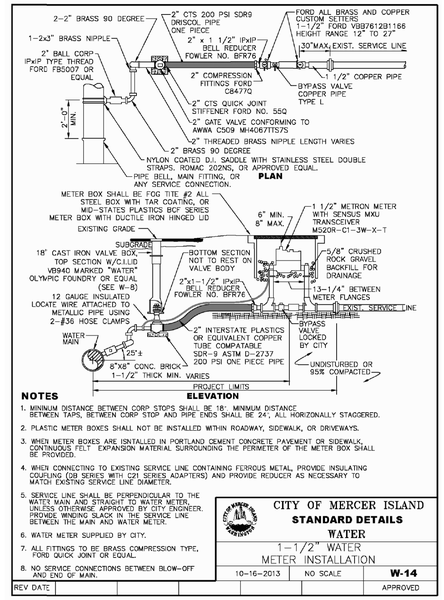
FILE NAME:

SHEET:
C3.2

NE 1/4, SECTION 36, TOWNSHIP 24 NORTH, RANGE 4 EAST, W.M.



1 WATER AND SEWER PLAN
SCALE: 1" = 20'



NOTES

1. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18". MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24", ALL HORIZONALLY STAGGERED.
2. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
3. WHEN METER BOXES ARE ISNTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK, CONTINUOUS FELT EXPANSION MATERIAL SURROUNDING THE PERIMETER OF THE METER BOX SHALL BE PROVIDED.
4. WHEN CONNECTING TO EXISTING SERVICE LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DR SERIES WITH CZI SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING SERVICE LINE DIAMETER.
5. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO WATER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
6. WATER METER SUPPLIED BY CITY.
7. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
8. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER
1-1/2" WATER METER INSTALLATION

REV DATE						
				10-16-2013	NO SCALE	W-14
						APPROVED

2 CITY OF MERCER ISLAND STANDARD DETAIL
SCALE: NTS

BUILDING CONNECTION

NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH ⅛ BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
   A. IF CONNECTED TO A SHARED SIDE SEWER.
   B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
   C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT".
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
    6" – WITHIN THE PUBLIC RIGHT-OF-WAY.
    4" – SINGLE FAMILY RESIDENCES.
    6" – 2 TO 6 SINGLE FAMILY RESIDENCES.
    6" – BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
HOUSE SEWER CONNECTION

REV DATE						
				6-5-2009	NO SCALE	S-18
						APPROVED

3 CITY OF MERCER ISLAND STANDARD DETAIL
SCALE: NTS

NOTES:
1. CONTRACTOR TO WORK WITH LOWER HOME OWNERS LANDCAPER TO REMOVE IRRIGATION LINES AND PLANTS THAT CONFLICT WITH INSTALLATION OF NEW SEWER LINE.
2. CONTRACTOR TO COORDINATE EXACT LOCATION OF NEW/ RELOCATED WATER METERS WITH THE CITY WATER DEPARTMENT DURING CONSTRUCTION.

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GREG GUILLEN — STATE OF WASHINGTON — 23385 REGISTERED PROFESSIONAL ENGINEER
05/07/19

MARK	DATE	DESCRIPTION
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DESIGN:	VD
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CHECK:	JPU
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DATE:	04/05/17

RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

WATER AND SEWER PLAN

FILE NAME:

SHEET:

C4.1

BOUNDARY AND TOPOGRAPHIC SURVEY

LEGAL DESCRIPTION
(PER FIDELITY NATIONAL TITLE INSURANCE COMPANY SUBDIVISION GUARANTEE NO. 611086191, DATED SEPTEMBER 10, 2014 AT 12:00AM)

FOR AUDITOR'S PARCEL NUMBER: 335850 0490

THAT PORTION OF TRACT 572, C. D. HILLMAN'S SEA SHORE – LAKE FRONT GARDEN OF EDEN ADDITION TO THE CITY OF SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 12 OF PLATS, PAGE(S) 44, IN KING COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT AN IRON POST LOCATED AT THE MOST NORTHERLY CORNER OF TRACT 572, SAID IRON POST BEING LOCATED SOUTH 41°40' WEST A DISTANCE OF 37.00 FEET FROM AN INTERSECTION WITH THE CENTERLINE TANGENT PRODUCED OF WEST MERCER WAY, SAID TANGENT HAVING A BEARING OF 50° EAST, AND SAID POST BEING THE INTERSECTION OF THE NORTHWESTERLY MARGIN OF TRACT 572 AND THE SOUTHWESTERLY MARGIN OF COUNTY ROAD (WEST MERCER WAY) RECORDED UNDER RECORDING NUMBER 928842, IN KING COUNTY, WASHINGTON, AND THE TRUE POINT OF BEGINNING;
THENCE SOUTH 41°40' WEST A DISTANCE OF 230.33 FEET;
THENCE SOUTH 46°44'44" EAST A DISTANCE OF 100.12 FEET;
THENCE NORTH 41°38'48" EAST A DISTANCE OF 230.33 FEET TO THE SOUTHERLY MARGIN OF WEST MERCER WAY;
THENCE NORTH 46°44'44" WEST A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

(PER FIDELITY NATIONAL TITLE INSURANCE COMPANY SUBDIVISION GUARANTEE NO. 611092768, DATED JUNE 12, 2015 AT 12:00AM)

FOR AUDITOR'S PARCEL NUMBER: 335850 0480

PARCEL A:

TRACTS 505 THROUGH 509 AND A PORTION OF TRACT 572, C.D. HILLMAN'S SEA SHORE LAKE FRONT GARDEN OF EDEN ADDITION TO THE CITY OF SEATTLE, ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME 12 OF PLATS, PAGE 44, IN KING COUNTY, WASHINGTON;

TOGETHER WITH ADJACENT LAKE WASHINGTON SHORELANDS DESCRIBED AS FOLLOWS:

BEGINNING AT AN IRON POST LOCATED AT THE MOST NORTHERLY CORNER OF TRACT 572, SAID IRON POST BEING LOCATED SOUTH 41° 40' WEST A DISTANCE OF 37.00 FEET FROM AN INTERSECTION WITH THE CENTERLINE TANGENT PRODUCED OF WEST MERCER WAY, SAID TANGENT HAVING A BEARING SOUTH 50° 00' EAST, AND SAID POST BEING THE INTERSECTION OF THE NORTHWESTERLY MARGIN OF TRACT 572 AND THE SOUTHWESTERLY MARGIN OF COUNTY ROAD (WEST MERCER WAY) RECORDED UNDER RECORDING NO. 928842, IN KING COUNTY,WASHINGTON;
THENCE SOUTH 46° 44' 44" EAST A DISTANCE OF 100.00 FEET;
THENCE SOUTH 41° 38' 48" WEST A DISTANCE OF 297.87 FEET TO THE TRUE POINT OF BEGINNING;
THENCE NORTH 41° 38' 48" EAST A DISTANCE OF 67.54 FEET;
THENCE NORTH 46° 44' 44" WEST A DISTANCE OF 100.12FEET;
THENCE SOUTH 35° 31' 40" WEST A DISTANCE OF 74.74 FEET;
THENCE SOUTH 26° 10' 58" WEST A DISTANCE OF 145.35 FEET;
THENCE SOUTH 20° 49' WEST A DISTANCE OF 26 FEET MORE OR LESS TO THE SHORELINE OF LAKE WASHINGTON;
THENCE SOUTHEASTERLY ALONG SAID SHORELINE TO A POINT FROM WHICH THE TRUE POINT OF BEGINNING BEARS NORTH 22° 07' 36" EAST;
THENCE NORTH 22° 07' 36" EAST A DISTANCE OF 173 FEET MORE OR LESS TO THE POINT OF BEGINNING.

PARCEL B:

AN EASEMENT FOR INGRESS, EGRESS, AND UTILITIES OVER THAT PORTION OF THE SOUTHEASTERLY 10 FEET OF SAID TRACT 572 LYING NORTHEASTERLY OF THE NORTHEAST LINE OF THE ABOVE DESCRIBED TRACT AND SOUTHWESTERLY OF WEST MERCER WAY.

PARCEL C:

AN EASEMENT FOR INGRESS AND EGRESS OVER AN EXISTING ROAD AS MORE FULLY SET FORTH IN THAT CERTAIN GRANT FOR "EASEMENT OF ROAD" DATED NOVEMBER 29, 1972, RECORDED NOVEMBER 29, 1972, UNDER RECORDING NO. 7211290503.

SITUATE IN THE COUNTY OF KING, STATE OF WASHINGTON.

(PER FIDELITY NATIONAL TITLE INSURANCE COMPANY ALTA COMMITMENT NO. 611089657, DATED NOVEMBER 13, 2014 AT 08:00AM)

FOR AUDITOR'S PARCEL NUMBER: 335850 0480

LOT 571 OF C–D. HILLMAN'S SEA SHORE LAKE FRONT GARDEN OF EDEN ADDITION TO THE CITY OF SEATTLE, AS PER PLAT RECORDED IN VOLUME 12 OF PLATS, PAGE 44, RECORDS OF KING COUNTY AUDITOR;

EXCEPT THAT PORTION THEREOF DEEDED TO KING COUNTY FOR ROAD PURPOSES BY DEED RECORDED UNDER KING COUNTY RECORDING NO. 982284;

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

PROCEDURE / NARRATIVE:
A FIELD TRAVERSE USING A FOCUS 30 ROBOTIC TOTAL STATION AND A SPECTRA PRECISION RANGER 3 DATA COLLECTOR SUPPLEMENTED WITH FIELD NOTES AND TOPCON GR5 NETWORK RTK GPS ROVER, WAS PERFORMED, ESTABLISHING THE ANGULAR, DISTANCE, AND VERTICAL RELATIONSHIPS BETWEEN THE MONUMENTS, PROPERTY LINES AND IMPROVEMENTS. THE RESULTING DATA MEETS OR EXCEEDS THE STANDARDS FOR LAND BOUNDARY SURVEYS AS SET FORTH IN WAC 332–130–090.

BASIS OF BEARING (NAD83/91 PER CITY OF MERCER ISLAND)
BASIS OF BEARING FOR THIS SURVEY IS NAD83/91 PER CITY OF MERCER ISLAND. MERCER ISLAND CONTROL POINT NO. 4332 WAS HELD FOR POSITION, AND A LINE BETWEEN SAID CONTROL POINT NO. 4332 AND CITY OF MERCER ISLAND CONTROL POINT NO. 4358 WAS HELD FOR ROTATION, TAKEN AS NORTH N80°53'30" EAST.

BASIS OF ELEVATIONS (NAVD88 PER CITY OF MERCER ISLAND)
VERTICAL DATUM FOR THIS SURVEY IS NAVD88 PER CITY OF MERCER ISLAND. CITY OF MERCER ISLAND CONTROL POINT NO. 4332 WAS HELD FOR ELEVATION, BEING 140.594'

ASSESSOR'S PARCEL NUMBERS & AREAS
APN 335850 0490: 23,020.2± SQ. FT. (0.528± ACRES)
APN 335850 0480: 23,148.7± SQ. FT. (0.531± ACRES)
APN 335850 0830: 29,435.9± SQ. FT. (0.676± ACRES)

SITE ADDRESSES
APN 335850 0490: 8253 W MERCER WAY, MERCER ISLAND WA, 98040
APN 335850 0480: 8255 W MERCER WAY, MERCER ISLAND WA, 98040
APN 335850 0830: 8275 W MERCER WAY, MERCER ISLAND WA, 98040

FLOOD INFORMATION
NO FEMA PANEL AVAILABLE FOR THIS AREA.

DATE OF SURVEY
OCTOBER 5, 7, 8, 9 & 10, 2015.

REFERENCE SURVEYS
1. PLAT OF C. D. HILLMAN'S SEA SHORE–LAKE FRONT GARDEN OF EDEN ADDITION TO THE CITY OF SEATTLE, BY O. O. ROWLAND, AFN 19050801347987
2. CECILE LOGAN TRUST SHORT PLAT (MISP NO. 92–1102), BY C&T SURVEYING, AFN 199303179002
3. D. HUBBARD LOT LINE REVISION (MI–86–04–05), BY TRIAD ASSOC., AFN 198612169002
4. KING COUNTY ENGINEER'S OFFICE ROAD NO. 987 (42–63), FROM KCRS–MAP VAULT, MARCH 1937
5. KING COUNTY ASSESSOR'S QUARTER SECTION MAP, NE 36–24–04, DATED 9/30/2014

NOTES
1. ALL DISTANCES SHOWN ON THIS SURVEY ARE IN US SURVEY FEET.
2. UTILITIES ARE SHOWN PER SURFACE OBSERVATIONS, UTILITY LOCATE MARKINGS AND OTHER AVAILABLE DATA.
3. THIS SURVEY IS A RETRACEMENT OF THE DESCRIPTIONS ABOVE AND DOES NOT PURPORT TO SHOW ANY UNRECORDED OWNERSHIP RIGHTS.

SPECIAL EXCEPTIONS FOR APN 335850 0490:
(PER FIDELITY NATIONAL TITLE INSURANCE COMPANY SUBDIVISION GUARANTEE NO. 611086191, DATED SEPTEMBER 10, 2014 AT 12:00AM)

1. **NOT SURVEY RELATED.**
2. PLEASE BE ADVISED THAT OUR SEARCH DID NOT DISCLOSE ANY OPEN DEEDS OF TRUST OF RECORD.
3. RIGHT TO ENTER SAID PREMISES TO MAKE REPAIRS TO THE SEWER PIPE LINE LOCATED ON PROPERTY ADJOINING SAID PREMISES TO THE SOUTH, AS GRANTED BY INSTRUMENT RECORDED UNDER RECORDING NO. 5787790.
4. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ROAD
RECORDING DATE: NOVEMBER 29, 1972
RECORDING NO.: 7211290503
AFFECTS: AS DESCRIBED THEREIN **(PLOTTED)**

5. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO:

DISCLOSED BY: ROAD EASEMENT
IN FAVOR OF: NOT DISCLOSED
PURPOSE: ELECTRIC TRANSMISSION LINE, WATER LINE AND INGRESS AND EGRESS
RECORDING DATE: NOVEMBER 29, 1972
RECORDING NO.: 7211290503
AFFECTS: AS DESCRIBED THEREIN **(PLOTTED)**

6. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: CITY OF MERCER ISLAND
PURPOSE: DRAINAGE DITCHES, FLUMES, CULVERTS, PIPES, AND ALL NECESSARY CONNECTIONS AND APPURTENANCES
RECORDING DATE: JANUARY 15, 1973
RECORDING NO.: 7301150425
AFFECTS: AS DESCRIBED THEREIN **(PLOTTED)**

SPECIAL EXCEPTIONS FOR APN 335850 0480:
(PER FIDELITY NATIONAL TITLE INSURANCE COMPANY SUBDIVISION GUARANTEE NO. 611092768, DATED JUNE 12, 2015 AT 12:00AM)

1. **NOT SURVEY RELATED**
2. PLEASE BE ADVISED THAT OUR SEARCH DID NOT DISCLOSE ANY OPEN DEEDS OF TRUST OF RECORD.
3. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: PUGET SOUND POWER & LIGHT COMPANY
PURPOSE: ELECTRIC LINE
RECORDING DATE: JANUARY 24, 1961
RECORDING NO.: 5244612
AFFECTS: AS DESCRIBED THEREIN **(FOLLOWS THE UTILITY AS NOW CONSTRUCTED OR AS MAY BE RELOCATED BY MUTUAL CONSENT)**

4. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: MERCER ISLAND SEWER DISTRICT
PURPOSE: SEWER PIPE LINE(S)
RECORDING DATE: SEPTEMBER 17, 1964
RECORDING NO.: 5787790
AFFECTS: AS DESCRIBED THEREIN **(10' WIDE STRIP OF LAND, 5' ON EITHER SIDE OF PIPE LINE AS INSTALLED)**

5. AGREEMENT AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: NOVEMBER 28, 1972
RECORDING NO.: 7211280046
REGARDING: BOUNDARY LINE ADJUSTMENT

6. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: ROAD
RECORDING DATE: NOVEMBER 29, 1972
RECORDING NO.: 7211290503
AFFECTS: AS DESCRIBED THEREIN **(PLOTTED)**

7. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: CITY OF MERCER ISLAND
PURPOSE: DRAINAGE DITCHES, FLUMES, CULVERTS, PIPES AND ALL NECESSARY APPURTENANCES
RECORDING DATE: JANUARY 15, 1973
RECORDING NO.: 7301150422 AND 7301150425
AFFECTS: AS DESCRIBED THEREIN **(PLOTTED)**

8. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: CITY OF MERCER ISLAND
PURPOSE: STORM DRAINAGE PIPE
RECORDING DATE: JANUARY 15, 1973
RECORDING NO.: 7301150427
AFFECTS: AS DESCRIBED THEREIN **(PLOTTED)**

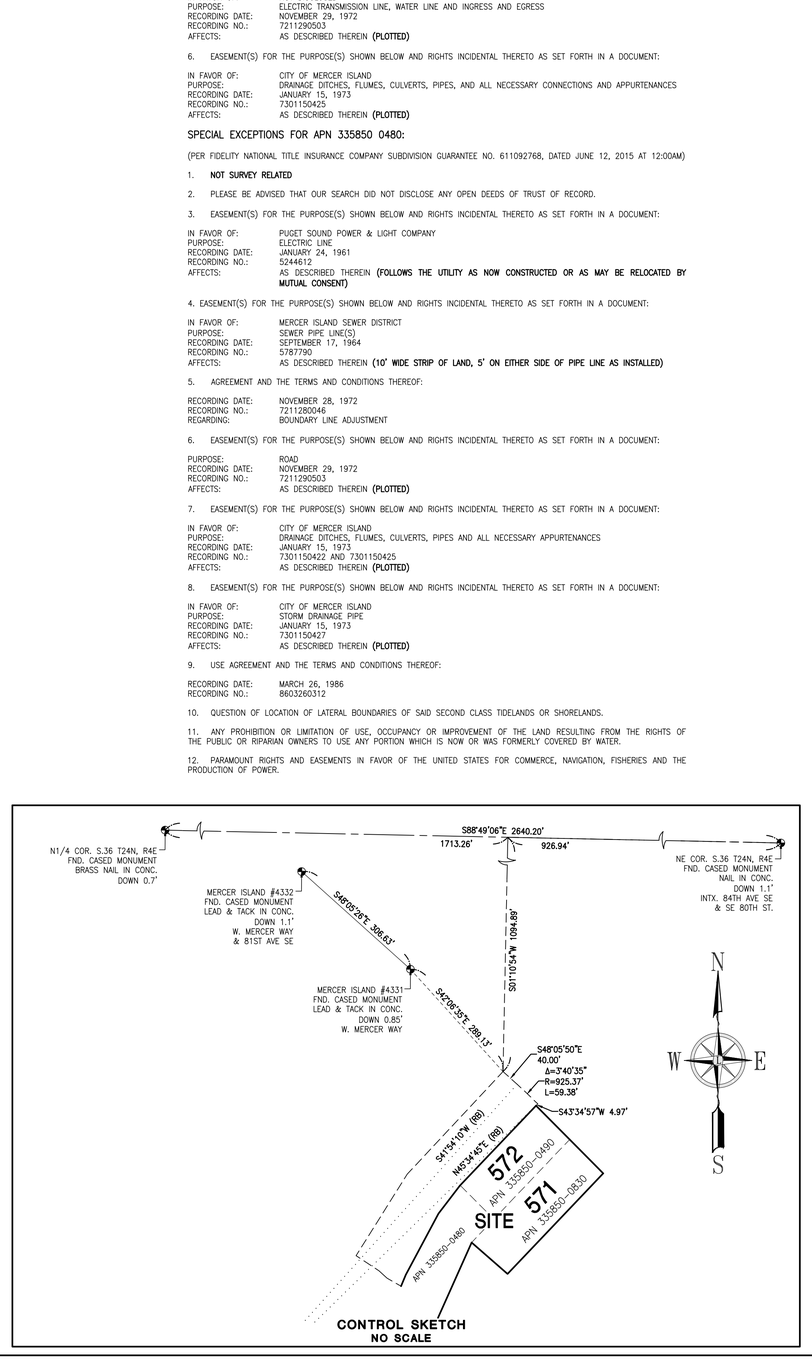
9. USE AGREEMENT AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: MARCH 26, 1986
RECORDING NO.: 8603260312

10. QUESTION OF LOCATION OF LATERAL BOUNDARIES OF SAID SECOND CLASS TIDELANDS OR SHORELANDS.

11. ANY PROHIBITION OR LIMITATION OF USE, OCCUPANCY OR IMPROVEMENT OF THE LAND RESULTING FROM THE RIGHTS OF THE PUBLIC OR RIPARIAN OWNERS TO USE ANY PORTION WHICH IS NOW OR WAS FORMERLY COVERED BY WATER.

12. PARAMOUNT RIGHTS AND EASEMENTS IN FAVOR OF THE UNITED STATES FOR COMMERCE, NAVIGATION, FISHERIES AND THE PRODUCTION OF POWER.



CONTROL SKETCH
NO SCALE

SPECIAL EXCEPTIONS FOR APN 335850 0830:
(PER FIDELITY NATIONAL TITLE INSURANCE COMPANY ALTA COMMITMENT NO. 611089657, DATED NOVEMBER 13, 2014 AT 08:00AM)

1. **NOT SURVEY RELATED.**
2. **NOT SURVEY RELATED.**
3. NOTICE OF ADDITIONAL TAP OR CONNECTION CHARGES AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: DECEMBER 6, 1977
RECORDING NO.: 7712060812

4. A DEED OF TRUST TO SECURE AN INDEBTEDNESS IN THE AMOUNT SHOWN BELOW,
AMOUNT: $1,312,500.00
DATED: FEBRUARY 14, 2008
TRUSTOR/GRANTOR: NICHOLAS J LOWE AND RACHEL D LOWE, HUSBAND AND WIFE, AS JOINT TENANTS
TRUSTEE: COMMONWEALTH
BENEFICIARY: MORTGAGE ELECTRONIC REGISTRATION SYSTEMS INC. AS NOMINEE FOR HOMECOMINGS FINANCIAL, LLC, (F/K/A HOMECOMINGS FINANCIAL NETWORK, INC.)
RECORDING DATE: FEBRUARY 20, 2008
RECORDING NO.: 20080220001382

AN AGREEMENT TO MODIFY THE TERMS AND PROVISIONS OF SAID DEED OF TRUST AS THEREIN PROVIDED

EXECUTED BY: NICHOLAS J LOWE RACHEL D LOWE, HUSBAND AND WIFE AND GMAC MORTGAGE, LLC
RECORDING DATE: FEBRUARY 27, 2013
RECORDING NO.: 201302270000773

5. A DEED OF TRUST TO SECURE AN INDEBTEDNESS IN THE AMOUNT SHOWN BELOW,

AMOUNT: $250,000.00
DATED: JANUARY 1, 2008
TRUSTOR/GRANTOR: NICHOLAS J LOWE AND RACHEL D LOWE, HUSBAND AND WIFE
TRUSTEE: TRUSTEE SERVICES INC.
BENEFICIARY: WATERMARK CREDIT UNION
RECORDING DATE: MARCH 12, 2013
RECORDING NO.: 20080312002013

THE DEED OF TRUST SET FORTH ABOVE IS PURPORTED TO BE A "CREDIT LINE" DEED OF TRUST. IT IS A REQUIREMENT THAT THE TRUSTOR/GRANTOR OF SAID DEED OF TRUST PROVIDE WRITTEN AUTHORIZATION TO CLOSE SAID CREDIT LINE ACCOUNT TO THE LENDER WHEN THE DEED OF TRUST IS BEING PAID OFF THROUGH THE COMPANY OR OTHER SETTLEMENT/ESCROW AGENT OR PROVIDE A SATISFACTORY SUBORDINATION OF THIS DEED OF TRUST TO THE PROPOSED DEED OF TRUST TO BE RECORDED AT CLOSING.

6. A TAX LIEN FOR THE AMOUNT SHOWN AND ANY OTHER AMOUNTS DUE, IN FAVOR OF THE UNITED STATES OF AMERICA, ASSESSED BY THE DISTRICT DIRECTOR OF INTERNAL REVENUE.

TAXPAYER: NICHOLAS & RACHEL LOWE
AMOUNT: $92,205.07
RECORDING DATE: JANUARY 23, 2014
RECORDING NO.: 20140123000780

7. IN THE EVENT THAT THE LAND IS OCCUPIED OR INTENDED TO BE OCCUPIED BY THE OWNER AND A SPOUSE OR REGISTERED DOMESTIC PARTNER AS A HOMESTEAD, THE CONVEYANCE OR ENCUMBRANCE OF THE LAND MUST BE EXECUTED AND ACKNOWLEDGED BY BOTH SPOUSES OR BOTH REGISTERED DOMESTIC PARTNERS, PURSUANT TO RCW 6.13 WHICH NOW PROVIDES FOR AN AUTOMATIC HOMESTEAD ON SUCH LAND.

8. IN THE EVENT MATTERS ARE DISCOVERED DURING THE CLOSING PROCESS WHICH WOULD OTHERWISE BE INSURED BY THE COVERED RISKS INCLUDED IN THE POLICY, THE COMPANY MAY LIMIT OR DELETE INSURANCE PROVIDED BY THE AFFECTED COVERED RISK. IN SUCH EVENT, A SUPPLEMENTAL WILL BE ISSUED PRIOR TO CLOSING. GENERAL EXCEPTIONS A THROUGH K WILL NOT APPEAR IN THE ALTA HOMEOWNER'S POLICY.

9. THE COMPANY IS WILLING TO ISSUE AN EXTENDED COVERAGE LENDERS POLICY. GENERAL EXCEPTIONS A THROUGH K, INCLUSIVE, ARE HEREBY DELETED.

ALTA 22–06, ALTA 8.1 AND ALTA 9–06 ENDORSEMENTS WILL ISSUE WITH THE FORTHCOMING LENDERS POLICY.

10. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: MERCER ISLAND SEWER DISTRICT
PURPOSE: SEWER PIPE LINE AND LINES
RECORDING DATE: AUGUST 5, 1964
RECORDING NO.: 5770430
AFFECTS: AS DESCRIBED IN SAID INSTRUMENT **(5 FEET ON EITHER SIDE OF PIPE LINE AS INSTALLED)**

11. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

PURPOSE: DRIVEWAY
RECORDING DATE: MARCH 12, 1966
RECORDING NO.: 5853933
AFFECTS: AS DESCRIBED IN SAID INSTRUMENT **(PLOTTED)**

12. HOLD HARMLESS AGREEMENT AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: JANUARY 15, 1973
RECORDING NO.: 7301150426

13. RECIPROCAL EASEMENT AGREEMENT AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: DECEMBER 10, 1984
RECORDING NO.: 8412100629 **(PLOTTED)**

14. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: PUGET SOUND POWER & LIGHT COMPANY
PURPOSE: UNDERGROUND ELECTRIC TRANSMISSION AND/OR DISTRIBUTION SYSTEM
RECORDING DATE: AUGUST 15, 1986
RECORDING NO.: 8608151306
AFFECTS: AS DESCRIBED IN SAID INSTRUMENT **(PLOTTED)**

15. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:

IN FAVOR OF: WASHINGTON NATURAL GAS COMPANY
PURPOSE: GAS PIPE LINE OR PIPELINES
RECORDING DATE: SEPTEMBER 22, 1986
RECORDING NO.: 8609220762
AFFECTS: AS DESCRIBED IN SAID INSTRUMENT **(PLOTTED)**

16. SEWER EASEMENT AND MAINTENANCE AGREEMENT AND THE TERMS AND CONDITIONS THEREOF:

RECORDING DATE: OCTOBER 22, 1987
RECORDING NO.: 8710220226

SURVEYOR'S CERTIFICATE:
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY UPON WHICH IT IS BASED WERE MADE BY ME OR UNDER MY DIRECTION AND CORRECTLY REFLECTS THE CONDITIONS OF THIS SITE AS OF THE DATE OF THE FIELD SURVEY.

12/21/2016
TREVOR S. LANKTREE P.L.S. — DATE
WASHINGTON REGISTRATION NO. 45789

TREVOR S. LANKTREE — STATE OF WASHINGTON — 45789 — REGISTERED PROFESSIONAL LAND SURVEYOR
DATE SIGNED 12/21/2016

No.	Date	By	Ckd.	Appr.	Revision
1.	12/21/16	TSL	TSL	TSL	SEARCHED FOR AND ADDED ADDITIONAL STORM STRUCTURES AND ADD. TOPO

Title: BOUNDARY AND TOPOGRAPHIC SURVEY
PTNS. OF THE NE1/4 OF SEC. 36, TWP. 24 N., RGE 4 EAST, W. M.
CITY OF MERCER ISLAND
KING COUNTY STATE OF WASHINGTON

For: JAMES RUDOLF
500 108TH AVE NE, SUITE 905
BELLEVUE, WA 98004

Scale: Horizontal N/A Vertical
Designed N/A Drawn BGM Checked JTM Approved TSL Date 10/14/15

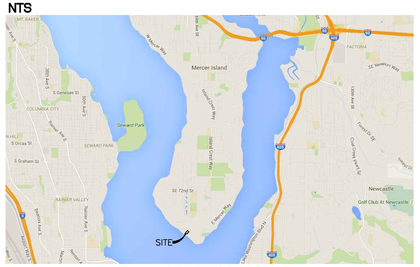
LANKTREE LAND SURVEYING, INC.
421 "B" STREET N.E., AUBURN, WA 98002
PHONE: (253) 653-6423
FAX: (253) 793-1616
WWW.LANKTREELANDSURVEYING.COM

Job Number 1958
Sheet 1 of 2

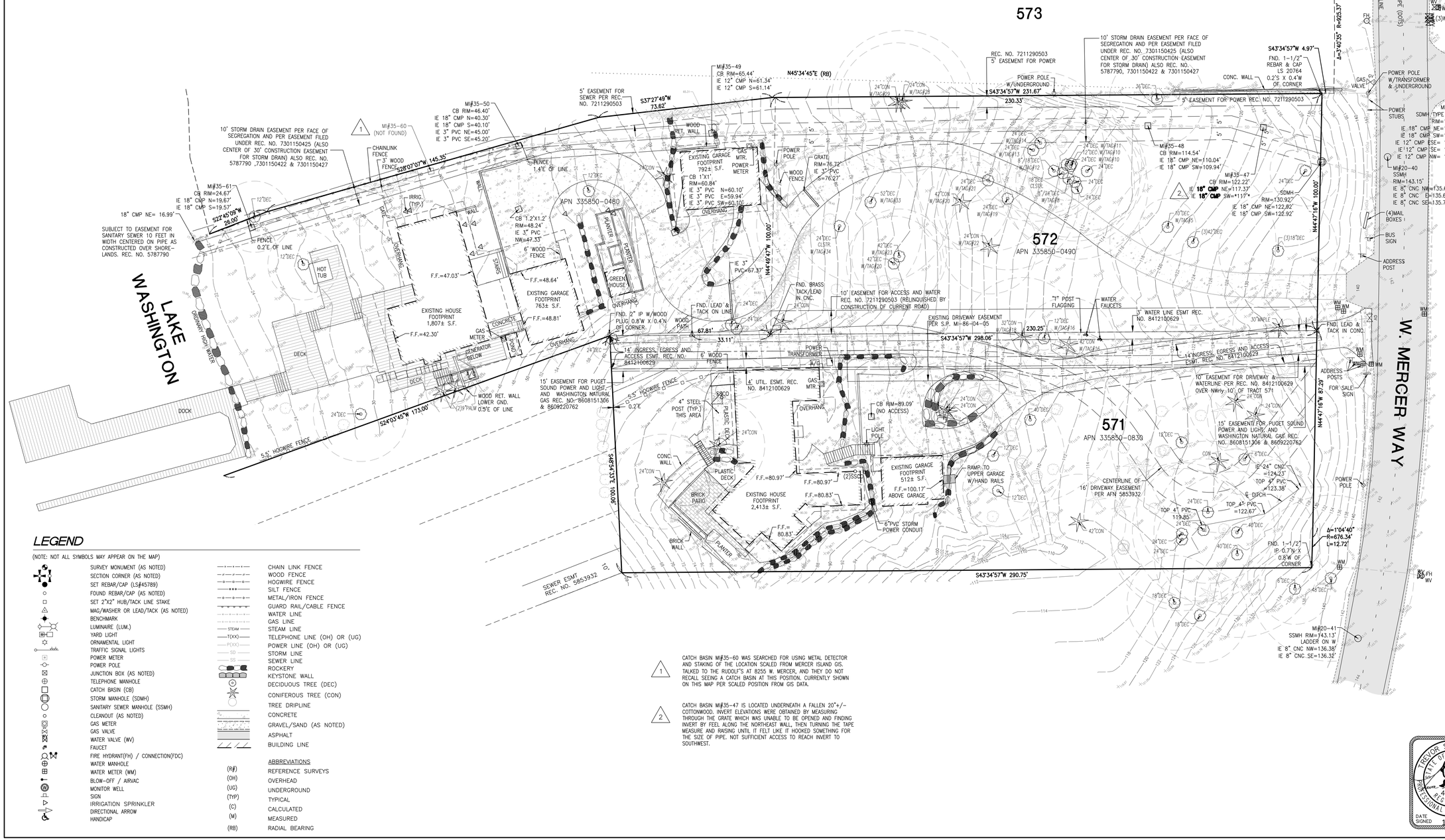
File: P:\1958 Rudolf West Mercer Way\Survey\Drawings\1958T001.dwg Date/Time: Dec 21, 2016 – 12:27pm Scale: 1"=20' tlank Xrefs:

BOUNDARY AND TOPOGRAPHIC SURVEY

NTS



VICINITY MAP



LEGEND

(NOTE: NOT ALL SYMBOLS MAY APPEAR ON THE MAP)

- SURVEY MONUMENT (AS NOTED)
- SECTION CORNER (AS NOTED)
- SET REBAR/CAP (LS#45789)
- FOUND REBAR/CAP (AS NOTED)
- SET 2"X2" HUB/TACK LINE STAKE
- MAG/WASHER OR LEAD/TACK (AS NOTED)
- BENCHMARK
- LUMINAIRE (LUM.)
- YARD LIGHT
- ORNAMENTAL LIGHT
- TRAFFIC SIGNAL LIGHTS
- POWER METER
- POWER POLE
- JUNCTION BOX (AS NOTED)
- TELEPHONE MANHOLE
- CATCH BASIN (CB)
- STORM MANHOLE (SDMH)
- SANITARY SEWER MANHOLE (SSMH)
- CLEANOUT (AS NOTED)
- GAS METER
- GAS VALVE
- WATER VALVE (WV)
- FAUCET
- FIRE HYDRANT(FH) / CONNECTION(FDC)
- WATER MANHOLE
- WATER METER (WM)
- BLOW-OFF / AIRVAC
- MONITOR WELL
- SIGN
- IRRIGATION SPRINKLER
- DIRECTIONAL ARROW
- HANDICAP

- CHAIN LINK FENCE
- WOOD FENCE
- HOGWIRE FENCE
- SILT FENCE
- METAL/IRON FENCE
- GUARD RAIL/CABLE FENCE
- WATER LINE
- GAS LINE
- STEAM LINE
- TELEPHONE LINE (OH) OR (UG)
- POWER LINE (OH) OR (UG)
- STORM LINE
- SEWER LINE
- ROCKERY
- KEYSTONE WALL
- DECIDUOUS TREE (DEC)
- CONIFEROUS TREE (CON)
- TREE DRIPLINE
- CONCRETE
- GRAVEL/SAND (AS NOTED)
- ASPHALT
- BUILDING LINE

ABBREVIATIONS

- (R#) REFERENCE SURVEYS
- (OH) OVERHEAD
- (UG) UNDERGROUND
- (TYP) TYPICAL
- (C) CALCULATED
- (M) MEASURED
- (RB) RADIAL BEARING

1. CATCH BASIN MI#35-60 WAS SEARCHED FOR USING METAL DETECTOR AND STAKING OF THE LOCATION SCALED FROM MERCER ISLAND GIS. TALKED TO THE RUDOLF'S AT 8255 W. MERCER, AND THEY DO NOT RECALL SEEING A CATCH BASIN AT THIS POSITION. CURRENTLY SHOWN ON THIS MAP PER SCALED POSITION FROM GIS DATA.

2. CATCH BASIN MI#35-47 IS LOCATED UNDERNEATH A FALLEN 20"+/- COTTONWOOD. INVERT ELEVATIONS WERE OBTAINED BY MEASURING THROUGH THE GRATE WHICH WAS UNABLE TO BE OPENED AND FINDING INVERT BY FEEL ALONG THE NORTHEAST WALL, THEN TURNING THE TAPE MEASURE AND RAISING UNTIL IT FELT LIKE IT HOOKED SOMETHING FOR THE SIZE OF PIPE. NOT SUFFICIENT ACCESS TO REACH INVERT TO SOUTHWEST.

TREVOR S. LANKTREE STATE OF WASHINGTON 45789 REGISTERED PROFESSIONAL LAND SURVEYOR
DATE SIGNED 12/21/2016

No.	Date	By	Ckd.	Appr.	Revision
1.	12/21/16	TSL	TSL	TSL	SEARCHED FOR AND ADDED ADDITIONAL STORM STRUCTURES AND ADD. TOPO

Title: BOUNDARY AND TOPOGRAPHIC SURVEY
PTNS. OF THE NE1/4 OF SEC. 36, TWP. 24 N., RGE 4 EAST, W. M.
CITY OF MERCER ISLAND
KING COUNTY STATE OF WASHINGTON

For: JAMES RUDOLF
500 108TH AVE NE, SUITE 905
BELLEVUE, WA 98004

Scale: Horizontal 1"=20' Vertical

Designed N/A Drawn BGM Checked JTM Approved TSL Date 10/14/15

LANKTREE LAND SURVEYING, INC.
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WWW.LANKTREELANDSURVEYING.COM

Job Number 1958 Sheet 2 of 2

File: P:\1958 Rudolf West Mercer Way\Survey\Drawings\19581001.dwg Date/Time: Dec 21, 2016 - 12:26pm Scale: 1"=20' Plank Xrefs:

STRUCTURAL NOTES

(THESE NOTES ARE TYPICAL UNLESS NOTED OR DETAILED OTHERWISE ON DRAWINGS)

CODE

ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC), 2015 EDITION. SPECIFICATIONS AND STANDARDS WHERE REFERENCED ON THE DRAWINGS ARE TO BE THE LATEST EDITION.

DESIGN LOADS

REFER TO PRESSURE DIAGRAMS ON SH1.2.

STATEMENT OF SPECIAL INSPECTIONS

SPECIAL INSPECTIONS ARE REQUIRED AS INDICATED IN THE FOLLOWING TABLE. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK IN ACCORDANCE WITH CHAPTER 1704.4 OF THE IBC.

FREQUENCY AND DISTRIBUTION OF REPORTS - INSPECTION REPORTS SHALL BE PROVIDED FOR EACH DAY ON SITE BY SPECIAL INSPECTOR. STRUCTURAL OBSERVATION REPORTS SHALL BE PROVIDED AFTER EACH OBSERVATION. REPORTS SHALL BE DISTRIBUTED TO THE CONTRACTOR, ARCHITECT, ENGINEER AND BUILDING OFFICIAL.

SPECIAL INSPECTION

OPERATION	CONT	PERIODIC	REMARKS
SOILS			
SHORING		X	GEOTECH ENGINEER
EXCAVATION & FILL		X	GEOTECH ENGINEER
SOLDIER PILE INSTALLATION	X		GEOTECH ENGINEER
CONCRETE			
REINFORCING PLACEMENT		X	
CONCRETE TEST SPECIMENS	X		
CONCRETE PLACEMENT	X		
SHOP & FIELD WELDING			
SINGLE PASS FILLET WELDS ≤ 5/16"		X	
FILLET WELDS > 5/16"	X		
PARTIAL & COMPLETE PENETRATION	X		
OTHER WELDING		X	

NOTE:
ALL ITEMS MARKED WITH AN "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17. SPECIAL INSPECTION SHALL BE PERFORMED BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING OFFICIAL SHALL BE FURNISHED WITH COPIES OF ALL RESULTS. ANY INSPECTION FAILING TO MEET THE PROJECT SPECIFICATIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE DESIGN TEAM.

SHOP DRAWINGS

SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION:

1. SOLDIER PILES

SHOP DRAWINGS SHALL BE REVIEWED, REVISED AS REQUIRED FOR FIELD CONDITIONS, AND DATE STAMPED BY THE CONTRACTOR PRIOR TO REVIEW BY THE ENGINEER. CONTRACTOR SHALL PROVIDE (3) SETS OF SHOP DRAWINGS FOR ENGINEER'S REVIEW. ALLOW TWO WEEKS FOR SHOP DRAWING APPROVAL BY ENGINEER.

ENGINEER'S SHOP DRAWING REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND CONTRACT DOCUMENTS. MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFORMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY, AND FOR PERFORMING THE WORK IN A SAFE MANNER.

ENGINEER'S SHOP DRAWING REVIEW OF STRUCTURAL COMPONENTS DESIGNED BY OTHERS IS FOR LOADS IMPOSED ON THE BASIC STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL CONNECTIONS TO THE BASIC STRUCTURE. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF THE LOADS IMPOSED ON THE BASIC STRUCTURE AND SHALL BE STAMPED & SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT.

FABRICATION SHALL BEGIN ONLY AFTER SHOP DRAWINGS BEARING THE STAMP AND SIGNATURE OF THE PROJECT ARCHITECT, ENGINEER OF RECORD, AND CONTRACTOR HAVE BEEN RECEIVED.

FOUNDATIONS: SOLDIER PILES

SOILS REPORT: REPORT NO: 14348
PREPARED BY: GEOTECH CONSULTANTS, INC.
DATED: 11/12/15

ALLOWABLE SOIL PRESSURE:
PASSIVE EARTH PRESSURE: REFER TO PRESSURE
COEFFICIENT OF FRICTION: DIAGRAMS

FOOTINGS SHALL BEAR ON FIRM UNDISTURBED EARTH OR 12" OF COMPACTED STRUCTURAL FILL AS REQUIRED AND AT LEAST 18" BELOW ADJACENT EXTERIOR GRADE. ANY FOOTING ELEVATIONS SHOWN IN THE DRAWINGS REPRESENT MINIMUM DEPTHS AND ARE FOR BIDDING ONLY. ACTUAL FOOTING ELEVATIONS ARE SUBJECT TO SITE CONDITIONS AND MUST THEREFORE BE ESTABLISHED BY THE CONTRACTOR. FOOTINGS SHALL BE CENTERED BELOW COLUMNS OR WALLS ABOVE, UNLESS NOTED OTHERWISE.

BACKFILL BEHIND ALL RETAINING WALLS WITH WELL-DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE. PROVIDE DAMPPROOFING AT EXTERIOR FACE OF ALL FOUNDATION WALLS EXPOSED TO EARTH PER ARCHITECTURAL SPECIFICATIONS.

EXCAVATIONS AND DRAINAGE INSTALLATION SHALL BE OBSERVED BY A SOILS ENGINEER RETAINED BY THE OWNER. IF EXCAVATION SHOWS SOIL CONDITIONS TO BE OTHER THAN THOSE ASSUMED ABOVE, NOTIFY THE STRUCTURAL ENGINEER FOR POSSIBLE FOUNDATION REDESIGN.

CONCRETE

ALL CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED, AND PLACED IN ACCORDANCE WITH SECTION CHAPTER 5 OF ACI 318 AND THE AMERICAN CONCRETE INSTITUTE'S SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301).

ALL CONCRETE SHALL BE STONE-AGGREGATE CONCRETE HAVING A UNIT WEIGHT OF APPROXIMATELY 150 POUNDS PER CUBIC FOOT.

CONCRETE STRENGTHS AT 28 DAYS (f'c) AND MIX CRITERIA SHALL BE AS FOLLOWS:

TYPE OF CONSTRUCTION	f'c	MAXIMUM WATER/CEMENT RATIO	MIN CEMENT CONTENT PER CUBIC YARD	MAXIMUM SHRINKAGE STRAIN
AUGERCAST PILES	4000 PSI	0.50	6 1/2 SACK	N/A
SLABS ON GRADE	3000 PSI	0.55	5 1/2 SACK	N/A
FOOTINGS	3000 PSI	0.55	5 1/2 SACK	N/A
GRADE BEAMS	3000 PSI	0.50	5 1/2 SACK	N/A
WALLS	4000 PSI	0.45	5 1/2 SACK	N/A
ELEVATED SLABS	4000 PSI	0.45	6 1/2 SACK	0.034%
BEAMS, COLUMNS	4000 PSI	0.45	6 1/2 SACK	N/A
ALL OTHER CONC.	2500 PSI	0.45	5 SACK	N/A

THE MINIMUM AMOUNT OF CEMENT LISTED ABOVE MAY BE CHANGED IF A CONCRETE PERFORMANCE MIX IS SUBMITTED TO THE ENGINEER AND THE BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER, AND ADMIXTURES AS WELL AS THE WATER-CEMENT RATIO, SLUMP, CONCRETE YIELD, AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH CHAPTER 5 OF ACI 318.

ALL CONCRETE EXPOSED TO WEATHER OR TO FREEZING TEMPERATURES SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ACI 318 TABLE 4.2.1 FOR MODERATE EXPOSURE CONDITION.

REINFORCING STEEL

REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615, AND SHALL BE GRADE 60 (Fy = 60,000 PSI), UNLESS NOTED OTHERWISE. GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCING COMPLYING WITH ASTM A615 MAY BE WELDED IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN AWS D1.4 ARE SUBMITTED.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. PROVIDE WELDED WIRE FABRIC IN SHEETS NOT ROLLS. LAP WELDED WIRE FABRIC 12" AT SIDES AND ENDS.

REINFORCING STEEL SHALL BE DETAILED INCLUDING HOOKS AND BENDS IN ACCORDANCE WITH SP-66 AND ACI 318R, LATEST EDITIONS. UNLESS OTHERWISE NOTED, REINFORCING SPLICE LENGTHS AND DEVELOPMENT LENGTHS SHALL BE PER SCHEDULE.

MECHANICAL SPLICING OF REINFORCING BARS, WHERE INDICATED ON THE DRAWINGS, SHALL BE BY AN ICBO APPROVED SYSTEM, SHALL DEVELOP 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

REINFORCING SHALL BE PLACED AND ADEQUATELY SUPPORTED PRIOR TO PLACING CONCRETE. WET-SETTING EMBEDDED ITEMS IS NOT ALLOWED WITHOUT PRIOR ENGINEER APPROVAL. BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL NOT BE FIELD BENT UNLESS SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. REFER TO CHAPTER 7 OF ACI 318 FOR OTHER REINFORCING STEEL REQUIREMENTS.

MINIMUM LAPS AND EMBEDMENT

UNLESS OTHERWISE NOTED, REINFORCING SPLICE LENGTHS AND DEVELOPMENT LENGTHS SHALL BE AS TABULATED BELOW:

f'c = 3000 PSI						
BAR SIZE	DEVELOPMENT LENGTH			LAP SPLICE		
	TENSION		COMPRESSION	TENSION		COMPRESSION
	TOP BARS	OTHER BARS	ALL BARS	TOP BARS	OTHER BARS	ALL BARS
#3	22	17	9	28	22	12
#4	29	22	11	37	29	15
#5	36	28	14	47	36	19
#6	43	33	17	56	43	23
#7	63	48	20	81	63	27
#8	72	55	22	93	72	30

NOTE:
1. ALL LENGTHS ARE IN INCHES.
2. ALL LAP SPLICES ARE CLASS B.
3. "TOP BARS" ARE HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

CONCRETE COVER ON REINFORCING

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"

CONCRETE EXPOSED TO EARTH AND WEATHER:
#6 BARS AND LARGER 2"
#5 BARS AND SMALLER 1 1/2"

CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
SLABS, WALLS AND JOISTS 3/4"
COLUMN TIES OR SPIRALS AND BEAM STIRRUPS 1 1/2"

CONCRETE GENERAL NOTES

VERTICAL BARS SHALL START FROM TOP OF FOOTING. HORIZONTAL BARS SHALL START A DISTANCE OF 1/2 THE NORMAL BAR SPACING FROM TOP OF FOOTING AND TOP OF FRAMED SLABS. IN ADDITION, THERE SHALL BE A HORIZONTAL BAR AT A MAXIMUM OF 3" FROM TOP OF WALL AND BOTTOM OF FRAMED SLABS.

PROVIDE CORNER BARS TO MATCH THE HORIZONTAL REINFORCING WITH TENSION LAP SPLICE AT EACH SIDE PER TABLE, OR BEND ONE SIDE OVER TO PROVIDE TENSION LAP.

PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS ON GRADE TO BREAK UP SLAB INTO RECTANGULAR AREAS OF NOT MORE THAN 400 SQUARE FEET EACH. AREAS TO BE AS SQUARE AS PRACTICAL AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS TO BE APPROVED BY THE ARCHITECT.

ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND PROPERLY PREPARED IMMEDIATELY PRIOR TO POURING OF CONCRETE. DOWEL STEEL SHALL BE THE SAME SIZE AND SPACING AS MAIN REINFORCING DETAILED BEYOND JOINT.

SEE ARCHITECTURAL DRAWINGS AND MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF OPENINGS IN CONCRETE WALLS, FLOORS AND ROOF. UNLESS INDICATED OTHERWISE, REINFORCE AROUND OPENINGS GREATER THAN 12" IN EITHER DIRECTION WITH (2) #5 EACH SIDE AND (1) #5 x 4'-0" DIAGONAL AT EACH CORNER. EXTEND BARS 2'-0" BEYOND EDGE OF OPENING. IF 2'-0" IS UNAVAILABLE, EXTEND AS FAR AS POSSIBLE AND HOOK. HOOK ALL REINFORCING INTERRUPTED BY OPENINGS.

BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL NOT BE FIELD BENT UNLESS SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES. PROVIDE 3/4" CHAMFER AT ALL CORNERS EXCEPT AS NOTED.

STRUCTURAL STEEL

STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.

SHAPES SHALL CONFORM TO ASTM A992, Fy = 50 KSI.

PLATES, ANGLES, AND RODS SHALL CONFORM TO ASTM A36, Fy = 36 KSI.

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B, Fy = 46 KSI.

STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B, Fy = 35 KSI.

BOLTS CONNECTING STEEL MEMBERS SHALL CONFORM TO ASTM A325-N. BOLTS SHALL BE 3/4"Ø MINIMUM, UNO ANCHOR BOLTS SHALL CONFORM TO ASTM A307.

CONTRACTOR SHALL PROVIDE CONNECTION ADJUSTMENT TOLERANCES TO SATISFY THE REQUIREMENTS OF AISC MANUAL OF STEEL CONSTRUCTION.

UNLESS SPECIFIED AS STAINLESS STEEL, ALL STEEL MEMBERS, SHAPES, BOLTS, AND ACCESSORIES EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED.

WELDING

WELDING SHALL CONFORM TO AWS "STRUCTURAL WELDING CODE", LATEST EDITION. ALL WELDING SHALL BE DONE WITH 70 KSI LOW HYDROGEN ELECTRODES. WHERE NOT CALLED OUT, MINIMUM FILLET WELD SIZE SHALL BE PER TABLE 5.8 IN AWS D1.1, LATEST EDITION.

WELDING OF REINFORCING BARS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY CALLED OUT ON DRAWINGS OR APPROVED BY STRUCTURAL ENGINEER. WELDING OF GRADE 60 REINFORCING BARS SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING OF GRADE 40 REINFORCING BARS SHALL BE PERFORMED USING E70XX ELECTRODES. SEE REINFORCING NOTES FOR MATERIAL REQUIREMENTS OF WELDED BARS. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING BARS IS NOT PERMITTED.

ALL WELDING SHALL BE DONE BY WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO) CERTIFIED WELDERS.

PILE CORROSION PROTECTION

ALL PERMANENT PILES SHALL BE PAINTED TO PROTECT AGAINST CORROSION. BEFORE APPLYING PAINT PILES SHALL BE CLEAN AND FREE OF RUST OR DEBRIS. PAINTING SHALL CONSIST OF AN ORGANIC ZINC PRIMER COAT NOT LESS THAN 2.5 MILS DRY FILM THICKNESS. TOP COAT SHALL CONSIST OF AN EPOXY PAINT NOT LESS THAN 3.0 MILS DRY FILM THICKNESS. PILES SHALL BE PAINTED TO 2'-0" BELOW GRADE MINIMUM.

ANY SCUFF MARKS OR SCRATCHES THAT OCCUR DURING CONSTRUCTION SHALL BE REPAIRED WITH A FIELD APPLIED EPOXY PAINT.

TIMBER LAGGING/SAWN LUMBER

SAWN LUMBER SHALL CONFORM TO GRADING AND DRESSING RULES, WEST COAST LUMBER INSPECTION BUREAU (WCLIB), LATEST EDITION. LUMBER SHALL BE THE GRADE LISTED BELOW:

ALL LAGGING SHALL BE TREATED WITH ACZA WOOD PRESERVATIVE TREATMENT WITH THE LEVELS LISTED BELOW. ANY LAGGING FIELD CUT SHALL HAVE ACZA TREATMENT FIELD APPLIED TO THE CUT END.

	SIZE	SPECIES	GRADE	Fb (PSI)	ACZA TREATMENT
WALL A, B, C, D	6x12	DF	#2	875	0.4 LBS/CU FT
WALL F	4x12	HF	#2	850	NOT REQ'D

PROCEDURE/CONSTRUCTION SEQUENCING:

PRECONSTRUCTION MEETING

CONTRACTOR SHALL CALL THE ENGINEERING INSPECTION LINE TO SET UP A PRECONSTRUCTION MEETING PRIOR TO ANY SITE WORK.

CONCRETE PLACEMENT

CONCRETE SHALL NOT BE ALLOWED TO FREE-FALL TO THE BOTTOM OF THE DRILLED HOLE, BUT SHALL EITHER BE TREMIED OR PUMPED INTO THE HOLE.

LAGGING

TIMBER LAGGING SHALL BE INSTALLED AT SHORING WALLS. VOIDS BETWEEN LAGGING AND SOIL SHALL BE BACKFILLED IMMEDIATELY AFTER LAGGING INSTALLATION. DRAINAGE BEHIND THE WALL MUST BE MAINTAINED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE AMOUNT OF EXPOSED SOIL WITHOUT LAGGING TO AVOID LOSS OF SOIL. NO MORE THAN 4 FEET OF EXCAVATION SHALL BE EXPOSED BEFORE INSTALLING LAGGING.

EXCAVATIONS SHALL NOT REMAIN UNLAGGED OVERNIGHT.

GENERAL

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, CIVIL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS FOR COMPATIBILITY BEFORE PROCEEDING. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING.

CONTRACTOR TO SEE ARCHITECTURAL, CIVIL, ELECTRICAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF PIPE, VENT, DUCT AND OTHER OPENINGS AND DETAILS NOT SHOWN ON THESE DRAWINGS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTION STABILITY AND TEMPORARY SHORING AS NECESSARY UNTIL PERMANENT SUPPORT AND STIFFENING ARE INSTALLED.

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.

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

UTILITY LOCATION/EXISTING CONDITIONS

THE LOCATIONS OF EXISTING UTILITIES AND SITE FEATURES SHOWN HEREON HAVE BEEN FURNISHED BY OTHERS BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND TO FURTHER DISCOVER AND PROTECT ANY OTHER UTILITIES NOT SHOWN HEREON WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN. CG ENGINEERING ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF THE EXISTING UTILITIES AND SITE FEATURES PRESENTED ON THESE DRAWINGS.

CONTRACTOR SHALL LOCATE AND PROTECT ALL UTILITIES DURING CONSTRUCTION AND SHALL CONTACT THE UNDERGROUND UTILITIES LOCATION SERVICE (1-800-424-5555) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE PROJECT SITE BEFORE STARTING WORK AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

IF THE ACTUAL FIELD VERIFIED LOCATION OF UTILITIES COULD RESULT IN A CONFLICT WITH THE SHORING, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY THAT OVERHEAD OBSTRUCTIONS, INCLUDING ELECTRICAL LINES, DO NOT INTERFERE WITH USE OF THE CONTRACTOR'S DRILLING EQUIPMENT.

COORDINATE AND ARRANGE FOR ALL UTILITY RELOCATIONS AND/OR SERVICE INTERRUPTIONS WITH THE AFFECTED OWNERS AND APPROPRIATE UTILITY COMPANIES. INTERRUPTIONS TO EXISTING UTILITIES SHALL BE MADE ONLY WITH THE WRITTEN APPROVAL OF THE AUTHORITIES GOVERNING SAID UTILITIES AND WITH A MINIMUM 48 HOURS ADVANCE NOTICE.

EXISTING UTILITY LINES IN SERVICE WHICH ARE DAMAGED DUE TO CONSTRUCTION WORK SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE AND INSPECTED AND ACCEPTED BY OWNER'S REPRESENTATIVE PRIOR TO BACKFILLING.

EROSION AND SEDIMENTATION CONTROL

ALL DISTURBED SOIL AREAS SHALL BE SEEDED OR STABILIZED BY OTHER ACCEPTABLE METHODS FOR THE PREVENTION OF ON-SITE EROSION AFTER THE COMPLETION OF CONSTRUCTION.

THE CONTRACTOR SHALL KEEP OFF-SITE STREETS CLEAN AT ALL TIMES BY SWEEPING. WASHING OF STREETS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL.

REFER TO CIVIL DRAWINGS FOR ADDITIONAL EROSION CONTROL INFORMATION.

TEMPORARY SHORING

CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL INSTALL AND MAINTAIN TEMPORARY SHORING AND BRACING IN ADDITION TO SHORING SHOWN ON THESE PLANS AS NECESSARY TO PROTECT WORKERS, EXISTING BUILDINGS, STREETS, WALKWAYS, UTILITIES AND OTHER EXISTING AND PROPOSED IMPROVEMENTS AND EXCAVATIONS AGAINST LOSS OF GROUND OR CAVING EMBANKMENTS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR REMOVAL OF ANY TEMPORARY SHORING AND BRACING, AS REQUIRED.

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GREG GUILLEN — STATE OF WASHINGTON — 23385 REGISTERED PROFESSIONAL ENGINEER
01/18/19

MARK	DATE	DESCRIPTION
	06/08/18	PERMIT SUBMITTAL
	01/18/19	PERMIT RESUBMITTAL

DESIGN: BTJ
DRAWN: JEG
CHECK: DMT
JOB NO: 15227.20
DATE: 06/08/18

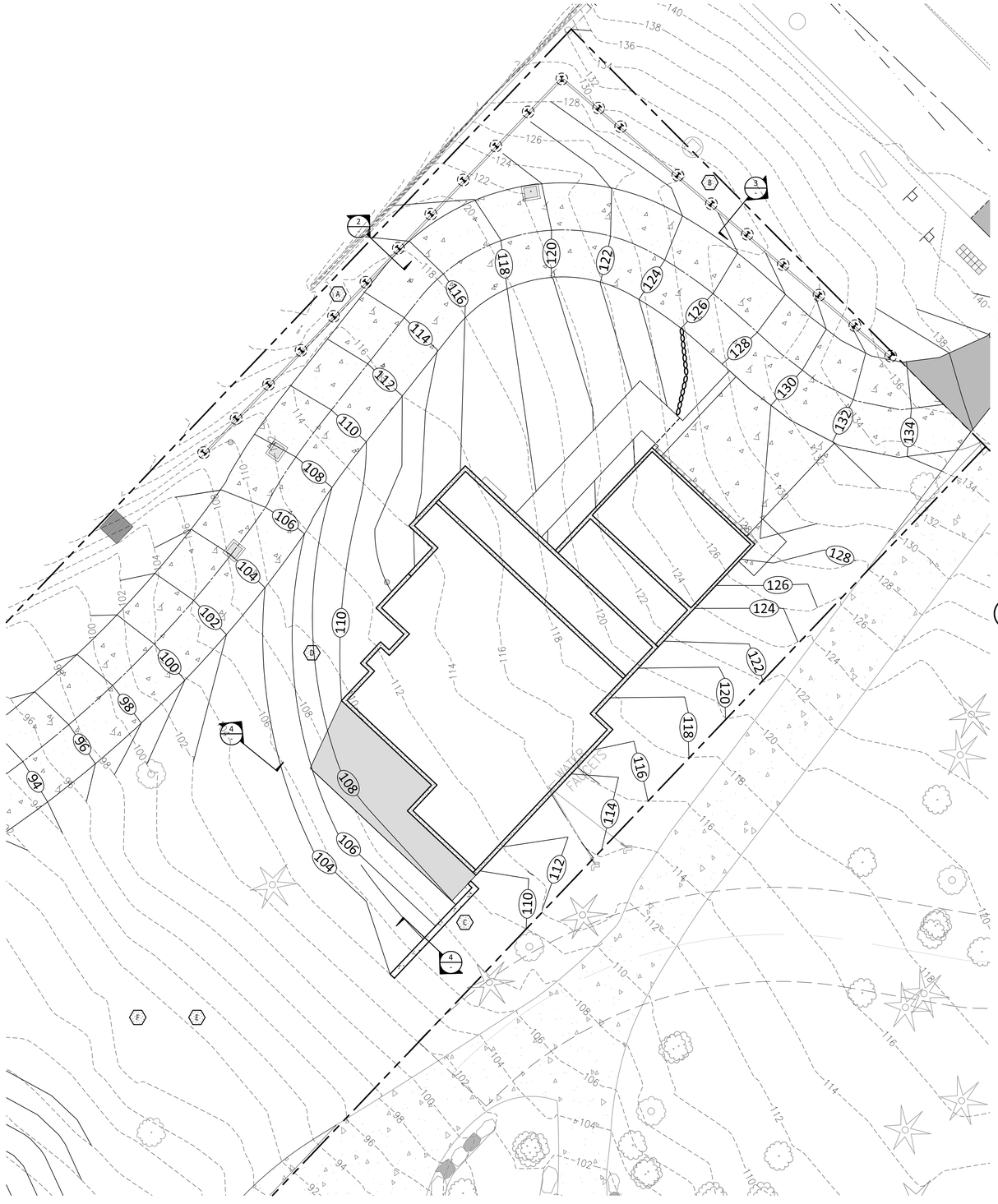
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

STRUCTURAL NOTES

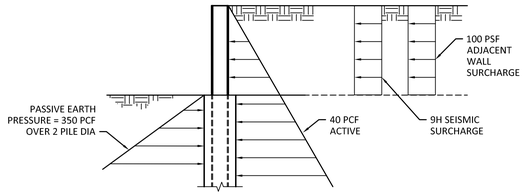
FILE NAME:

SHEET:

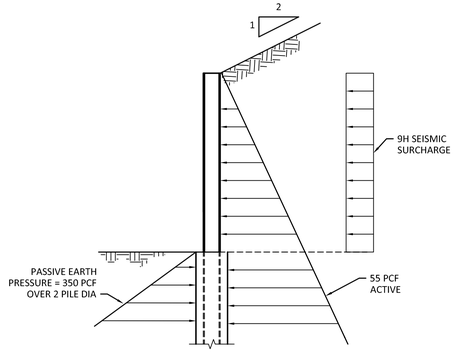
SW1.1



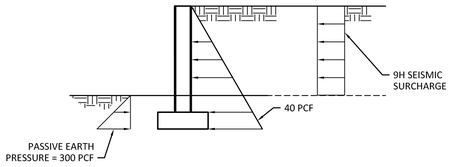
1 SITE WALL KEY PLAN
SCALE: 1" = 10'



2 EARTH PRESSURE DIAGRAM (SOLDIER PILE)
SCALE: NTS



3 EARTH PRESSURE DIAGRAM (SOLDIER PILE)
SCALE: NTS



4 EARTH PRESSURE DIAGRAM (CONCRETE WALL)
SCALE: NTS

WALL SCHEDULE			
WALL	WALL TYPE	MAX RETAINED HEIGHT	PERMANENT/TEMPORARY
A	SOLDIER PILE	6'-0"	PERMANENT
B	SOLDIER PILE	6'	PERMANENT
C	CONCRETE	6'-0"	PERMANENT
D	CONCRETE	6'-0"	PERMANENT

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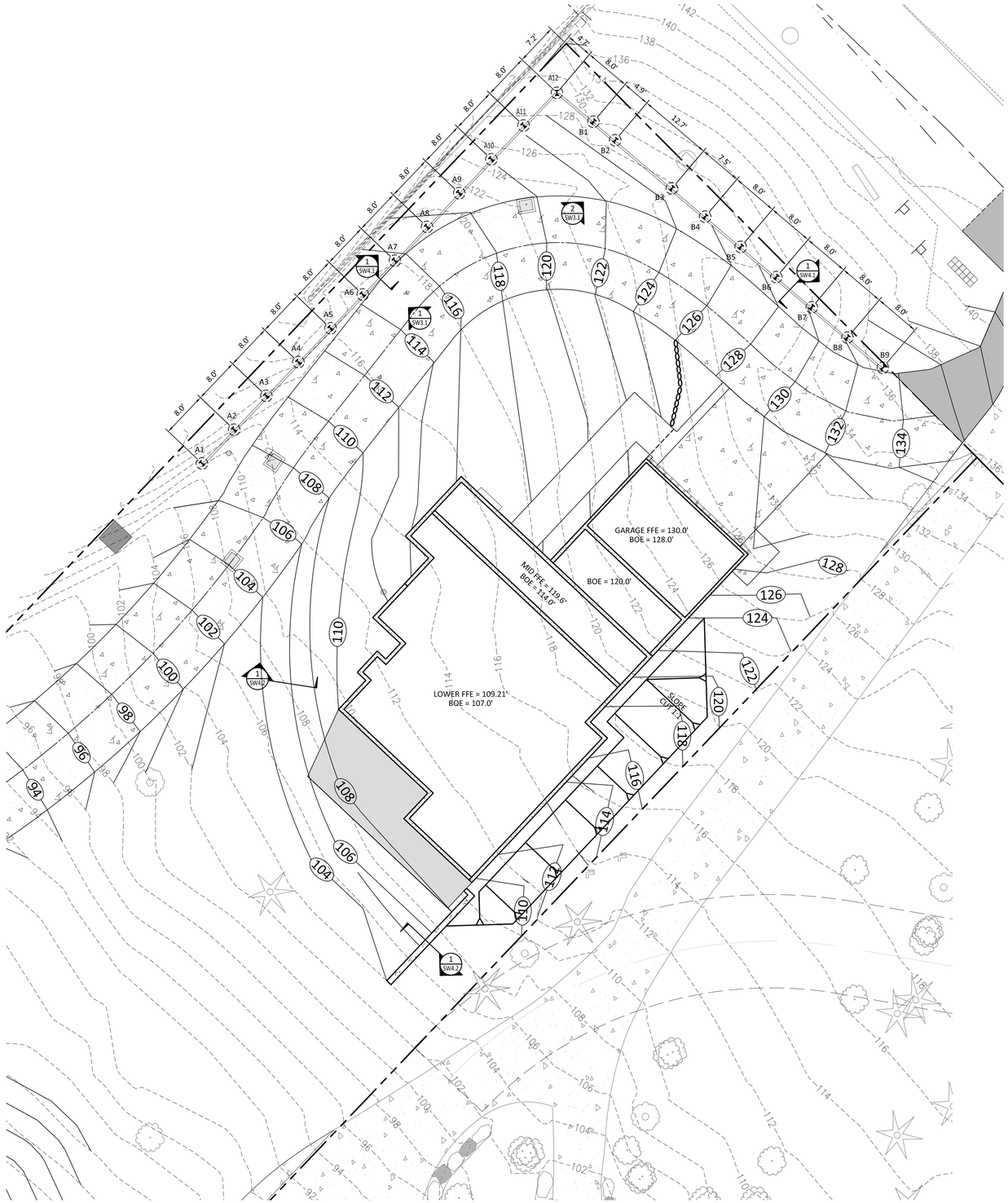
SITE WALL KEY PLAN & EARTH PRESSURE DIAGRAMS

FILE NAME:

SHEET:

SW1.2



1 SITE WALL PLAN
SCALE: 1" = 10'

PLAN NOTE:

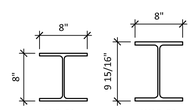
1. REFER TO C3.1 FOR ADDITIONAL GRADING INFORMATION.

CANTILEVERED SOLDIER PILE SCHEDULE (WALL A)

PILE(S)	A1-A2	A3-A7	A8	A9-A12				
MIN PILE SHAFT DIA	1'-6"Ø	1'-6"Ø	1'-6"Ø	1'-6"Ø				
MAX RETAINED HT	4'-0"	6'-0"	4'-0"	6'-0"				

CANTILEVERED SOLDIER PILE SCHEDULE (WALL B)

PILE(S)	B1-B9							
MIN PILE SHAFT DIA	1'-6"Ø							
MAX RETAINED HT	6'-0"							



NOTES:
1. CONTRACTOR TO FIELD VERIFY THAT THE MAX. RETAINED HEIGHT IS NOT EXCEEDED.
2. CONTRACTOR TO PROVIDE SUFFICIENT HEIGHT ABOVE FINAL GRADE TO ALLOW FOR ADJACENT PILE LAGGING.
3. REFER TO SHORING DRAWINGS FOR ADDITIONAL INFORMATION.
4. REFER TO THE SHORING PROFILE FOR TOP & BOT. OF PILES

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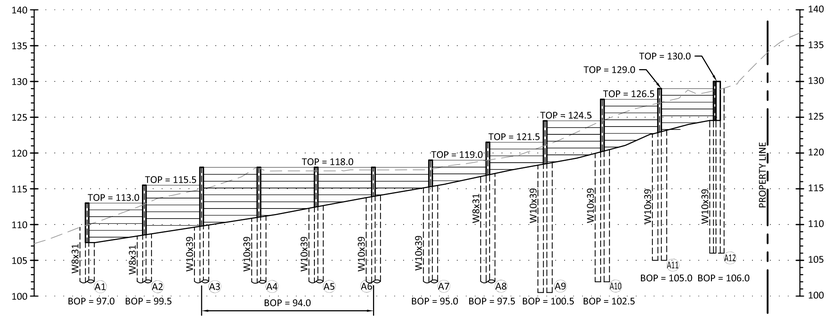
MERCER ISLAND, WA 98040

SITE WALL PLAN

FILE NAME:

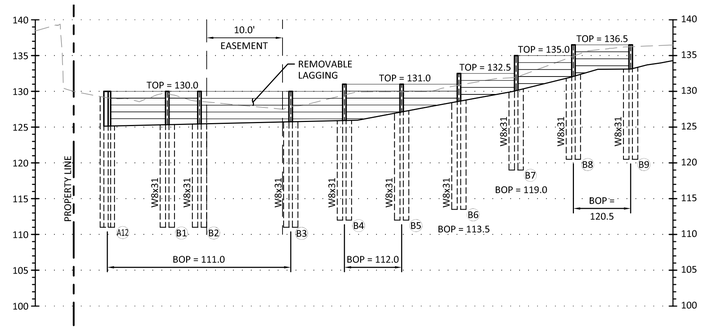
SHEET:

SW2.1



1 WALL A PROFILE

SCALE: 1" = 10'



2 WALL B PROFILE

SCALE: 1" = 10'

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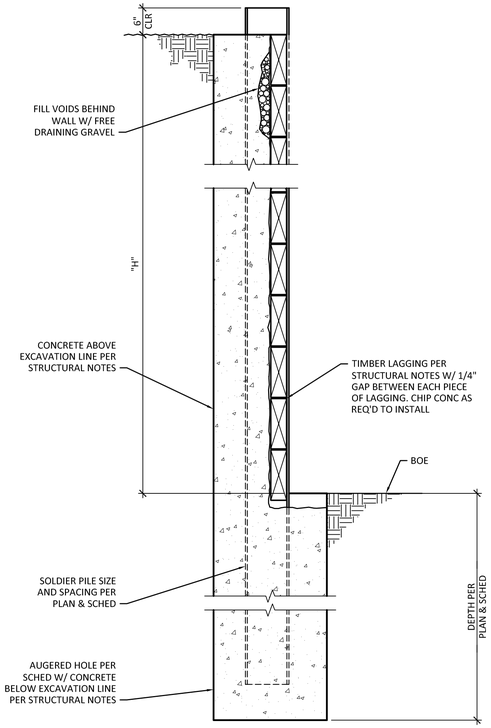
SITE WALL PROFILES

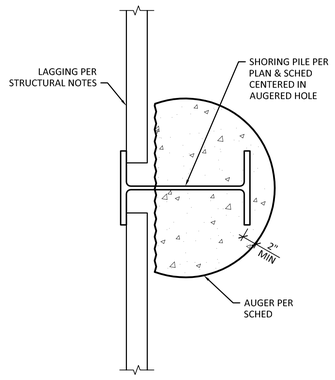
FILE NAME:

SHEET:

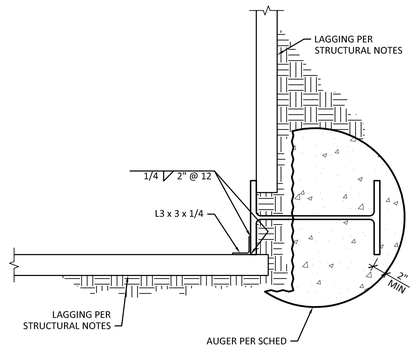
SW3.1



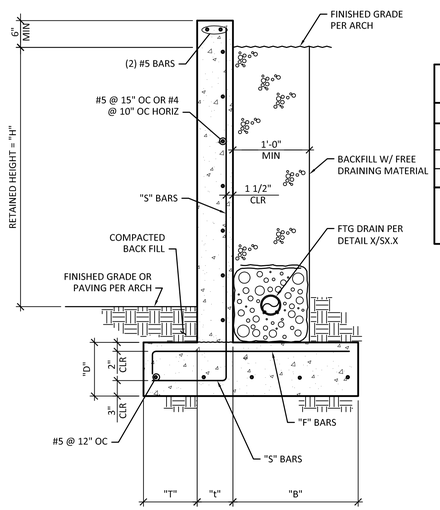
1 SECTION
SCALE: 3/4" = 1'-0"



2 TYPICAL PILE PLAN
SCALE: 1" = 1'-0"



3 CORNER PILE DETAIL
SCALE: 1" = 1'-0"

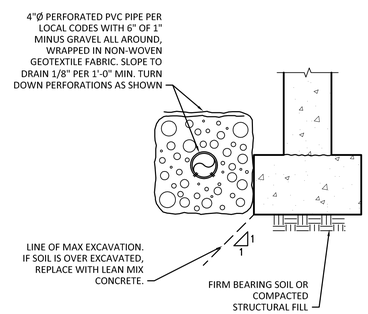


4 RETAINING WALL SECTION
SCALE: 3/4" = 1'-0"

RETAINING WALL SCHEDULE

WALL GEOMETRY					WALL REINFORCING	
MAX "H"	"T"	"B"	"t"	"D"	"S" BARS	"F" BARS
4'-0"	1'-0"	1'-7"	8"	12"	#4 @ 12" EDGE	#4 @ 18"
6'-0"	1'-3"	2'-10"	8"	12"	#4 @ 12" EDGE	#4 @ 18"

NOTES:
1. FOUNDATION SHALL BEAR ON UNDISTURBED NATIVE SOIL PER GEOTECHNICAL REPORT.
2. ALTERNATE HOOK DIRECTION INTO FOOTING EVERY OTHER BAR.



5 TYPICAL FOOTING DRAIN
SCALE: 1" = 1'-0"

ENGINEERING
250 4TH AVE. S., SUITE 200
EDMONDS, WASHINGTON 98020
PHONE (425) 778-8500
FAX (425) 778-5536

GREG GUILLEN STATE OF WASHINGTON 15380 REGISTERED PROFESSIONAL ENGINEER
01/18/19

MARK	DATE	DESCRIPTION
	06/08/18	PERMIT SUBMITTAL
	01/18/19	PERMIT RESUBMITTAL

DESIGN: BTJ
DRAWN: JEG
CHECK: DMT
JOB NO: 15227.20
DATE: 06/08/18

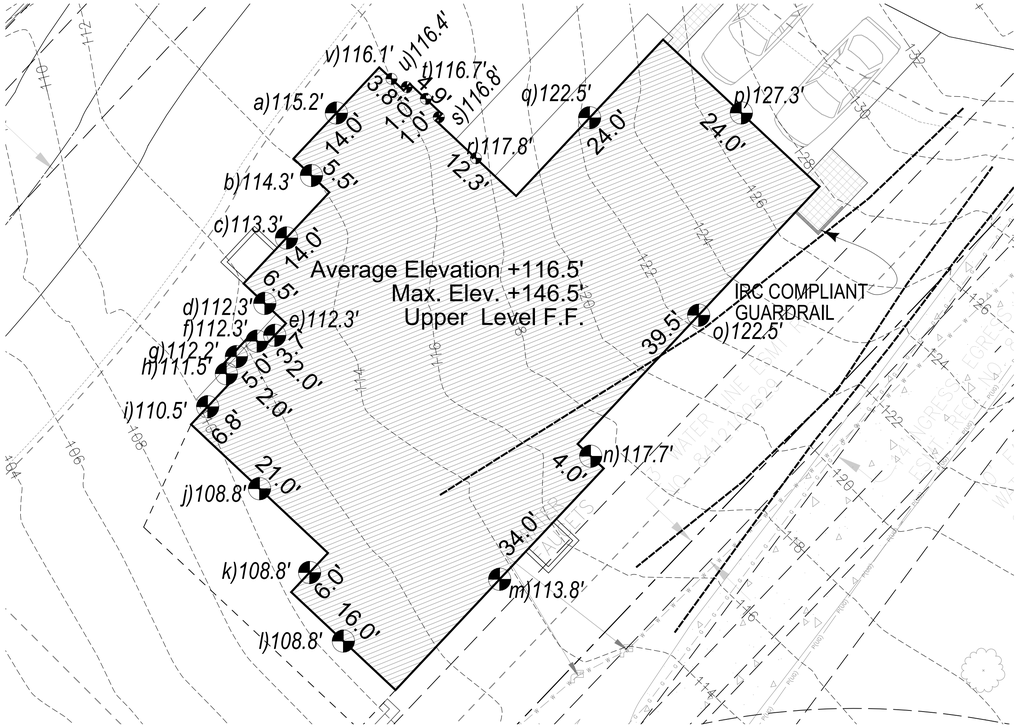
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

SITE WALL DETAILS

FILE NAME:

SHEET:

SW4.1



CALCULATION KEY

1/8" = 1'-0"

NORTH

2 Elevations Co-Ordinated With Plan

Point	Wall Length	Mid Pt Elev.	Weighted Value
a	14.0	115.2	1612.8
b	5.5	114.3	628.7
c	14.0	113.3	1583.4
d	6.5	112.3	730.0
e	3.7	112.3	415.5
f	2.0	112.3	224.6
g	5.0	112.2	561.0
h	2.0	111.5	223.0
i	6.8	110.5	751.4
j	21.0	108.8	2284.8
k	6.0	108.8	652.8
l	16.0	108.8	1740.8
m	34.0	113.8	3869.2
n	4.0	117.7	470.8
o	39.5	122.5	4834.8
p	24.0	127.3	3055.2
q	24.0	122.5	2940.0
r	12.3	117.8	1448.9
s	1.0	116.8	116.8
t	4.9	116.7	571.8
u	1.0	116.4	116.4
v	3.8	116.1	441.2

Avg. Height. = 29280.6/251.0 = 116.66'
Max.Hght. = 116.66 + 30.0= **146.66'**

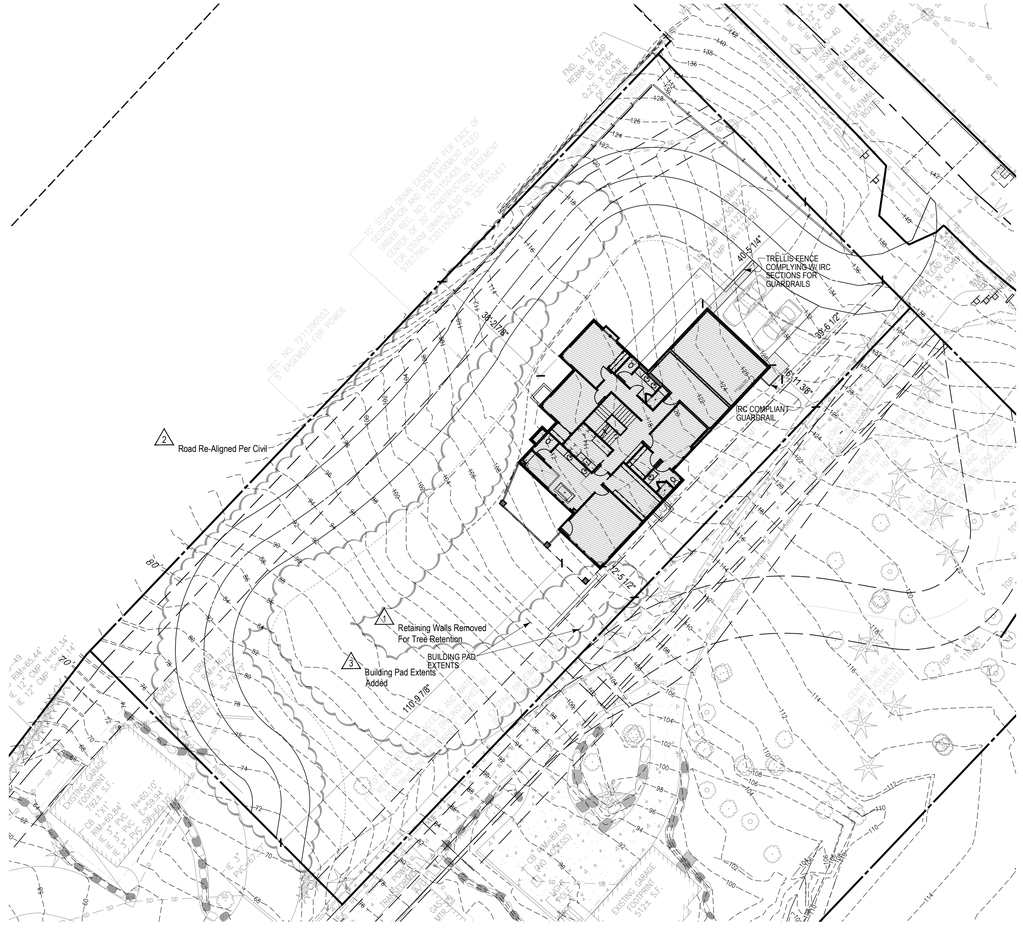
LOT COVERAGE

ROAD	5157 SF
DRIVEWAY	391 SF
BUILDING	2495 SF
TOTAL	8043 SF
LOT AREA 23,034 SF	
LOT COVERAGE	34.92%

ANCILLARY COVERAGE

DECKS/RETAINING WALLS & WALKS	642 SF
ANCILLARY IMPERVIOUS	2.89%

2 Areas Revised Per New Road Path. Ancillary Impervious Calculations Added.



SITE PLAN

1" = 20'

NORTH

2 Note Added Per City

PER MICC 19.02.020(F)(3)(D) TO REMOVE NOXIOUS WEEDS. ("DEVELOPMENT PROPOSALS FOR A NEW SINGLE-FAMILY HOME SHALL REMOVE JAPANESE KNOTWEED (POLYGONUM CUSPIDATUM) AND REGULATED CLASS A, REGULATED CLASS B, AND REGULATED CLASS C WEEDS IDENTIFIED ON TEH KING COUNTY NOXIOUS WEEDS LIST, AS AMENDED, FROM REQUIRED LANDSCAPING AREAS ESTABLISHED PURSUANT TO SUBSECTION (F)(3)(A) OF THIS SECTION. NEW LANDSCAPING ASSOCIATED WITH NEW SINGLE-FAMILY HOME SHALL NOT INCORPORATE ANY WEEDS IDENTIFIED ON THE KING COUNTY NOXIOUS WEED LIST, AS AMENDED. PROVIDED, THAT REMOVAL SHALL NOT BE REQUIRED IF THE REMOVAL WILL RESULT IN INCREASED SLOPE INSTABILITY OR RISK OF LANDSLIDE OR EROSION."

2 Note Added Per City

AS PER MICC 19.07.060(D)(1)(D) BECAUSE THE DEVELOPMENT OF A GEOLOGIC HAZARD AREA IS PROPOSED ALL DISTURBED AREAS OUTSIDE OF BUILDING FOOTPRINTS AND INSTALLATION OF ALL IMPERVIOUS SURFACES BE LANDSCAPED.

2 Note Added Per City

BUILDING PAD TO BE DEVELOPED IN A MANNER CONSISTENT WITH PROVISIONS OF MICC 19.09.090.

CODES:

PLANS TO COMPLY WITH 2015 INTERNATIONAL RESIDENTIAL CODE (IRC), AND WASHINGTON STATE AMMENDMENTS. ALL APPLICABLE CODES TO BE FOLLOWED.

1. 2015 INTERNATIONAL RESIDENTIAL BUILDING CODE (IRC)
2. 2015 INTERNATIONAL BUILDING CODE (IBC)
3. 2015 WASHINGTON STATE ENERGY CODE WAC 51-11 (WSEC)
4. MINIMUM DESIGN LOADS FO BUILDINGS AND OTHER STRUCTURES, ASCE 7-10 (ASCE)
5. 2015 SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC (SDPWS)
6. MERCER ISLAND CITY CODE (MICC)

BUILDING

OCCUPANCY:	R-3
CONSTRUCTION TYPE:	V-5
ZONING:	R-15 SINGLE FAMILY
SETBACKS:	FRONT 20'
	REAR 25'
	SIDE TOTAL 15'; 5'MIN.

MAIN LEVEL FLOOR AREA:	1,669 SF
MID LEVEL FLOOR ARE	1,898 SF
LOWER LEVEL FLOOR AREA	1,487 SF
TOTAL FLOOR AREA	5,054 SF
GARAGE AREA	576 SF

FIRE

COMPLY WITH CURRENT EDITION OF NFPA 13, NFPA 13D, AND NFPA 13R; MERCER ISLAND BUILDING AND FIRE CODE. SEE MUNICIPAL CODE TITLE 17.

TR Webb Homes
- Tom Webb, Architect -
10303- 14th Avenue NW, Seattle, WA 98177
TomW@KDW.net / (206) 390-1800

POV
POINT OF VISION
ARCHITECTURAL SERVICES
1628 46th Street SE, Everett, WA 98203
point_of_vision@comcast.net
(425)772-8207

4254 REGISTERED ARCHITECT Thomas R. Webb THOMAS R. WEBB STATE OF WASHINGTON

New Residence For:
James & Jessica Rudolf
8253 West Mercer Way
Mercer Island, Washington 98040

ISSUANCE	PERMIT SET 5/15/18
1 6-11-18 Retaining Walls Removed For Tree Retention, Lot Coverage, Various Notes Per City	
2 11-12-18 Adjustments Per City Comments	
3 3-31-19 Building Pad Extents Added	

PROJECT INFORMATION	
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

Site Plan, ABE Calcs & Project Information

SHEET NO

A1

WINDOW SCHEDULE

WDW #	WIDTH	Height	AREA(SF)	WDW TYPE	HEAD HEIGHT	UValue	UA	DETAILS Head	DETAILS Jamb	DETAILS Sill	Remarks
1	30	60	12.5	COTTAGE	+8'-0"	0.29	3.625	--	--	--	
2	30	60	12.5	COTTAGE	+8'-0"	0.29	3.625	--	--	--	
3	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	
4	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	SFTY. GL.
5	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	SFTY. GL.
6	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	SFTY. GL.
7	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	SFTY. GL.
8	36	54	13.5	COTTAGE	+8'-0"	0.29	3.915	--	--	--	
9	36	54	13.5	COTTAGE	+8'-0"	0.29	3.915	--	--	--	
10	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	
11	24	24	4	PICTURE	+8'-0"	0.28	1.12	--	--	--	
12	24	24	4	PICTURE	+8'-0"	0.28	1.12	--	--	--	
13	24	24	4	PICTURE	+8'-0"	0.28	1.12	--	--	--	
14	24	24	4	PICTURE	+8'-0"	0.28	1.12	--	--	--	
15	24	24	4	PICTURE	+8'-0"	0.28	1.12	--	--	--	
16	24	24	4	PICTURE	+8'-0"	0.28	1.12	--	--	--	
17	18	18	2.25	PICTURE	SEE ELEV.	0.28	.63	--	--	--	
18	18	18	2.25	PICTURE	SEE ELEV.	0.28	.63	--	--	--	
19	18	18	2.25	PICTURE	SEE ELEV.	0.28	.63	--	--	--	
20	18	18	2.25	PICTURE	SEE ELEV.	0.28	.63	--	--	--	
21	18	18	2.25	PICTURE	SEE ELEV.	0.28	.63	--	--	--	
22	18	18	2.25	PICTURE	SEE ELEV.	0.28	.63	--	--	--	
23	60	24	10	PICTURE	+7'-0"	0.28	2.8	--	--	--	
24	26	36	6.5	SINGLE HUNG	SEE ELEV.	0.29	1.885	--	--	--	
25	36	39	9.75	COTTAGE	SEE ELEV.	0.28	2.73	--	--	--	TRAPEZOID-V.I.F.
26	36	46	11.5	COTTAGE	SEE ELEV.	0.28	3.22	--	--	--	TRAPEZOID-V.I.F.
27	36	39	9.75	COTTAGE	SEE ELEV.	0.28	2.73	--	--	--	TRAPEZOID-V.I.F.
28	30	48	10	COTTAGE	+8'-0"	0.28	2.8	--	--	--	
29	30	48	10	COTTAGE	+8'-0"	0.28	2.8	--	--	--	
30	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	EGRESS COMPLIANT WINDOW
31	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	EGRESS COMPLIANT WINDOW
32	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	EGRESS COMPLIANT WINDOW
33	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	EGRESS COMPLIANT WINDOW
34	12	72	6	COTTAGE	+8'-0"	0.29	1.74	--	--	--	SFTY. GL.
35	30	24	5	PICTURE	+8'-0"	0.28	1.4	--	--	--	SFTY. GL.
36	30	24	5	PICTURE	+8'-0"	0.28	1.4	--	--	--	SFTY. GL.
37	30	24	5	PICTURE	+8'-0"	0.28	1.4	--	--	--	SFTY. GL.
38	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	SFTY. GL.
39	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	SFTY. GL.
40	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	SFTY. GL.
41	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	
42	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	
43	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	
44	30	72	15	COTTAGE	+8'-0"	0.28	4.2	--	--	--	
45	30	72	15	COTTAGE	+8'-0"	0.28	4.2	--	--	--	
46	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	SFTY. GL.
47	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	EGRESS COMPLIANT WINDOW-SFTY. GL.
48	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	EGRESS COMPLIANT WINDOW-SFTY. GL.
49	30	48	10	COTTAGE	+8'-0"	0.28	2.8	--	--	--	SFTY. GL.
50	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	EGRESS COMPLIANT WINDOW- SFTY. GL.
51	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	
52	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	SFTY. GL.
53	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	SFTY. GL.
54	36	72	18	COTTAGE	+8'-0"	0.29	5.22	--	--	--	SFTY. GL.
55	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	
56	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	
57	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	
58	32	54	12	COTTAGE	+8'-0"	0.29	3.48	--	--	--	
59	30	72	15	COTTAGE	+8'-0"	0.29	4.35	--	--	--	EGRESS COMPLIANT WINDOW-SFTY. GL.
60	32	54	12	COTTAGE	+8'-0"	0.29	3.48	--	--	--	
TOTAL			710				204.365				

2 Wdw. Updated

EXTERIOR DOOR SCHEDULE

DR#	WIDTH	Height	AREA(SF)	WDW TYPE	HEAD HEIGHT	UValue	UA	DETAILS Head	DETAILS Jamb	DETAILS Sill	Remarks
101	36	96	24.0	ENTRY	+8'-0"	0.30	7.2	--	--	--	MARVIN DOOR
201	36	96	24.0	ENTRY	+8'-0"	0.30	7.2	--	--	--	MARVIN DOOR
301	36	96	24.0	ENTRY	+8'-0"	0.30	7.2	--	--	--	MARVIN DOOR
302	144	96	96.0	SLIDER	+8'-0"	0.30	28.8	--	--	--	MARVIN DOOR
303	36	96	24.0	ENTRY	+8'-0"	0.30	7.2	--	--	--	MARVIN DOOR
304	144	96	96.0	SLIDER	+8'-0"	0.30	28.8	--	--	--	MARVIN DOOR
305	36	96	24.0	ENTRY	+8'-0"	0.30	7.2	--	--	--	MARVIN DOOR
TOTAL			312.0				93.6				
SUM OF AREA AND UA							1018.25	296.88			
AREA WEIGHTED U = UA / AREA								0.29			

CITY OF MERCER ISLAND

DEVELOPMENT SERVICES GROUP
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org
Inspection Requests: Online: www.MyBuildingPermits.com VM: 206.275.7730

2015 WSEC & IRC Ventilation Worksheet (Effective July 1, 2016)

INFORMATION IN THESE WORKSHEETS MUST BE INCLUDED IN THE CONSTRUCTION DOCUMENTS
This set of worksheets has been developed to assist permit applicants with documenting compliance with the 2015 Washington State Energy Code. The following worksheets provide much of the required documentation for plan review. **The details, systems, and ratings noted here must also be shown on the drawings.**

PRESCRIPTIVE ENERGY CODE COMPLIANCE FOR CLIMATE ZONE MARINE 4

Component	Fenestration [1]		Ceiling w/ Attic	Vaulted Ceiling	Wood Framed Wall (Int.)[2]	Mass Wall (Above grade)	Below-Grade Wall [2,3]	Framed Floor	Slab R-Value & Depth
	Vertical	Overhead							
Prescriptive Value	U. 0.30 max.	U. 0.50 max.	R-49 min.	R-38 min.	R-21 min.	R-21 min.	R- 10/15/21 Int. + TB	R-30 min.	R-10 min. 2'

[1] Fenestration is defined as skylights, roof windows, vertical windows (fixed or moveable), opaque doors, glazed doors, glazed block and combination opaque/glazed doors. Fenestration includes products with glass and non-glass glazing materials.
[2] Int. (intermediate framing) denotes standard framing 16" o.c. with headers insulated with a minimum R-10 insulation.
[3] 10/15/21 +TB" means R-10 continuous insulation on the exterior of the wall, or R-15 on the continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "TB" means thermal break between floor slab and basement wall.

Whole House Ventilation (Prescriptive)

Please check the appropriate box to describe which of the four prescriptive Whole House Ventilation Systems you will be using AND fill in the required whole house ventilation rate in CFM's. (See "2015 Residential Whole House Ventilation Rate" Handout.) A complete system required by one of the sections noted below must be specified on the drawings.

	WHOLE HOUSE VENTILATION METHOD	Whole House Ventilation Rate
☐	Intermittent Whole House Ventilation Using Exhaust Fans & Fresh Air Inlets. (IRC M1507.3.4)	
☐	Intermittent Whole House Ventilation Integrated with a Forced Air System. (IRC M1507.3.5)	
☐	Intermittent Whole House Ventilation using a Supply Fan. (IRC M1507.3.6)	
☑	Intermittent Whole House Ventilation Using a Heat Recovery Ventilation System (IRC M1507.3.7)	120 cfm

Source Specific Exhaust Ventilation & Fan Efficiency

Required in each kitchen, bathroom, water closet compartment, laundry room, indoor swimming pool, spa and other rooms where water vapor or cooking odor is produced. (IRC M 1507.4) Fan efficiency from WAC 51-11R – Table R403.6.1. Kitchen Hoods greater than 400 cfm require makeup air per IRC M1503.4

Minimum Source Specific Ventilation Capacity Requirements

	Bathrooms – Utility Rooms		Kitchens	In-line fan
Intermittently operating	50 cfm min		100 cfm min	
Continuous operation	20 cfm min		25 cfm min	
Minimum Efficacy (cfm/watt)	1.4 cfm/watt if <90cfm	2.8 cfm/watt if >90cfm	2.8 cfm/watt	2.8 cfm/watt

Energy Efficiency Credits

Each dwelling unit shall comply with sufficient options from WSEC Table R406.2 so as to achieve the following minimum number of credits as described on the reverse side of this page.

- ☐ **Small Dwelling Unit: 1.5 credits** (Dwelling units less than 1500 SF in conditioned floor area with less than 300 square feet of fenestration area. Additions to existing building that are greater than 500 SF of heated floor area, but less than 1500 SF. **TOTAL SQUARE FEET OF FENESTRATION:** _____ (doors, windows, skylights)
- ☐ **Medium Dwelling Unit: 3.5 credits** (All dwelling units not included in #1 or #3. Exception: Dwelling units serving R-2 occupancies shall require 2.5 credits.
- ☑ **Large Dwelling Unit: 4.5 credits** (Dwelling Units exceeding 5000 SF of conditioned floor area.
- ☐ **Additions less than 500 SF: 0.5 credits**

S:\DSG\FORMS\2017\Building\2015_WSEC_IRC_Ventilation.pdf

2015 WSCE – Table R406.2 – circle the options that you will be using for this project

OPTION	DESCRIPTION	CREDIT(S)
☐ 1a	**EFFICIENT BUILDING ENVELOPE 1a:** Vertical fenestration U = 0.28 Floor R-38 Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab. **OR** Compliance based on Section R402.1.4: Reduce the Total UA by 5%.	0.5
☐ 1b	**EFFICIENT BUILDING ENVELOPE 1b:** Vertical fenestration U = 0.25 Wall R-21 plus R-4 Floor R-38 Basement wall R-21 int plus R-5 ci Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab. **OR** Compliance based on Section R402.1.4: Reduce the Total UA by 15%.	1.0
☐ 1c	**EFFICIENT BUILDING ENVELOPE 1c:** Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.22 Ceiling and single-rafter or joist-vaulted R-49 advanced Wood frame wall R-21 int plus R-12 ci Floor R-38 Basement wall R-21 int plus R-12 ci Slab on grade R-10 perimeter and under entire slab Below grade slab R-10 perimeter and under entire slab **OR** Compliance based on Section R402.1.4: Reduce the Total UA by 30%.	2.0
☐ 1d	**EFFICIENT BUILDING ENVELOPE 1d:** Prescriptive compliance is based on Table R402.1.1 with the following modifications: Vertical fenestration U = 0.24. Projects using this option may not use Option 1a, 1b or 1c.	0.5
☐ 2a	**AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2a:** Compliance based on R402.4.1.2: Reduce the tested air leakage to 3.0 air changes per hour maximum **AND** All whole house ventilation requirements as determined by Section M1507.3 of the *International Residential Code* shall be met with a high efficiency fan (maximum 0.35 watts/cfm), not interlocked with the furnace fan. Ventilation systems using a furnace including an ECM motor are allowed, provided that they are controlled to operate at low speed in ventilation only mode. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the qualifying ventilation system.***	0.5
☐ 2b	**AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2b:** Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 2.0 air changes per hour maximum **AND** All whole house ventilation requirements as determined by Section M1507.3 of the *International Residential Code* shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.70. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the heat recovery ventilation system.***	1.0
☑ 2c	**AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION 2c:** Compliance based on Section R402.4.1.2: Reduce the tested air leakage to 1.5 air changes per hour maximum. **AND** All whole house ventilation requirements as determined by Section M1507.3 of the *International Residential Code* shall be met with a heat recovery ventilation system with minimum sensible heat recovery efficiency of 0.85. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum tested building air leakage and shall show the heat recovery ventilation system.***	1.5
☑ 3a	**HIGH EFFICIENCY HVAC EQUIPMENT 3a:** Gas, propane or oil-fired furnace with minimum AFUE of 94%, or Gas, propane or oiled-fired boiler with minimum AFUE of 92%. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.***	1.0
☐ 3b	**HIGH EFFICIENCY HVAC EQUIPMENT 3b:** Air-source heat pump with minimum HSPF of 9.0. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.***	1.0
☐ 3c	**HIGH EFFICIENCY HVAC EQUIPMENT 3c:** Closed-loop ground source heat pump; with a minimum COP of 3.3 **OR** Open loop water source heat pump with a maximum pumping hydraulic head of 150 feet and minimum COP of 3.6. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.***	1.5
☐ 3d	**HIGH EFFICIENCY HVAC EQUIPMENT 3d:** Ductless Split System Heat Pumps, Zonal Control: In homes where the primary space heating system is zonal electric heating, a ductless heat pump system shall be installed and provide heating to the largest zone of the housing unit. Projects may only include credit from one space heating option, 3a, 3b, 3c or 3d. When a housing unit has two pieces of equipment (i.e., two furnaces) both must meet the standard to receive the credit. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and the minimum equipment efficiency.***	1.0

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2015 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This calculator will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.
The glazing (window) and door portion of this calculator assumes the installed glazing and door products have an area weighted average U-factor of 0.30. The incorporated insulation requirements are the minimum prescriptive amounts specified by the 2015 WSEC.
Please fill out all of the green drop-downs and boxes that are applicable to your project. As you make selections in the drop-downs for each section, some values will be calculated for you. If you do not see the selection you need in the drop-down options, please call the WSU Energy Extension Program at (360) 956-2042 for assistance.

Project Information	*Contact Information*
Rudolf Residence	Tom Webb
8253 West Mercer Way	10303 14th Avene NW
Mercer Island, WA 98115	Seattle, WA 98177

Heating System Type: (●)All Other Systems ( )Heat Pump

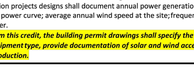
To see detailed instructions for each section, place your cursor on the word "Instructions".

Design Temperature — Instructions: Mercer Island — Design Temperature Difference (ΔT) 45 (ΔT = Indoor (70 degrees) - Outdoor Design Temp)

Area of Building
Conditioned Floor Area — Instructions: Conditioned Floor Area (sq ft) 5,058
Average Ceiling Height — Instructions: Average Ceiling Height (ft) 9.0 — Conditioned Volume 45,522

	U-Factor	X	Area	=	UA
Glazing and Doors Instructions	0.30	X	1,018	=	305.40
Skylights Instructions	0.50	X	24	=	12.00
Insulation					
Attic Instructions: R-38 Advanced	0.026	X	1,188	=	30.89
Single Rafter or Joist Vaulted Ceilings Instructions: R-38 Vented	0.027	X	554		14.96
Above Grade Walls *(see Figure 1)* Instructions: R-21 Intermediate	0.056	X	5,038		282.13
Floors Instructions: R-30	0.029	X	360		10.44
Below Grade Walls *(see Figure 1)* Instructions: R-21 Interior	0.042	X	603		25.33
	F-Factor	X	Length		UA
Slab Below Grade *(see Figure 1)* Instructions: Select conditioning	No selection				---
Slab on Grade *(see Figure 1)* Instructions: R-10 Perimeter	0.540	X	182		98.28

Location of Ducts Instructions: Unconditioned Space — **Duct Leakage Coefficient** 1.10

Figure 1.


Sum of UA	779.42
Envelope Heat Load *Sum of UA X ΔT*	35,074 Btu / Hour
Air Leakage Heat Load *Volume X 0.6 X ΔT X .018*	22,124 Btu / Hour
Building Design Heat Load *Air Leakage + Envelope Heat Load*	57,198 Btu / Hour
Building and Duct Heat Load *Ducts in unconditioned space: Sum of Building Heat Loss X 1.10 Ducts in conditioned space: Sum of Building Heat Loss X 1*	62,917 Btu / Hour
Maximum Heat Equipment Output *Building and Duct Heat Loss X 1.40 for Forced Air Furnace Building and Duct Heat Loss X 1.25 for Heat Pump*	88,084 Btu / Hour

(07/01/13)

2015 WSCE – Table R406.2 - Continued

OPTION	DESCRIPTION	CREDIT(S)
☐ 4	**HIGH EFFICIENCY HVAC DISTRIBUTION SYSTEM:** All heating and cooling system components installed inside the conditioned space. This includes all equipment and distribution system components such as forced air ducts, hydronic piping, hydronic floor heating loop, convectors and radiators. All combustion equipment shall be direct vent or sealed combustion. For forced air ducts: A maximum of 10 linear feet of return ducts and 5 linear feet of supply ducts may be located outside the conditioned space. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed with mastic. If flex ducts are used, they cannot contain splices. Flex duct connections must be made with nylon straps and installed using a plastic strapping tensioning tool. Ducts located outside the conditioned space must be insulated to a minimum of R-8. Locating system components in conditioned crawl spaces is not permitted under this option. Electric resistance heat and ductless heat pumps are not permitted under this option. Direct combustion heating equipment with AFUE less than 80% is not permitted under this option. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the heating equipment type and shall show the location of the heating and cooling equipment and all the ductwork.***	1.0
☑ 5a	**EFFICIENT WATER HEATING 5a:** All showerhead and kitchen sink faucets installed in the house shall be rated at 1.75 GPM or less. All other lavatory faucets shall be rated at 1.0 GPM or less. Plumbing Fixtures Flow Ratings. Low flow plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following requirements: 1. Residential bathroom lavatory sink faucets: Maximum flow rate - 3.8 L/min (1.0 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. 2. Residential kitchen faucets: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. 3. Residential showerheads: Maximum flow rate - 6.6 L/min (1.75 gal/min) when tested in accordance with ASME A112.18.1/CSA B125.1. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the maximum flow rates for all showerheads, kitchen sink faucets, and other lavatory faucets.***	0.5
☐ 5b	**EFFICIENT WATER HEATING 5b:** Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.74 **OR** Water heater heated by ground source heat pump meeting the requirements of Option 3c. **OR** For R-2 occupancy, a central heat pump water heater with an EF greater than 2.0 that would supply DHW to all the units through a central pipe insulation. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency.***	1.0
☑ 5c	**EFFICIENT WATER HEATING 5c:** Water heating system shall include one of the following: Gas, propane or oil water heater with a minimum EF of 0.91 **OR** Solar water heating supplementing a minimum standard water heater. Solar water heating will provide a rated minimum savings of 85 therms or 2000 kWh based on the Solar Rating and Certification Corporation (SRCC) Annual Performance of OG-300 Certified Solar Water Heating Systems **OR** Electric heat pump water heater with a minimum EF of 2.0 and meeting the standards of NEEA's Northern Climate Specifications for Heat Pump Water Heaters ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall specify the water heater equipment type and the minimum equipment efficiency and, for solar water heating systems, the calculation of the minimum energy savings.***	1.5
☐ 5d	EFFICIENT WATER HEATING 5d: A drain water heat recovery unit(s) shall be installed, which captures waste water heat from all the showers, and has a minimum efficiency of 40% if installed for equal flow or a minimum efficiency of 52% if installed for unequal flow. Such units shall be rated in accordance CSA B55.1 and be so labeled. ***To qualify to claim this credit, the building permit drawings shall include a plumbing diagram that specified the drain water heat recovery units and the plumbing layout needed to install it and labels or other documentation shall be provided that demonstrates that the unit complies with the standard.***	0.5
☐ 6	**RENEWABLE ELECTRIC ENERGY:** For each 1200 kWh of electrical generation per each housing unit provided annually by on-site wind or solar equipment a 0.5 credit shall be allowed, up to 3 credits. Generation shall be calculated as follows: For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy Laboratory calculator PVWATTs. ***Documentation noting solar access shall be included on the plans.*** For wind generation projects designs shall document annual power generation based on the following factors: The wind turbine power curve; average annual wind speed at the site; frequency distribution of the wind speed at the site and height of the tower. ***To qualify to claim this credit, the building permit drawings shall specify the option being selected and shall show the photovoltaic or wind turbine equipment type, provide documentation of solar and wind access, and include a calculation of the minimum annual energy power production.***	0.5

2 Forms Updated

TR Webb Homes
- Tom Webb, Architect -
10303- 14th Avenue NW, Seattle, WA 98177
TomW@KDW.net / (206) 390-1800

POV
POINT OF VISION
ARCHITECTURAL SERVICES
1628 46th Street SE, Everett, WA 98203
point_of_vision@comcast.net
(425) 772-8207

4254 REGISTERED ARCHITECT Thomas R. Webb THOMAS R. WEBB STATE OF WASHINGTON

New Residence For:
James & Jessica Rudolf
8253 West Mercer Way
Mercer Island, Washington 98040

ISSUANCE	PERMIT SET 5/15/18

PROJECT INFORMATION	
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

Energy Schedules & Charts / Requirements

SHEET NO
A2

GENERAL NOTES

THE FOLLOWING "GENERAL NOTES" ARE EXCERPTS FROM THE 2015 INTERNATIONAL RESIDENTIAL CODE (IRC). THESE EXCERPTS ARE NOT INTENDED TO EXPRESS THE ENTIRE 2015 IRC REQUIREMENTS. THE BUILDING(S) REFERENCED WITHIN THESE DRAWINGS SHOULD BE CONSTRUCTED BY A QUALIFIED CONTRACTOR, KNOWLEDGEABLE OF CURRENT STATE & LOCAL BUILDING CODES INCLUDING STANDARD CONSTRUCTION METHODS.

FOUNDATION DRAINAGE: IRC Section R401.3 Drainage. Surface drainage shall be diverted to an approved point of collection so as to not create a hazard. Lots shall be graded so as to drain surface water away from foundation walls. The grade away from foundation walls shall fall a minimum of 6 inches within the first 10 feet. Exception: Where lot lines, walls, slopes or other physical barriers prohibit 6 inches of fall within 10 feet, drains or swales shall be constructed to ensure drainage away from the structure. Impervious surfaces within 10 feet of the building foundation shall be sloped a minimum of 2 percent away from the building. IRC Section R405.l Concrete or masonry foundations. Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or useable spaces located below grade. Drainage tiles, gravel, or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone drains shall extend at least l-foot beyond the outside edge of the footing and at least 6 inches above the top of the

footing and be covered with an approved filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper, and the drainage tiles or perforated pipe shall be placed on a minimum 2 inches of washed gravel or crushed rock at least one sieve size larger than

the tile joint opening or perforation and covered with not less than 6 inches of the same material.

UNDER-FLOOR VENTILATION: IRC Section R408.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement) shall have ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than l square foot for each 150 square feet of under-floor space area, unless the ground surface is covered by a Class I vapor retarder material. When a Class I vapor retarder material is used, the minimum net area of ventilation openings shall not be less than l square foot for each l ,500 square feet of under-floor space area. One such ventilating opening shall be within 3 feet of each corner of the building. IRC Section R408.2

Openings for under-floor ventilation. The minimum net ventilation openings shall not be less than 1 square foot for each 150 square feet of under-floor area. One ventilation opening shall be within 3 feet of each corner of the building. Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed 1/4 inch: l) Perforated sheet metal plates not less than 0.070 inch thick. 2) Expanded sheet metal plates not less than 0.047 inch thick. 3) Cast-iron grill or grating. 4) Extruded load-bearing brick vents. 5) Hardware cloth of 0.035 inch wire or heavier. 6) Corrosion-resistant wire mesh, with the least dimension being 1/8 inch. Exception: The total area of ventilation openings shall be permitted to be reduced to 1/1 ,500 of the under-floor area where the ground surface is covered with an approved Class I vapor retarder material and the required openings are placed to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited.

ROOF VENTILATION: IRC Section R806.1. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space be ventilating openings protected against the entrance of rain or snow.
Ventilation openings shall have a least dimension of 1/16 inch minimum and 1/4 inch maximum. Ventilation openings having a least dimension larger than 1/4 inch shall be provided with corrosion-resistant wire cloth screening, hardware cloth, or similar material with openings having a least dimension of 1/16 inch minimum and 1/4 inch maximum. Openings in roof framing members shall conform to the requirements of Section R802.7. IRC Section R806.2. The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted provided that at least 40 percent and not more than 50 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet above the eave or cornice vents with the balance of the required ventilation provided bt eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling. IRC Section R806.3. Where eave or cornice vents are installed, insulation shall not block the free flow of air. A minimum of a I-inch space shall be provided between the insulation and the roof sheathing and at the location of the vent.

PROTECTION AGAINST DECAY: IRC Section R317.1 Location required. Protection of wood

and wood based products from decay shall be provided in the following locations by the use of naturally durable wood or wood that is preservative-treated in accordance with AWPA UI for the species, product, preservative and end use. Preservatives shall be listed in Section 4 of AWPA UI. I) Wood joists or the bottom of a wood structural floor when closer than 18 inches or wood girders when closer than 12 inches to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation. 2) All wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches from the exposed ground. 3) Sills and sleepers on a concrete or masonry slab that is in direct contact with the ground unless separated from such slab by an impervious moisture barrier. 4) The ends of wood girders entering exterior masonry or concrete walls having clearances of less than 0.5 inch on tops, sides and ends. 5) Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6 inches from the ground or less than 2 inches measured vertically from concrete steps, porch slabs, patio slabs, and similar horizontal surfaces exposed to the weather. 6) Wood structural members supporting moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier. 7) Wood furring strips or other wood framing members attached directly to the interior of exterior masonry walls or concrete walls below grade except where an approved vapor retarder is applied between the wall and the furring strips of framing members. IRC Section R317.1.1 Field treatment. Field-cut ends, notches and drilled holes of preservative-treated wood shall be treated in the field in accordance with AWPA M4.

WOOD FRAMING IDENTIFICATION: IRC Section R502: Load-bearing lumber, end-jointed lumber, pre-fabricated I-joists, structural glue-laminated timber, preservative treated wood, fire-retardant-treated wood, shall conform to the applicable standards or grading rules of the IRC Section R502 and shall be identified by a grade and/or identification mark.

FASTENERS: IRC Section R317.3.I: Fasteners for preservative-treated wood shall be of hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze or copper. Coating types and weights for connectors in contact with preservative-treated wood shall be in accordance with the connector manufacturer's recommendations. In the absence of manufacturer's recommendations, a minimum o d. ASTM A 653 type G185 zinc-coated galvanized steel, or equivalent, shall be used. Exceptions: 1) One-half-inch diameter or greater steel bolts. 2) Fasteners other than nails and timber rivets shall be permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B 695, Class 55, minimum.

COLUMNS AND POSTS: IRC Section R317.1.4. Wood columns shall be approved wood of natural decay resistance or approved pressure-preservative-treated wood. Exceptions: I) Columns exposed to the weather or in basements when supported by concrete piers or metal pedestals projecting I inch above a concrete floor or 6 inches above exposed earth and the earth is covered by an approved impervious moisture barrier. 2) Columns in enclosed crawl spaces or unexcavated areas located within the periphery of the building when supported by a concrete pier or metal pedestal at a height more than 8 inches from exposed earth and the earth is covered by an approved impervious moisture barrier. IRC Section R407.3: The columns shall be restrained to prevent lateral displacement at the bottom end. Wood columns shall not be less than 4 inches by 4 inches. Steel columns shall not be less than 3-inch diameter Schedule 40 pipe manufactured in accordance with ASTM-A 53 Grade B or approved equivalent.

WOOD WALL FRAMING: IRC Sections 602.3.1: The size, height and spacing of studs shall be in accordance with Table R602.3 (5). Exceptions: I) Utility grade studs shall not be spaced more

than 16 inches on center, shall not support more than a roof and ceiling, and shall not exceed 8 feet in height for exterior walls and load-bearing walls or 10 feet for interior nonload-bearing walls. 2)Studs more than 10 feet in height which are in accordance with Table R602.3.1.

WOOD WALL FRAMING (CONT): IRC Section R602.3.2: Wood stud walls shall be capped with a double top plate installed to provide overlapping at corners and intersections with bearing partitions. End joints in top plates shall be offset at least 24 inches. Joints in plates need not occur over studs. Plates shall not be less than 2-inches nominal thickness and have a width at least equal to the width of the studs. IRC Section R602.3.4: Studs shall have a full bearing on a nominal 2-by or larger plate or sill having a width at least equal to the width of the studs.

STUDS - DRILLING AND NOTCHING: IRC Section 602.6: Drilling and notching of studs shall be in accordance with the following: 1) Notching. Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40 percent of a single stud width. 2) Drilling. Any stud may be bored or drilled, provided that the diameter of the resulting hole is no more than 60 percent of the stud width, the edge of the hole is no more than 5/8 inch to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall also be doubled with no more than two successive doubled studs bored. See IRC Section 602.6, figures R602.6(I) and R602.6(2).

DWELLING/GARAGE OPENING PROTECTION: IRC Sections R302.5.1: openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than I -3/8 inches in thickness, solid or honeycomb core steel doors not less than 1-3/8 inches thick, or 20-minute fire-rated doors with self closing device.

DWELLING/GARAGE DUCT PROTECTION: IRC Sections R302.5.2: Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage sheet steel or other approved material and shall have no openings into the garage.

DWELLING/GARAGE FIRE SEPARATION: IRC Sections R302.6: The garage shall be separated from the residence and attics with not less than 1/2-inch gypsum board or equivalent applied to the garage side. The garage shall be separated from all habitable rooms above the garage with not less than 5/8-inch Type 'X' gypsum board or equivalent. All structure(s) supporting floor/ceiling assemblies used for separation required by this section shall be not less than 1/2-inch gypsum board or equivalent.

FIREBLOCKING: IRC Sections R302.11: In combustible construction, fire blocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space. Fire blocking shall be provided in wood-frame construction in the following locations: 1) In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs; as follows: 1.1) Vertical at the ceiling and floor levels. 1.2) Horizontally at intervals not exceeding 10 feet. 2) At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings. 3) In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with IRC Section R302.7. 4) At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion. The material filling this annular space shall not be required to meet the ASTM E 136 requirements. 5) For the fire blocking of chimneys and fireplaces, see IRC Section RI 003.19. 6) Fire blocking of cornices of a two-family dwelling is required at the line of dwelling unit separation. Fire blocking material shall be in accordance with IRC Section R302.11.1.

UNDER-STAIR PROTECTION: IRC Section R302.7: Enclosed accessible space under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with 1/2-inch gypsum board.

STAIRWAY WIDTH: IRC Section R311.7.1: Stairways shall not be less than 36 inches in clear width at all points above the permitted handrail height and below the required headroom height. Handrails shall not project more than 4.5 inches on either side of the stairway and the minimum clear width of the stairway at and below handrail height, including treads and landings, shall not be less than 31.5 inches where a handrail is installed on one side and 27 inches where handrails are provided on both sides. Exception: The width of spiral stairways shall be in accordance with IRC Section Ril.7.9.1.

STAIRWAY HEADROOM: IRC Section R311.7.2: The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway. Exception: Where the nosing of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4-3/4 inches.

STAIRWAY TREADS AND RISERS: IRC Section R311.7.4.1: The maximum riser height shall be 7-3/4 inches. The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch. IRC Section R311.7.4.2: The minimum tread depth shall be 10 inches. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch,

STAIRWAY LANDINGS: IRC Section 'R311.7.6: There shall be a floor or landing at the top and

bottom of each stairway. Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs. A flight of stairs shall not have a vertical rise larger than 12 feet between floor levels or landings. The width of each landing shall not be less than the width of the stairway served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel.

STAIRWAY ILLUMINATION: IRC Section R303.7 : All interior and exterior stairways shall be provided with a means to illuminate the stairs, including the landings and treads. Interior stairways shall be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. For interior stairs the artificial light sources shall be capable of illuminating treads and landings to levels not less than 1 foot-candle (11 lux) measured at the center of treads and landings. Exterior stairways shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. Exterior stairways providing access to a basement from the outside grade level shall be provided with an artificial light source located in the immediate vicinity of the bottom landing of the stairway. Exception: An artificial light source is not required at the top and bottom landing, provided an artificial light source is located directly over each stairway section. IRC Section R303.6.1: Where lighting outlets are installed in interior stairways, there shall be a wall switch at each floor level to control the lighting outlet where the stairway has six or more risers. The illumination of exterior stairways shall be controlled from inside the dwelling unit. Exception: Lights that are continuously illuminated or automatically controlled

HANDRAILS: IRC Section R311.7.8 : Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers. IRC Section R311.7.8.I : Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches and not more than 38 inches. Exceptions: 1) The use of a volute, turnout or starting easing shall be allowed over the lowest tread. 2) When handrail fittings or bendings are used to provide continuous transition from handrail to guardrail, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed the maximum height. IRC Section R311.7.8.2. Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1-1/2 inch between the wall and the handrails. Exceptions: 1) Handrails shall be permitted to be interrupted by a newel post at the turn. 2) The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

GUARDS: IRC Section R312.1: Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches horizontally to the edge of the open side. Insect screening shall not be considered as a guard. IRC Section R312.2: Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads. Exception: I) Guards on the open sides of stairs shall have a height not less than 34 inches measured vertically from a line connecting the leading edges of the treads. 2) Where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches and not more than 38 inches measured vertically from a line connecting the leading edges of the treads.

CEILING HEIGHT: IRC Section R305.I: Habitable space, hallways, bathrooms, toilet rooms, laundry rooms and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet. Exceptions: I) For rooms with sloped ceilings, at least 50 percent of the required floor area of the room must have a ceiling height of at least 7 feet and no portion of the required floor area may have a ceiling height of less than 5 feet. 2) Bathrooms shall have a minimum ceiling height of 6 feet 8 inches at the center of the front clearance area for fixtures (Firgure R307. I). The ceiling height above fixtures shall be such that the fixture is capable of being used for its intended purpose. A shower or tub equipped with a showerhead shall have a minimum ceiling height of 6 feet 8 inches above a minimum 30 inches by 30 inches at the showerhead. IRC Section R305.1.1 : Portions of basements that do not contain habitable space, hallways, bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches. Exception: I) Beams, girders, ducts or other obstructions may project to within 6 feet 4 inches of the finished floor.

ACCESS: IRC Section R408.4: Access shall be provided at all under-floor spaces. Access openings through the floor shall be a minimum of 18 inches by 24 inches. Openings through a

perimeter wall shall be not less than 16 inches by 24 inches. When any portion of the through-wall access is below grade, an areaway not less than 16 inches by 24 inches shall be provided. The bottom of the areaway shall be below the threshold of the access opening. Through wall access openings shall not be located under a door to the residence. See Section MI 305.1.4 for access requirements where mechanical equipment is located under floors. IRC Section R807.1: Buildings with combustible ceiling or roof construction shall have an attic access opening to attic areas that exceed 30 square feet and have a vertical height of 30 inches or greater. The vertical height shall be measured from the top of the ceiling framing members to the underside of the roof framing members. The rough-framed opening shall not be less than 22 inches by 30 inches and shall be located in a hallway or other readily accessible location. When located in a wall, the opening shall be a minimum of 22 inches wide by 30 inches high. When access is located in a ceiling, minimum unobstructed headroom in the attic space shall be 30 inches at some point above the then access measured vertically from the bottom of ceiling framing members. See Section MI 305.1.3 for access requirements where mechanical equipment is located in attics.

WINDOW WELLS: IRC Section R310.2: The minimum horizontal area of the window well shall be 9 square feet, with a minimum horizontal projection and width of 36 inches. The area of the window well shall allow the emergency escape and rescue opening to be fully opened. Exception: The ladder or steps required by IRC Section R310.2.I shall be permitted to encroach a maximum of 6 inches into the required dimensions of the window well. IRC Section R310.2.I: Window wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps useable with the window in the fully open position. Ladders or steps required by this section shall not be required to comply with IRC Sections R311.7 and R311.8. Ladders or rungs shall have an inside width of at least 12 inches, shall project at least 3 inches from the wall and shall be spaced not more than 18 inches on center vertically for the full height of the window well.

WINDOW SILLS: IRC Section R312.2,: In dwelling units, where the opening of an operable window is located more than 72 inches above finished grade of surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch diameter sphere where such openings are located within 24 inches of the finished floor. Exceptions: 1) Windows whose openings will not all a 4-inch diameter sphere to pass through the opening when the opening is in its largest opened position. 2) Openings that are provided with window fall prevention devices that comply with Section R612.3. 3) Openings the are provided with fall prevention devices that comply with ASTM F2090. 4) windows that are provided with opening limiting devices that comply with Section R612.4.

SAFETY GLAZING: IRC Section R308.4: Per this section provide safety glazing at all hazardous locations.

EMERGENCY ESCAPE AND RESCUE OPENINGS: IRC Section R310.1: Basements, habitable attics and every sleeping room shall have at least one operable emergency escape and rescue opening. Such opening shall open directly into a public street, public alley, yard or court. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with IRC Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with IRC Section R310.2 Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way. Exception: Basements used only to house mechanical equipment and not exceeding total floor area of 200 square feet. IRC Section R310.1.I: All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet. Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet. IRC Section R310.I.2: The minimum net clear opening height shall be 24 inches. IRC Section R310.1.3: The minimum net clear opening width shall be 20 inches. IRC Section R310.1.4: Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge.

WATER-RESISTANT GYPSUM BACKING BOARD: IRC Section R702.3.8: Gypsum board used as a base or backer for adhesive application of ceramic tile or other nonabsorbent material shall conform with ASTM C630 or CI 178. Use of water-resistant gypsum backing board shall be permitted to be used on ceilings where framing spacing does not exceed 12 inches o.c. for 1/2" thick or 16 inches o.c. for 5/8" thick gypsum board. Water resistant gypsum wallboard shall not be installed over a vapor retarder, or on ceilings in a shower or tub compartment. Cut or exposed edges, including those at wall intersections, shall be sealed as recommended by the manufacturer. IRC Section R702.3.8.I: Water-resistant gypsum backing board shall not be used where there will be direct exposure to water, or in areas subject to continuous high humidity.

BATHTUB AND SHOWER SPACES: IRC Section R307.2: Bathtub and shower floors and walls above bathtubs with installed shower heads and in shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet above the floor.

WEATHER RESISTANT SHEATHING PAPER: IRC Section R703.2: one layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches. Where joints occur, felt shall be lapped not less than 6 inches. The left or other approved

material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1. Exception: Omission of the water-resistive barrier is permitted in the following situations: 1) In detached accessory buildings. 2) Under exterior wall finish materials as permitted in Table R703.4. 3) Under paperbacked stucco lath when the paper backing is an approved weather-resistive sheathing paper.

FLASHING: IRC Section R703.8: Approved corrosion-resistant flashing shall be applied shingle-fashion in such a manner to prevent entry of water into wall cavity or penetration of water to the building structural framing components. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashings shall be installed at all of the following locations:

Flashing at exterior window and door openings shall be installed in accordance with one or more of the following: la) The fenestration manufacturer's installation and flashing instructions, or for applications not addressed in the fenestration manufacturer's instructions, in accordance with the manufacturer's instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage. Openings using pan flashing shall also incorporate flashing or protection at the head and sides. 1b) In accordance with the flashing design or method of a registered design professional. lc) In accordance with other approved methods.

At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings. 3) Under and at the ends of masonry, wood or metal copings and sills. 4) Continuously above all projecting wood trim. 5) Where exterior porches, decks or stairs attach to a wall or floor assembly of wood-frame construction. 6) At wall and roof intersections. 7) At built-in gutters.

EXTERIOR COVERING: IRC Section R703: Provide the building with a weather- resistant exterior wall envelope. The exterior wall envelope shall include flashing as described in Section R703.8. Ensure proper fastening for type used, wood siding may not be less than 3/8" thick. See Table R703.4.

HEATING: IRC SectionR303.9 When the winter desing temperature in Table R301.2(1) is below 60 degrees F, every dwelling unit shall be provided the heating facilities capable of maintaining a minimum room temperature of 68 degrees F at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms at the design temperature. The installation of one or more portable space heaters shall not be used to achieve compliance with this section.

SMOKE DETECTORS: IRC Section R314.1: All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72. IRC Section 314.2: Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms. Where a household fire warning system is installed using a combination of smoke detector and audible notification device(s), it shall become a permanent fixture of the occupancy and owned by the homeowner. The system shall be monitored by an approved supervising station and be maintained in accordance with NFPA 72. Exceptions:

Where smoke alarms are provided meeting the requirements of Section R314.4. IRC Section 314.3: When more than one smoke alarm is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. Smoke alarms shall be installed in the following locations: 1) In each sleeping room. 2) Outside each separate sleeping area in the immediate vicinity of the bedrooms. 3) On each additional story of the dwelling, including basements and habitable attics but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without on intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level. IRC Section 314.3.1: When alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings. Exceptions: 1) Work involving the exterior surface of dwellings, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck, are exempt from the requirements of this section. 2) Installation, alteration or repairs of plumbing or mechanical systems are exempt from the requirements of this section. IRC Section 314.4: Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke alarms shall be interconnected. Exceptions: 1) Smoke alarms shall be permitted to be battery operated when installed in buildings without commercial power. 2) Interconnection and hard-wiring of smoke alarms in existing areas shall not be required where alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard-wiring and interconnection Without the removal of interior finishes.

CARBON MONOXIDE ALARMS: IRC Section R315.1: For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages.

R315.2 Carbon monoxide detection systems. Carbon monoxide detection systems that include carbon monoxide detectors and audible notification appliances, installed and maintained -in accordance with this section for carbon monoxide alarms and NFPA 720, shall be permitted. The carbon monoxide detectors shall be listed as complying with UL 2075. Where a house hold carbon monoxide detection system is installed, it shall become a permanent fixture of the occupancy, owned by the homeowner and shall be monitored by an approved supervising station. Exception: Where carbon monoxide alarms are installed meeting the requirements of Section R314.1, compliance with Section R315.2 is

not required. IRC Section R315.3 : Where work requiring a permit occurs in existing dwellings that have attached garages or in existing dwellings within which fuel-fired appliances exist, carbon monoxide alarms shall be provided in accordance with Section R315.1. IRC Section R315.4 : Single station carbon monoxide alarms shall be listed as complying with UL 2034 and shall be installed in accordance with this code and the manufacturer's installation instructions.

ADDRESS NUMBERS: IRC Section R319.1: Buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure.

WATER HEATERS: IRC Section P2801.7: In seismic design categories D and townhouses in seismic design category C, water heaters shall be anchored or strapped in the upper one-third (1/3) and in the lower one-third (1/3) of the appliance to resist a horizontal force equal to one-third (1/3) of the operating weight of the water heater, acting in any horizontal direction, or in accordance with the manufacturer's recommendations. At the lower point, a minimum distance of 4 inches shall be maintained above the controls with the strapping. IRC Section P2801.6: Water heaters having an ignition source shall be elevated such that the source of ignition is not less than 18 inches above the garage floor.

Exception: Elevation of the ignition source is not required for appliances that are listed as flammable vapor ignition resistant.

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4254 REGISTERED ARCHITECT Thomas R. Webb THOMAS R. WEBB STATE OF WASHINGTON

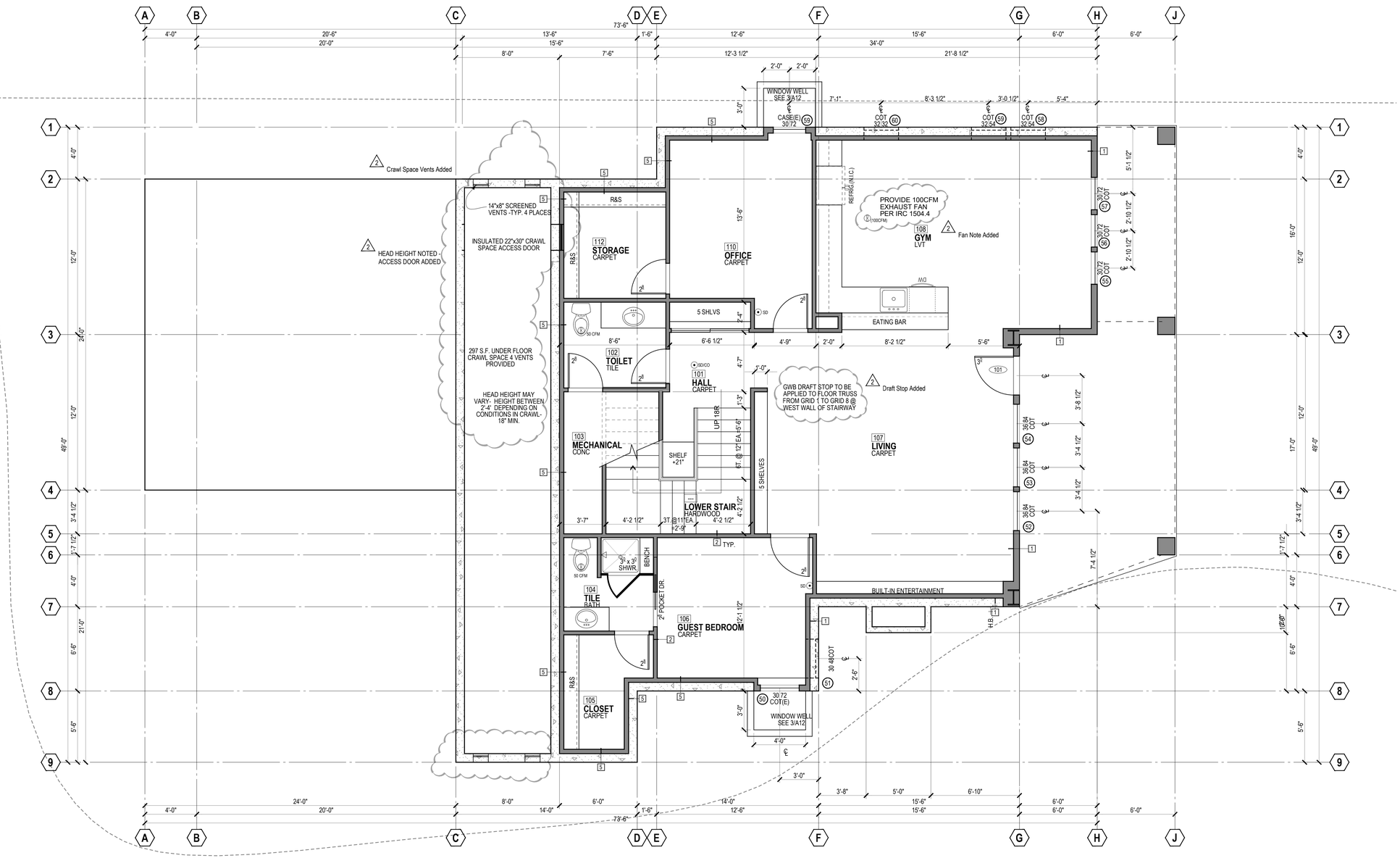
New Residence For:
James & Jessica Rudolf
8253 West Mercer Way
Mercer Island, Washington 98040

ISSUANCE	PERMIT SET 5/15/18

PROJECT INFORMATION	
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

General Project Notes

SHEET NO
A3



LOWER LEVEL FLOOR PLAN

LIVING 1487 S.F. 1/4" = 1'- 0"

NORTH PROJECT NORTH

WALL TYPES

1. 2x6 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- R-21 BATT INSULATION W/ VISQUEEN VAPOR BARRIER & 1/2" GWB ON INTERIOR SIDE
2. 2x4 @ 16" O.C.STUD WALL W/ 1/2" GWB EACH SIDE - TYPICAL @ ALL INTERIOR WALLS U.N.O.
3. 2x4 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- 1/2" GWB ON INTERIOR SIDE.
4. 2x6 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- R-21 BATT INSULATION W/ 5/8" TYPE "X" ON COLD SIDE TO UNDERSIDE OF ROOF SHEATHING -W/ VISQUEEN VAPOR BARRIER &1/2" GWB ON INTERIOR SIDE
5. CONCRETE FOUNDATION WALL PER STRUCTURAL - 2x4 @ 16" O.C.FURRING - R-21 BATT INSULATION - 1/2" GWB
6. 2x6 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- R-21 BATT INSULATION -1/2" GWB ON COLD SIDE W/ VISQUEEN VAPOR BARRIER & 1/2" GWB ON INTERIOR SIDE

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PROJECT INFORMATION	
PROJECT NO:	POV1740
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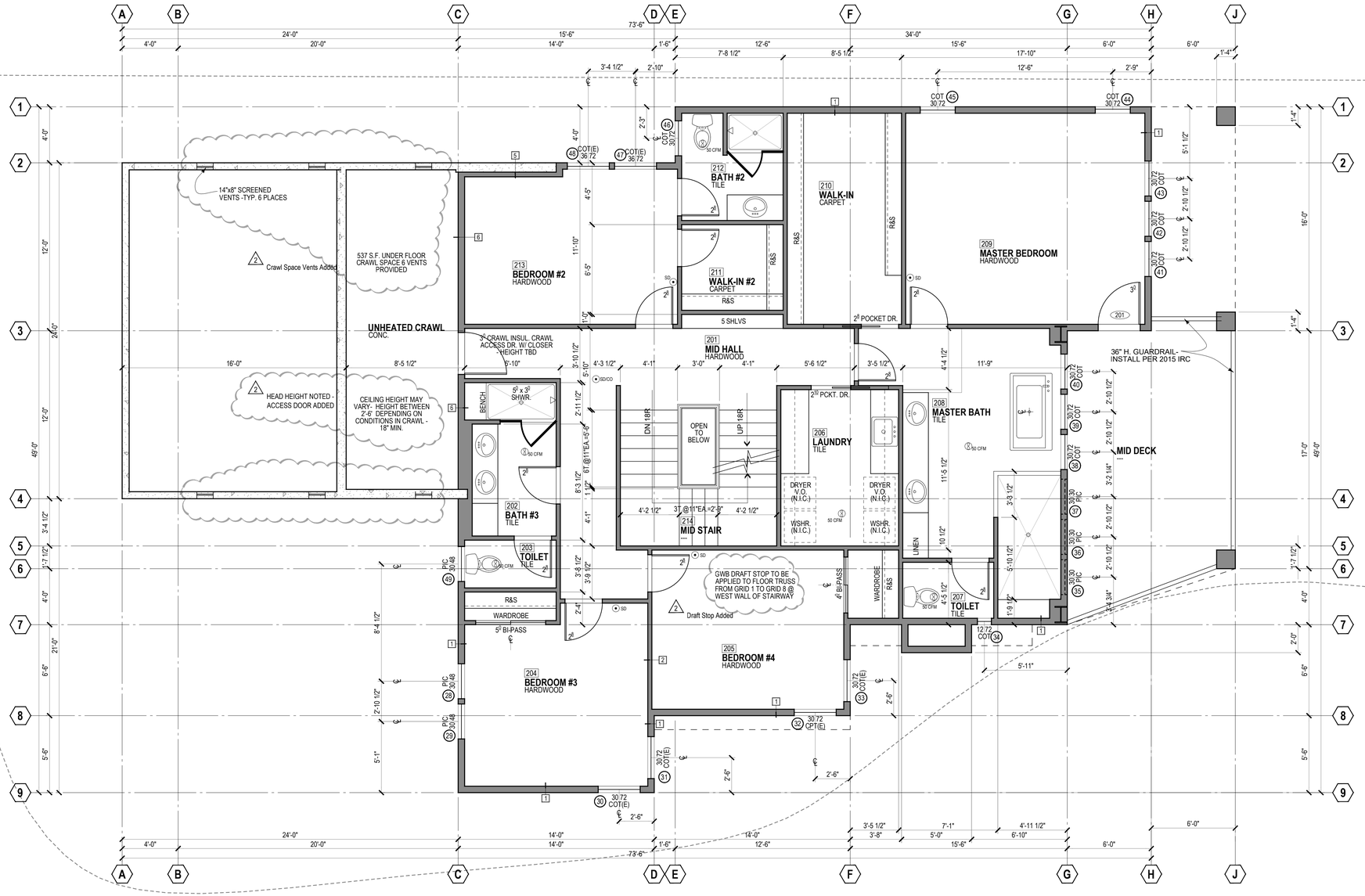
Lower Level Floor Plan

SHEET NO

A4



MID LEVEL FLOOR PLAN

1898 S.F. 1/4" = 1'- 0"

NORTH PROJECT NORTH

WALL TYPES

1. 2x6 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- R-21 BATT INSULATION W/ VISQUEEN VAPOR BARRIER & 1/2" GWB ON INTERIOR SIDE
2. 2x4 @ 16" O.C.STUD WALL W/ 1/2" GWB EACH SIDE - TYPICAL @ ALL INTERIOR WALLS U.N.O.
3. 2x4 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- 1/2" GWB ON INTERIOR SIDE.
4. 2x6 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- R-21 BATT INSULATION W/ 5/8" TYPE "X" ON COLD SIDE TO UNDERSIDE OF ROOF SHEATHING -W/ VISQUEEN VAPOR BARRIER &1/2" GWB ON INTERIOR SIDE
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6. 2x6 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- R-21 BATT INSULATION -1/2" GWB ON COLD SIDE W/ VISQUEEN VAPOR BARRIER & 1/2" GWB ON INTERIOR SIDE

ALARM SCHEDULE

2015 IRC SECTIONS R314 R315

SYMBOL	DESCRIPTION	REQUIREMENTS
SD	SMOKE ALARM	• 110 V INTERCONNECTED W/ BATTERY BACKUP • INSTALLED ON EACH FLOOR AND IN EACH SLEEPING AREA • LISTED IN ACCORDANCE WITH UL 217 AND INSTALLED PER THE HOUSEHOLD FIRE WARNING EQUIPMENT PROVISIONS OF NEPA 72
SD/CO	COMBINATION SMOKE ALARM CARBON MONOXIDE ALARM	• INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS • SMOKE ALARM REQUIREMENTS PER ABOVE • CARBON MONOXIDE ALARMS TO BE INSTALLED IN DWELLING UNITS WITHIN WHICH FUEL-FIRED APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES • CARBON MONOXIDE ALARMS LISTED AS COMPLYING WITH UL 2034 AND INSTALLED PER MANUFACTURERS INSTALLATION INSTRUCTIONS

VENTILATION SCHEDULE

2015 IRC SECTIONS M1507 M1508

SYMBOL	LOCATION	MINIMUM FAN REQUIREMENTS
ⓕ50 CFM	BATH, POWDER, LAUNDRY	• MIN 50 CFM AT 0.25" WG TABLE M1507.3
ⓕ100 CFM	KITCHEN	MINIMUM 100 CFM AT 0.25" WG (IRC TABLE M1507.3) (RANGE HOOD OR DOWN DRAFT EXHAUST FAN RATED AT MIN 100 CFM AT 0.10" WG MAY BE USED FOR EXHAUST FAN REQUIREMENT.)
ⓕWH	WHOLE HOUSE FAN	140 CFM AT 0.25" WG (IRC TABLE M1508.2) • WHOLE HOUSE FAN TO OPERATE AT LEAST ONCE EVERY HOURS • WHOLE HOUSE FANS LOCATED 4 FT OR LESS FROM INTERIOR GRILLE TO HAVE A SONE RATING OF 1.0 LESS MEASURED AT 0.1" WG

ALL FANS TO VENT TO OUTSIDE. ALL OTHER REQUIREMENTS OF THE 2015 WSEC AND 2015 IRC SECTIONS M1507 AND M1508 MUST BE MET.

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ISSUANCE	PERMIT SET 5/15/18

PROJECT INFORMATION	
PROJECT NO:	POV1740
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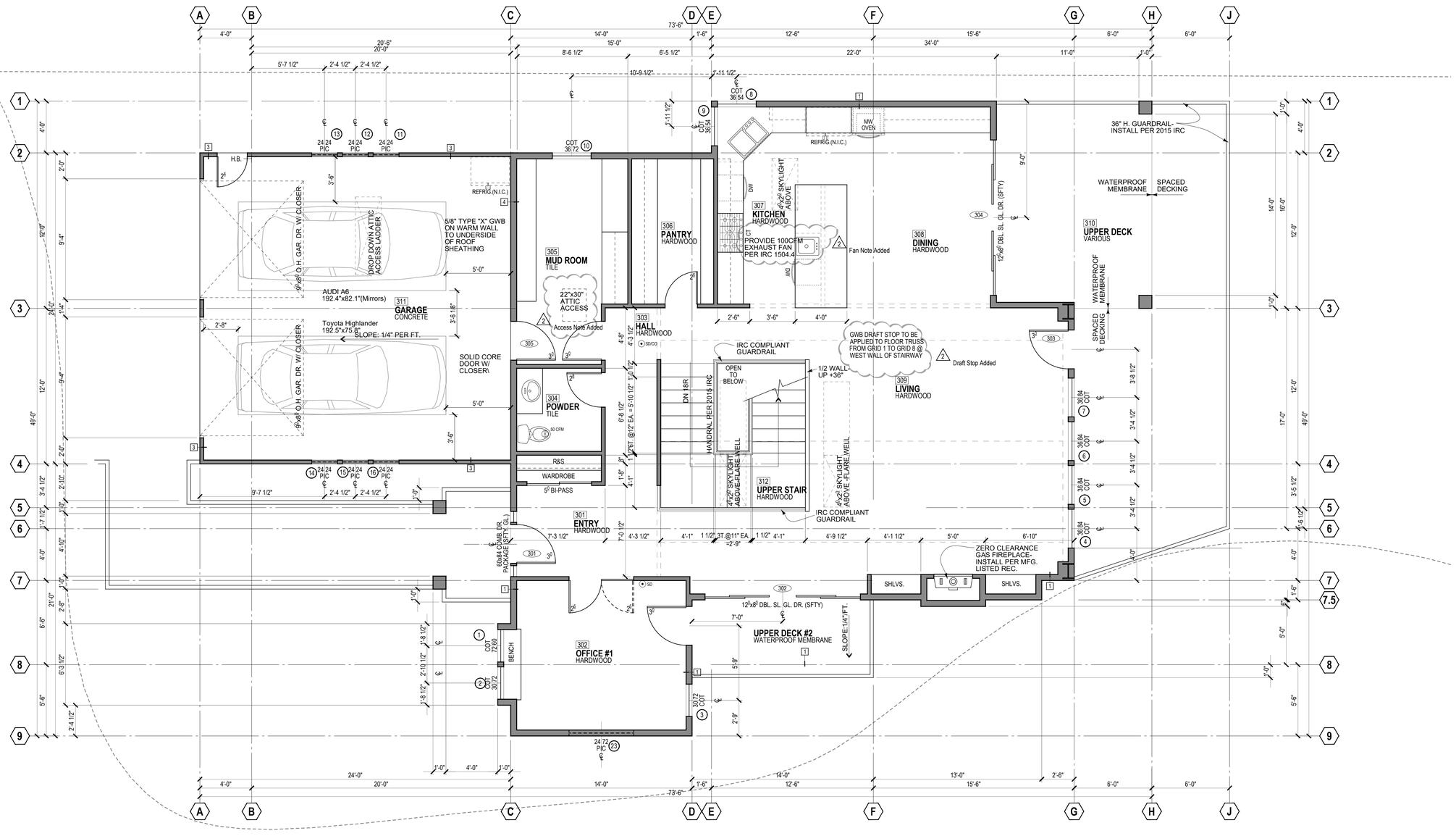
DRAWN BY:	BB

Mid Level Floor Plan

SHEET NO
A5



UPPER LEVEL FLOOR PLAN

LIVING 1669 S.F. / GARAGE 576 S.F. 1/4" = 1'- 0"

NORTH PROJECT NORTH

WALL TYPES

1. 2x6 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- R-21 BATT INSULATION W/ VISQUEEN VAPOR BARRIER & 1/2" GWB ON INTERIOR SIDE
2. 2x4 @ 16" O.C.STUD WALL W/ 1/2" GWB EACH SIDE - TYPICAL @ ALL INTERIOR WALLS U.N.O.
3. 2x4 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- 1/2" GWB ON INTERIOR SIDE.
4. 2x6 @ 16"O.C.STUD WALL & SHEATHING PER STRUCTURAL- R-21 BATT INSULATION W/ 5/8" TYPE "X" ON COLD SIDE TO UNDERSIDE OF ROOF SHEATHING -W/. VISQUEEN VAPOR BARRIER & 1/2" GWB ON INTERIOR SIDE
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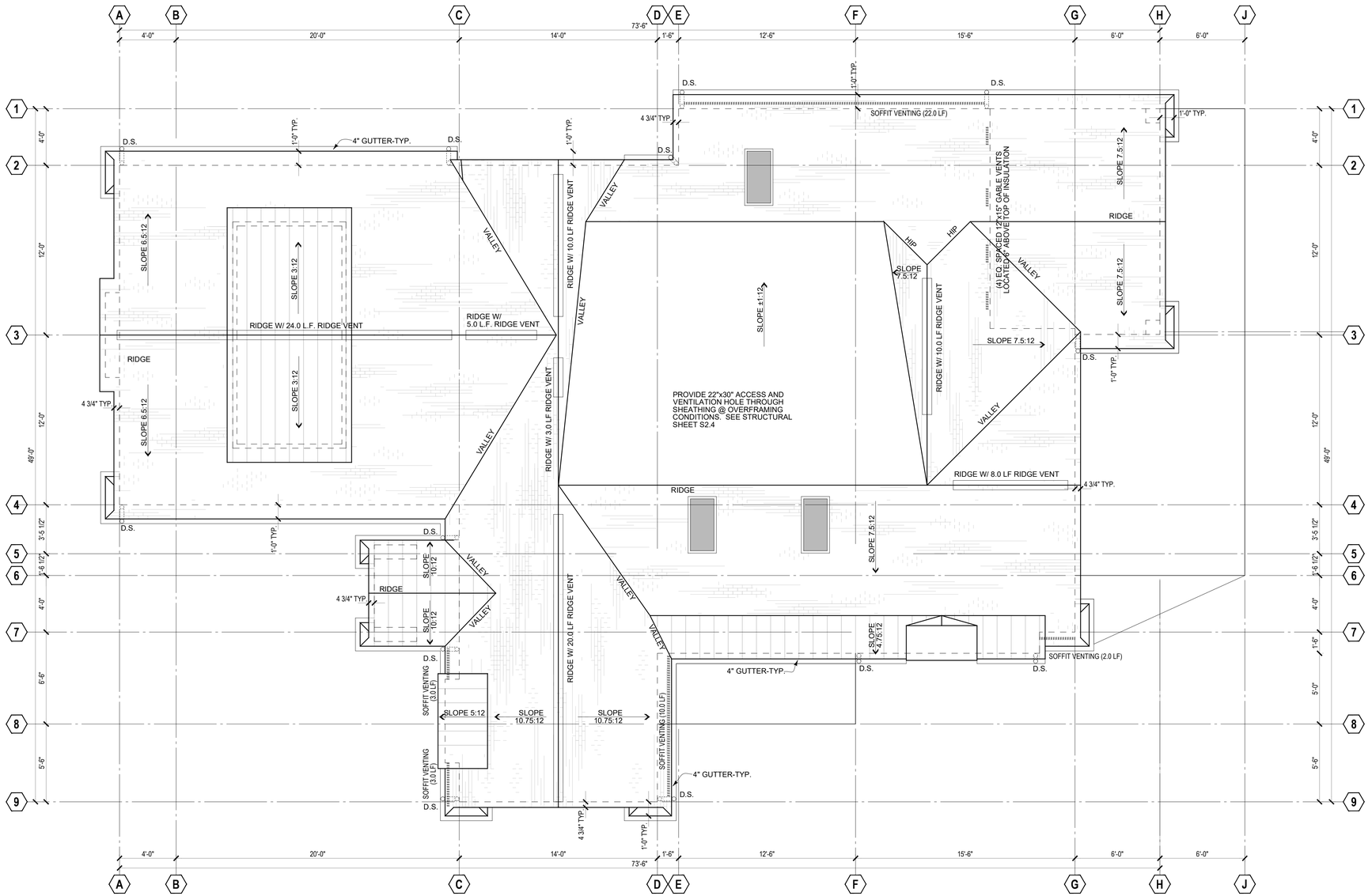
Upper Level Floor Plan

SHEET NO

A6



ROOF PLAN

1/4" = 1'- 0"

NORTH PROJECT NORTH

ROOF VENTILATION

WHOLE ROOF / ATTIC AREA
STANDARD PRE-MANUFACTURED OPEN TRUSS / ATTIC ASSEMBLY

1. ROOF ATTCI AREA:	2,672 S.F.
2. VENTILATION REQUIRED :	2,672 S.F. x 1/300 = 8.91 S.F. 8.91 S.F. = 1,283 S.I.(144 S.I. PER 1 S.F.)
3. LOW VENTILATION:	CONTUOUS CONCRETE FIBER BOARD PANEL W/ 10 S.I. / L.F. - 40 L.F. SOFFIT PROVIDED. 10 S.I. x 40L.F. = 400 S.I. VENTILATION GABLE VENTS PROVIDING 180 S.I. EA. 4 PROVIDED x 180 S.I. = 720 S.I. TOTAL LOW VENTILATION PROVIDED = 1120 S.I.
4. HIGH VENTILATION:	PROPOSED GAF COBRA 3 RIDGE VENTILATION 18 S.I. / L.F. - 56 L.F. RIDGE VENT PROVIDED 18 S.I. x 56 L.F. = 1,008 S.I.
5. TOTAL VENTILATION :	400 S.I. LOW + 1,008 S.I. HIGH = 1,408 S.I. TOTAL 1,408 S.I. > 1,283 S.I. OK

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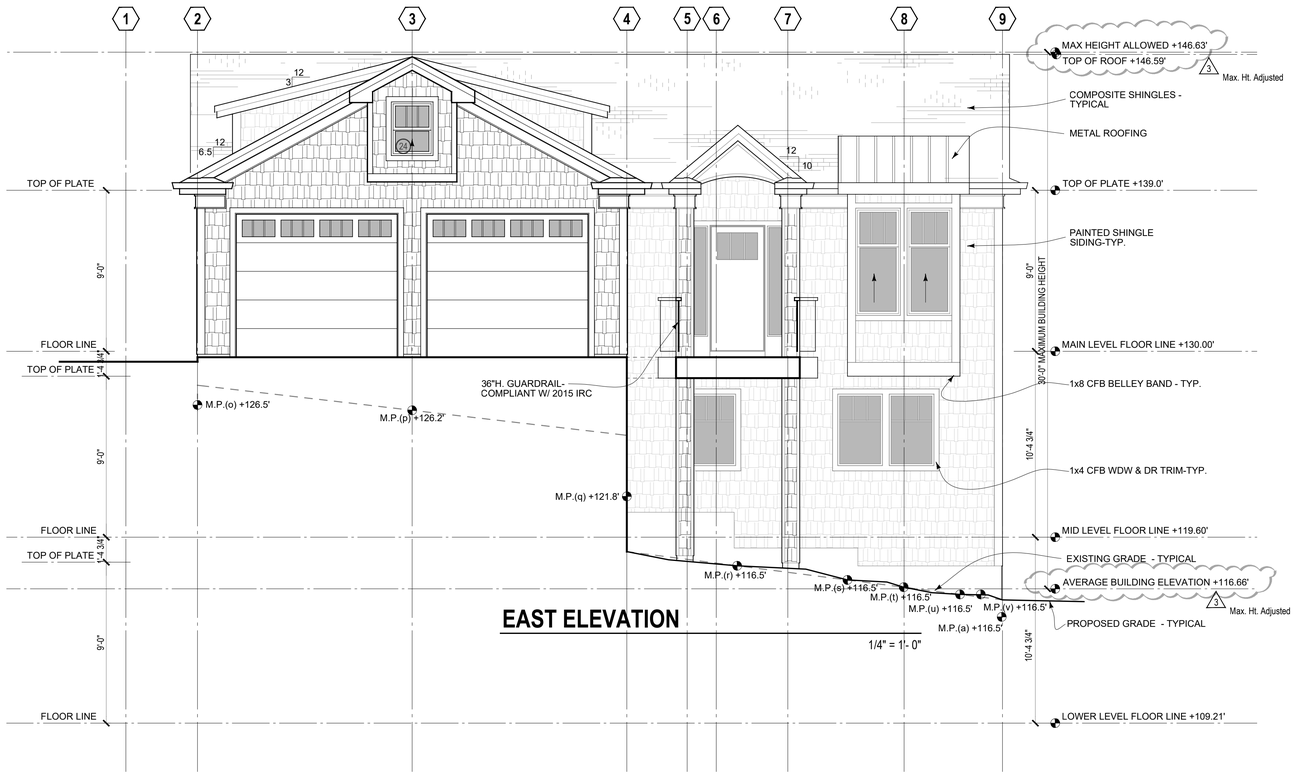
Roof Plan

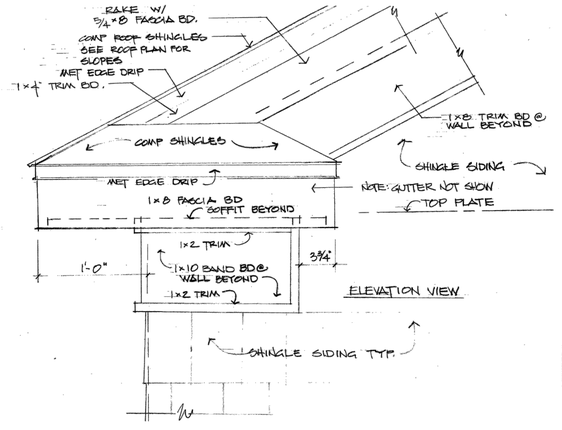
SHEET NO

A7



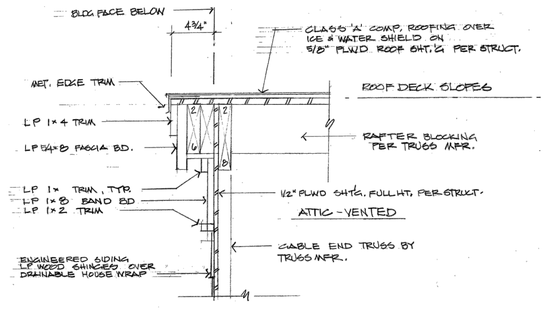
EAST ELEVATION

1/4" = 1'- 0"



2 EAVE RETURN @ RAKE CORNER

1-1/2"= 1'-0" SIMILAR DESIGN AT VARIOUS PITCHES - VERIFY W/ ARCHITECT



1 ROOF RAKE DETAIL

1-1/2"= 1'-0" SIMILAR DESIGN AT VARIOUS PITCHES - VERIFY W/ ARCHITECT

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ISSUANCE	PERMIT SET 5/15/18
3 3-31-19 Maximum Building Height Clarified	

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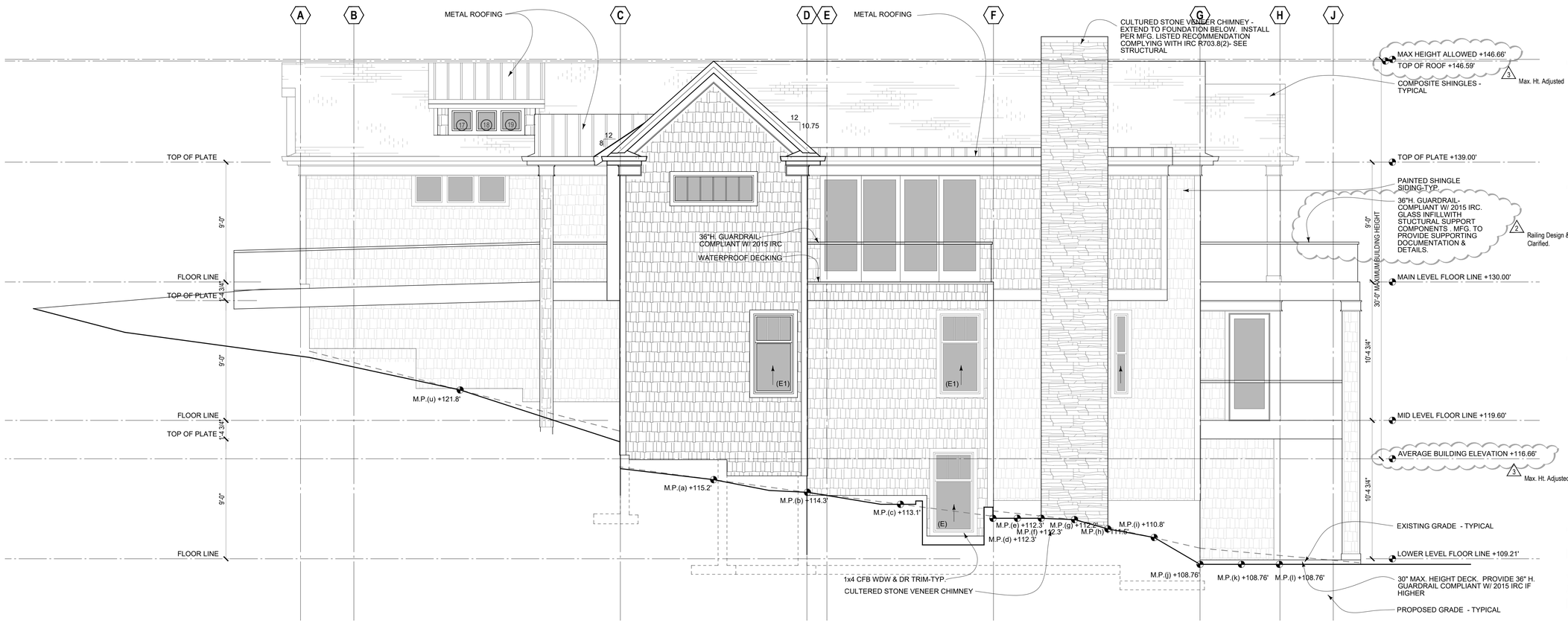
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

East Building Elevation

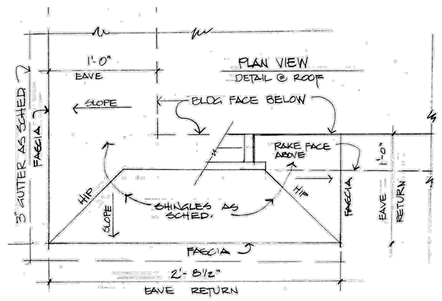
SHEET NO

A8



NORTH ELEVATION

1/4" = 1'- 0"



2 EAVE RETURN PLAN @ RAKE CORNER

1-1/2"= 1'-0" SIMILAR DESIGN AT VARIOUS PITCHES - VERIFY W/ ARCHITECT

TR Webb Homes

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4254 REGISTERED ARCHITECT Thomas R. Webb THOMAS R. WEBB STATE OF WASHINGTON

New Residence For:

James & Jessica Rudolf

8253 West Mercer Way
Mercer Island, Washington 98040

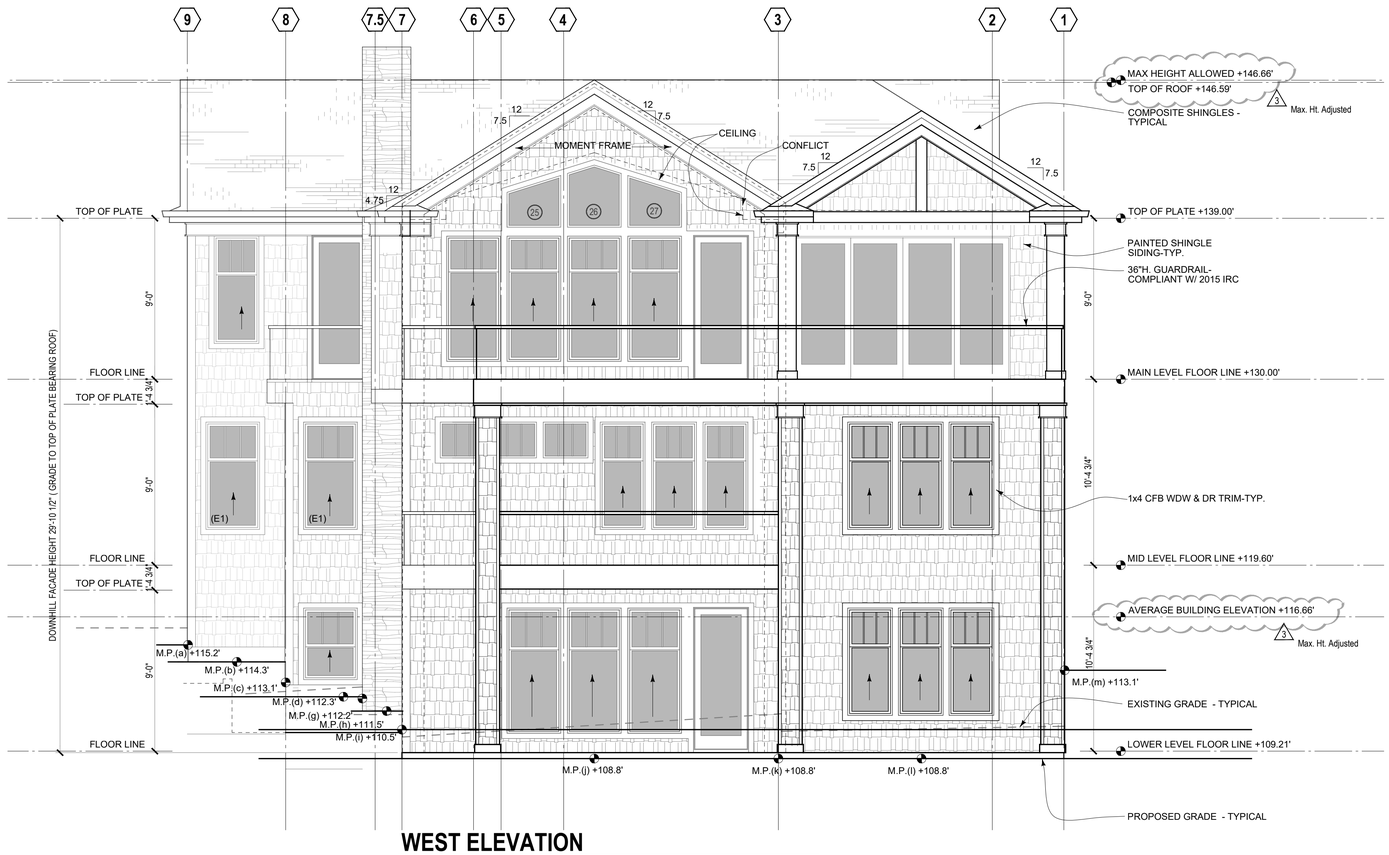
ISSUANCE	PERMIT SET 5/15/18
3 3-31-19 Maximum Building Height Clarified	

PROJECT INFORMATION	
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

North Building Elevation

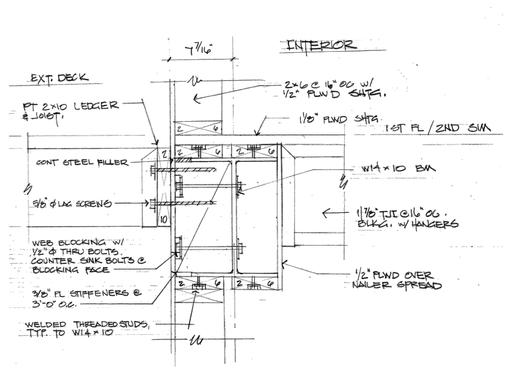
SHEET NO

A9



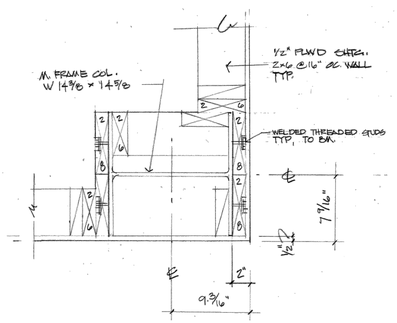
WEST ELEVATION

1/4" = 1'- 0"



2 DETAIL @ MOMENT FRAME BEAM

1-1/2"= 1'-0" SEE STRUCTURAL DETAIL



1 MOMENT FRAME DETAIL @ COLUMN

1-1/2"= 1'-0" SEE STRUCTURAL DETAIL

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ISSUANCE	PERMIT SET 5/15/18
3 3-31-19 Maximum Building Height Clarified	

PROJECT INFORMATION	
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

West Building Elevation

SHEET NO

A10

SOUTH ELEVATION

1/4" = 1'- 0"

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Mercer Island, Washington 98040

ISSUANCE	PERMIT SET 5/15/18
3 3-31-19 Maximum Building Height Clarified	

PROJECT INFORMATION	
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

South Building Elevation

SHEET NO

A11

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REGISTERED ARCHITECT 4254
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New Residence For:
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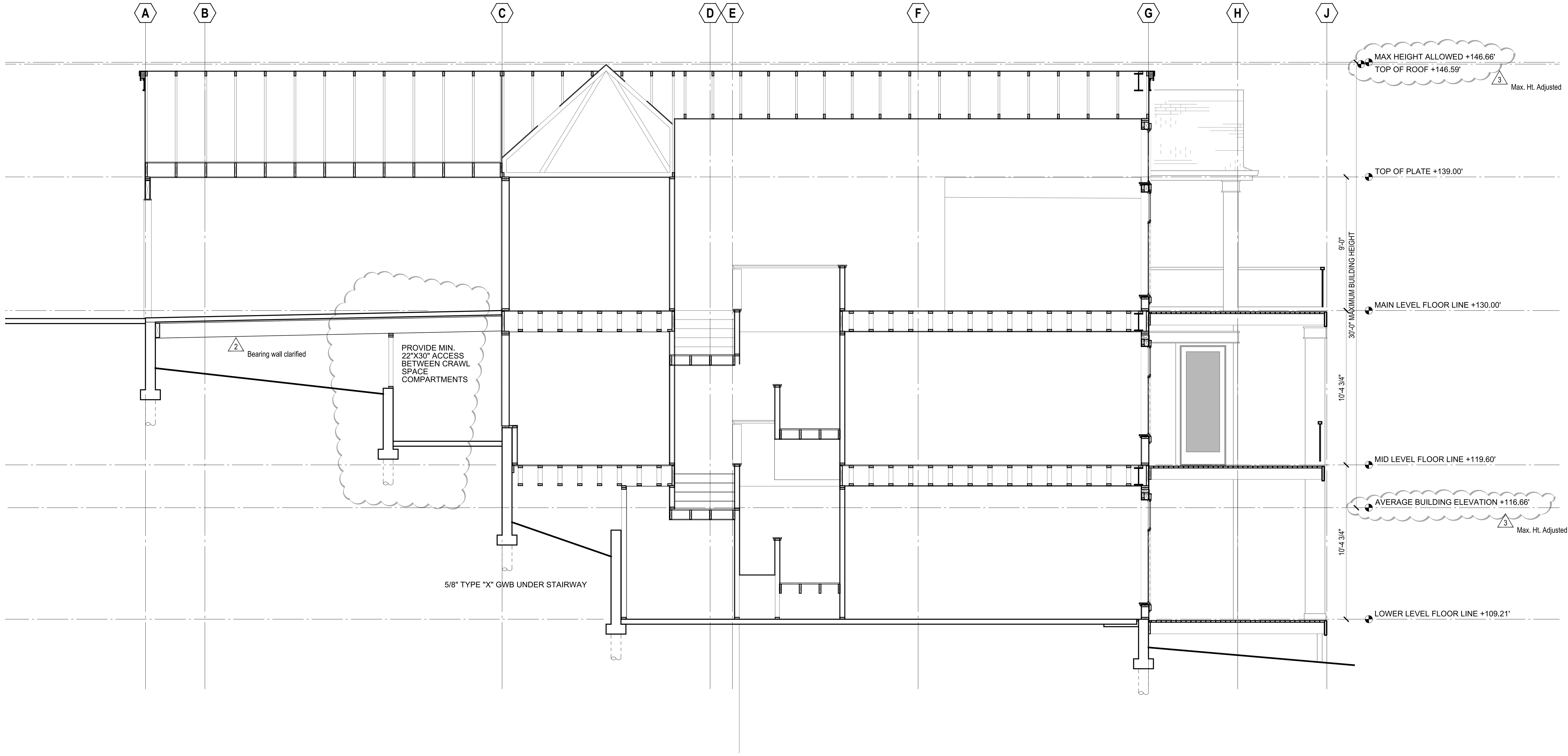
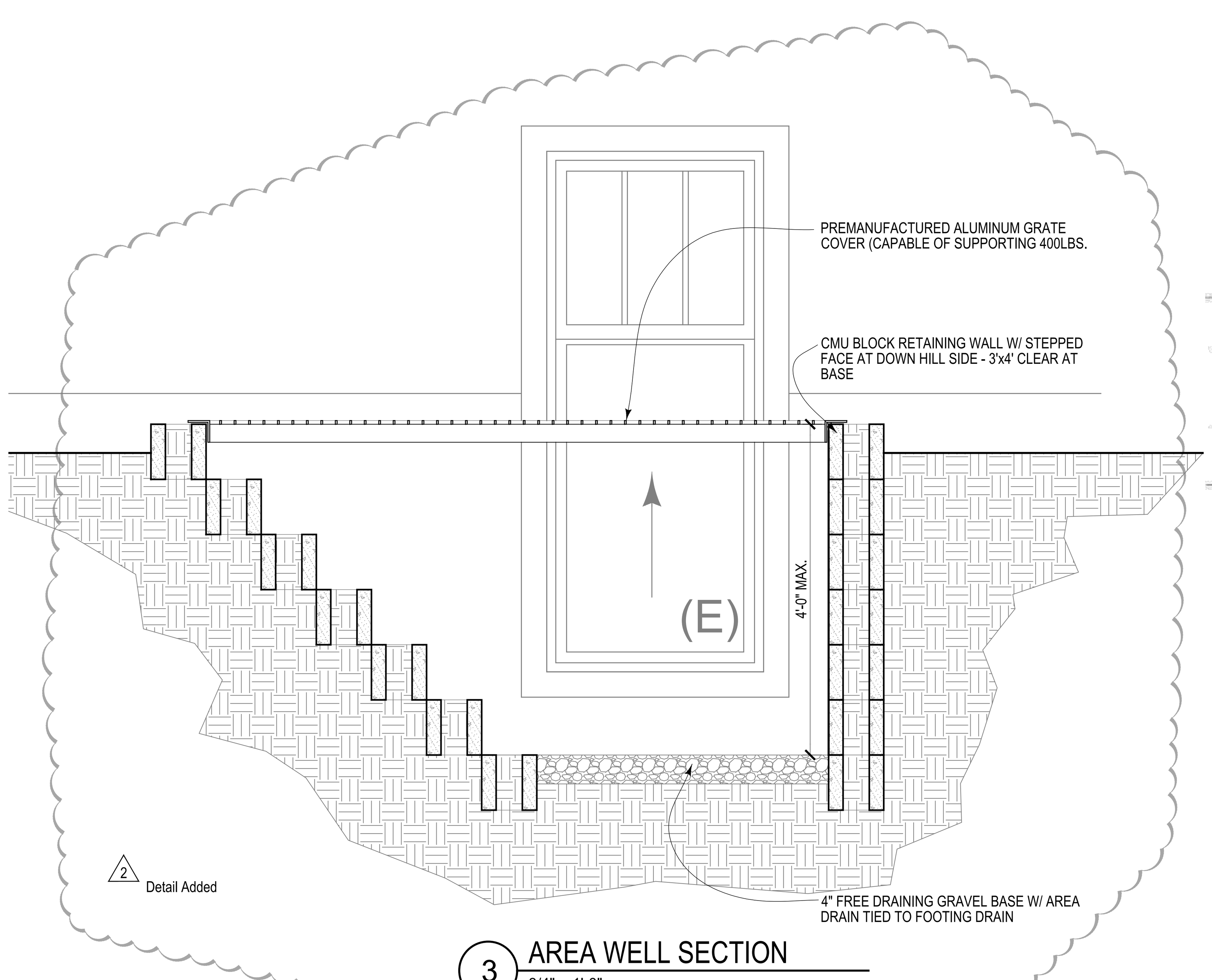
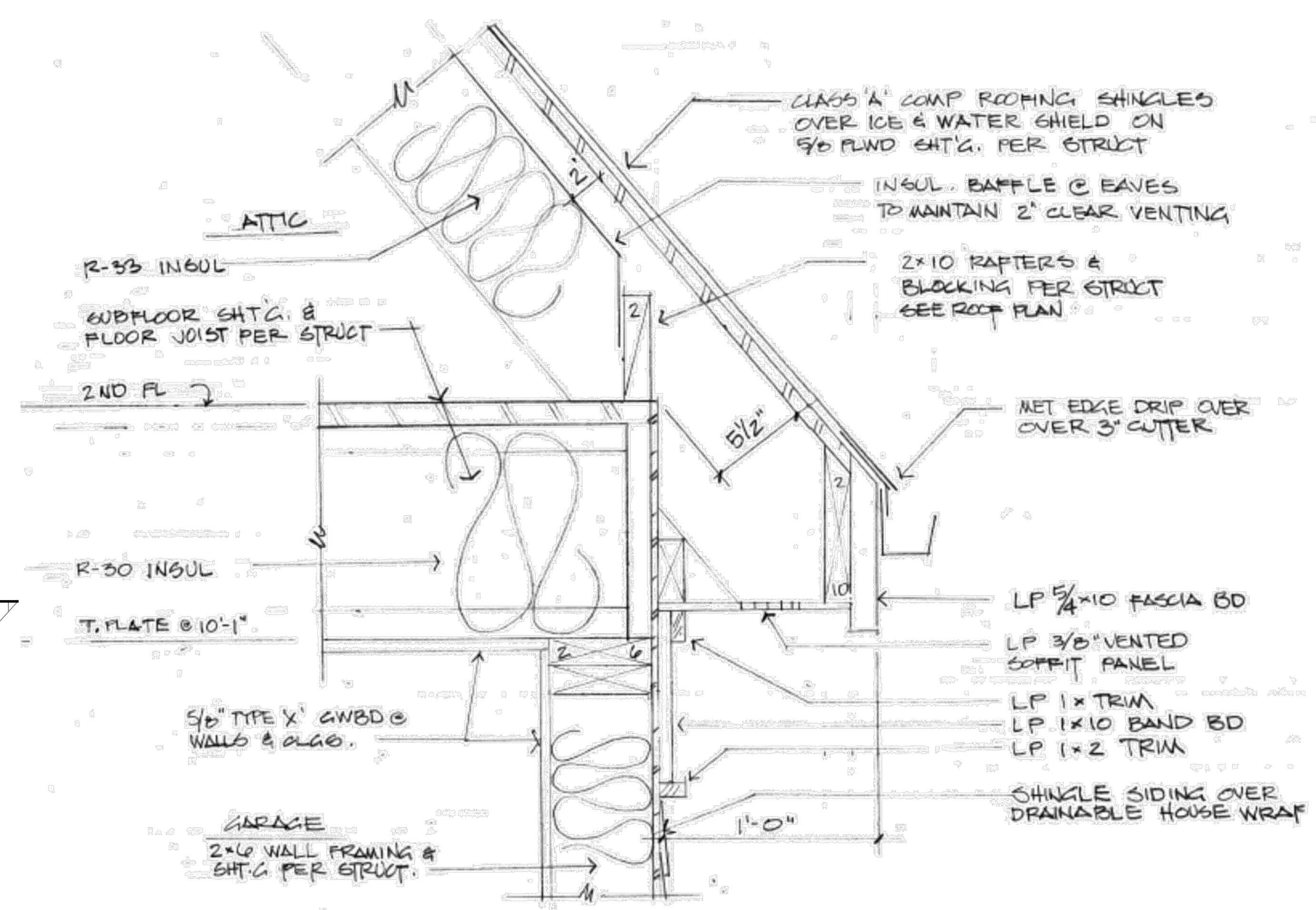


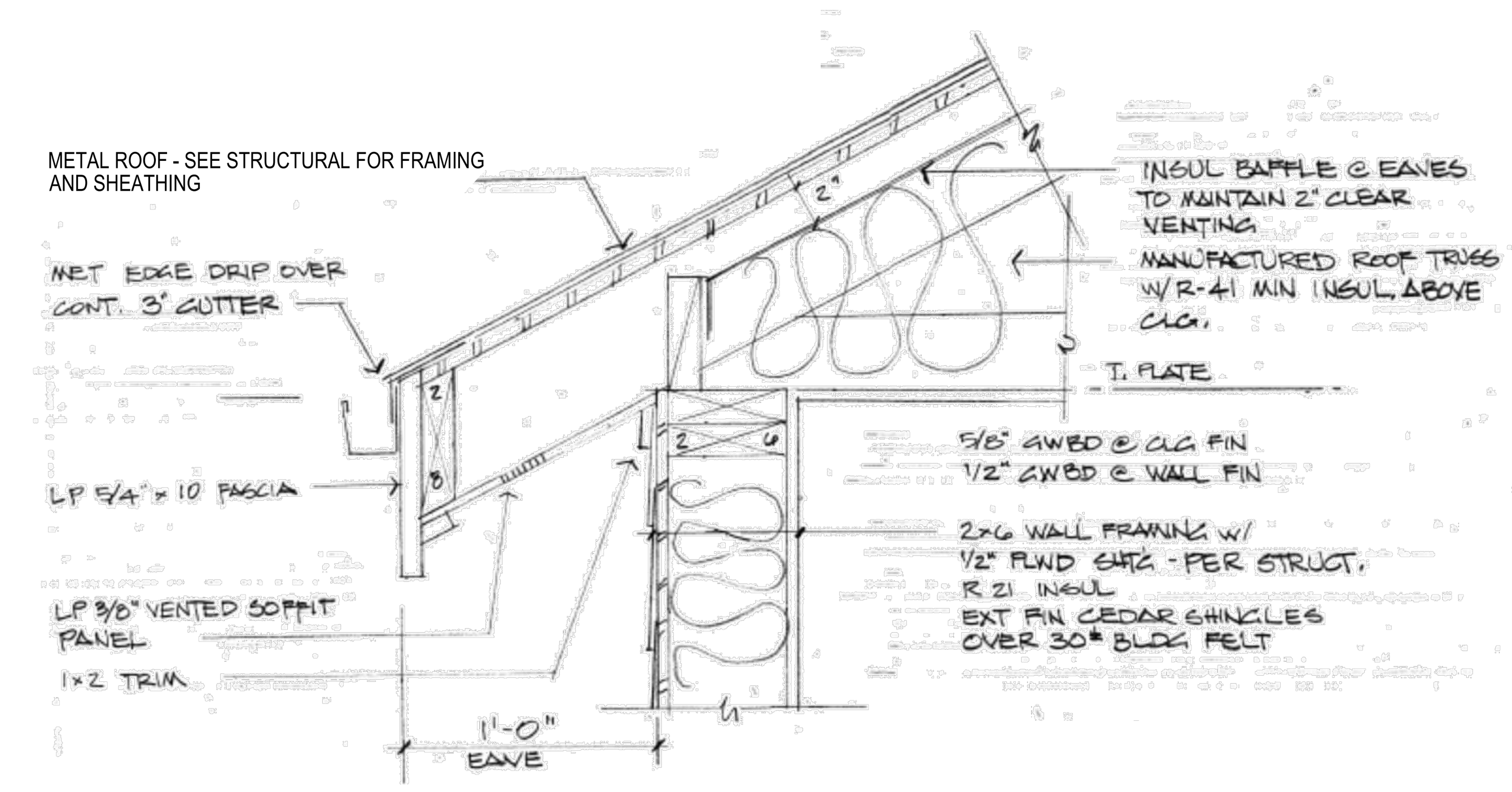
A BUILDING SECTION
1/4" = 1'- 0"



3 AREA WELL SECTION
3/4" = 1'-0"



2 EAVE @ GARAGE
1-1/2"= 1'-0" SEE STRUCTURAL DETAIL



1 EAVE @ DORMER
1-1/2"= 1'-0" SEE STRUCTURAL DETAIL

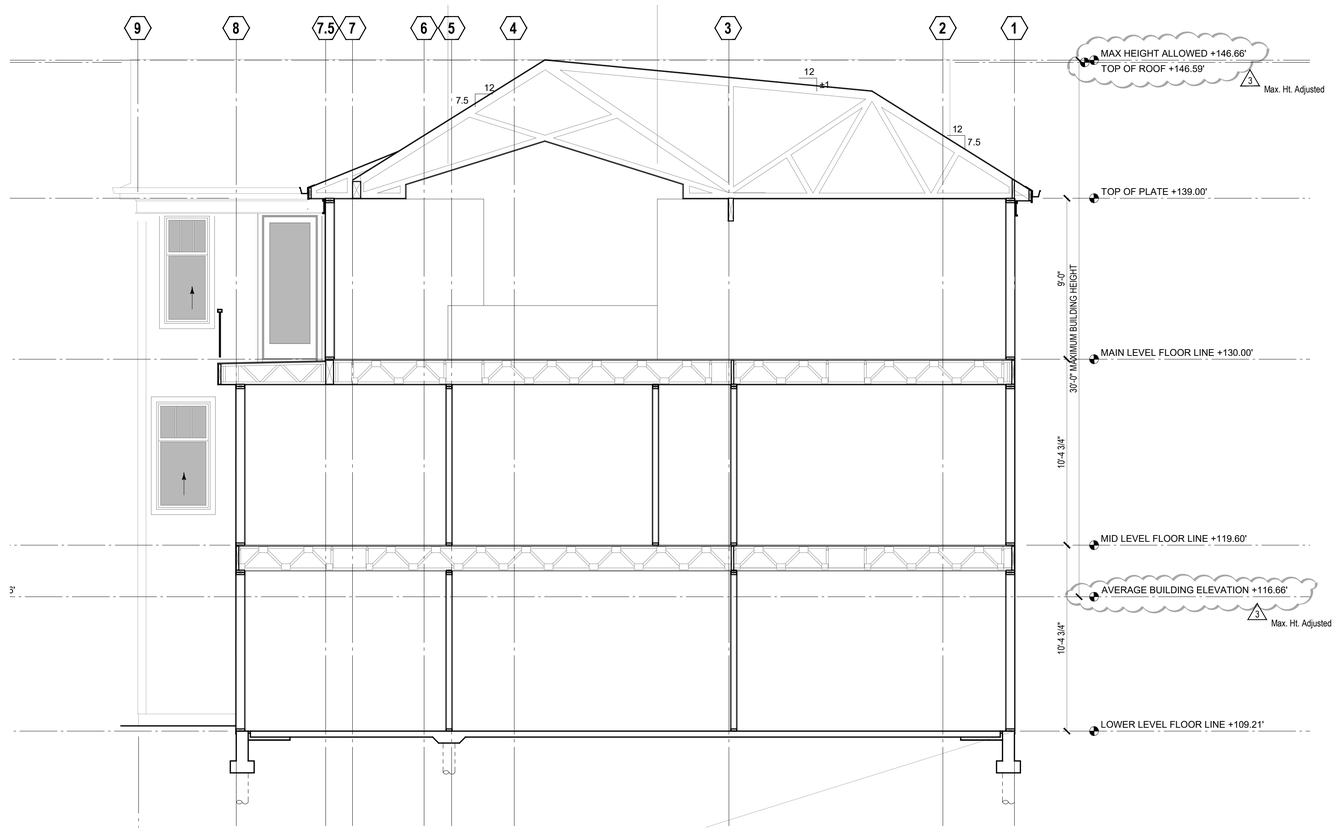
ISSUANCE	PERMIT SET 5/15/18
3 3-31-19 Maximum Building Height Clarified	

PROJECT INFORMATION	
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

Building Section A

SHEET NO
A12

\\Laptop-hh2a4hd9\c\POV\POV1740 Rudolf Residence\POV1740 A8-14 Building Sections.dwg, 3/31/2019 3:11:33 PM, Dell, Point Of Vision 2017



B BUILDING SECTION

1/4" = 1'- 0"

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4254 REGISTERED ARCHITECT
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STATE OF WASHINGTON

New Residence For:

James & Jessica Rudolf
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Mercer Island, Washington 98040

ISSUANCE	PERMIT SET 5/15/18
3	3-31-19 Maximum Building Height Clarified

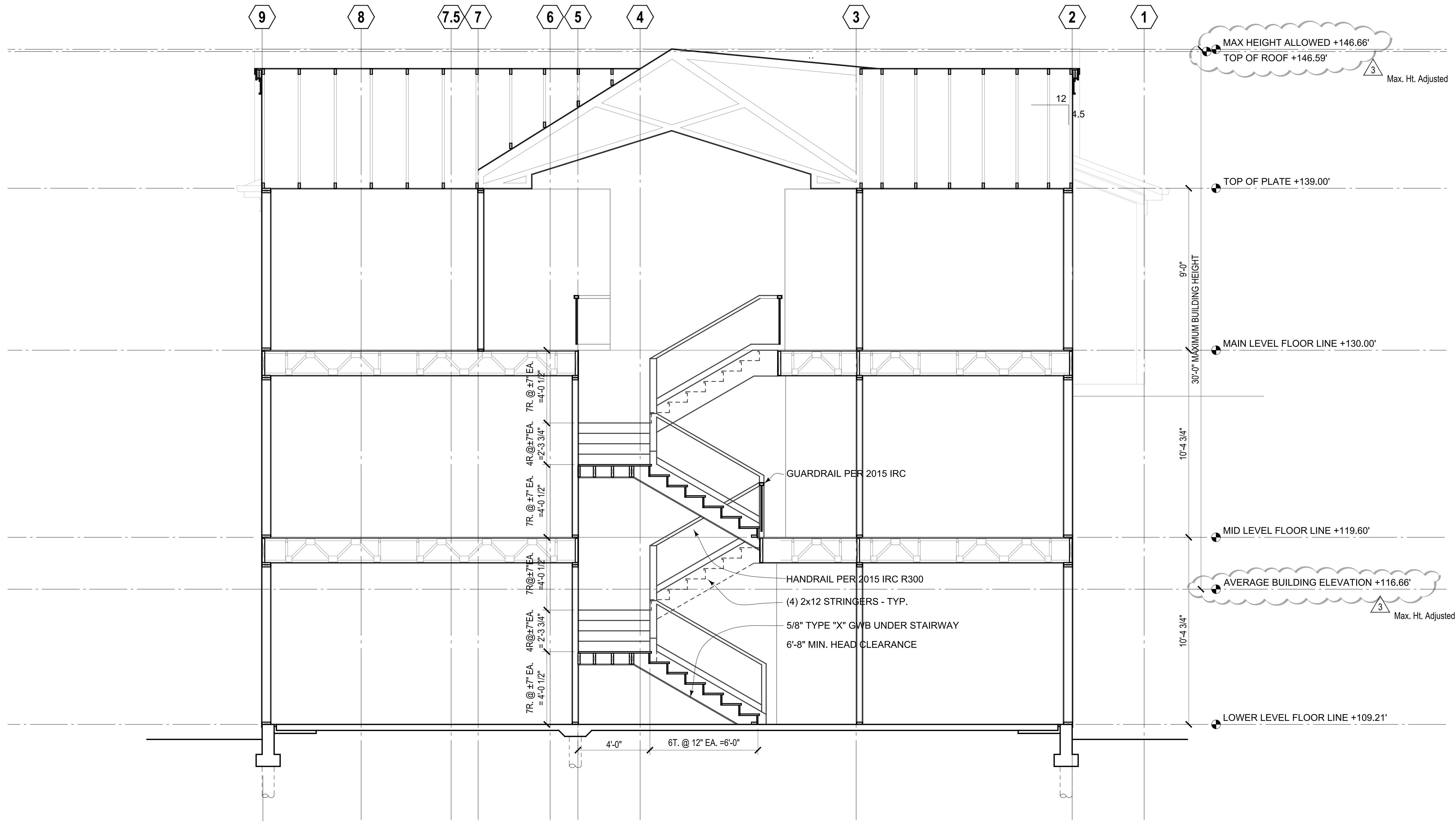
PROJECT INFORMATION

PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

Building Section B

SHEET NO

A13



C **BUILDING SECTION**

1/4" = 1'- 0"

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ISSUANCE	PERMIT SET 5/15/18
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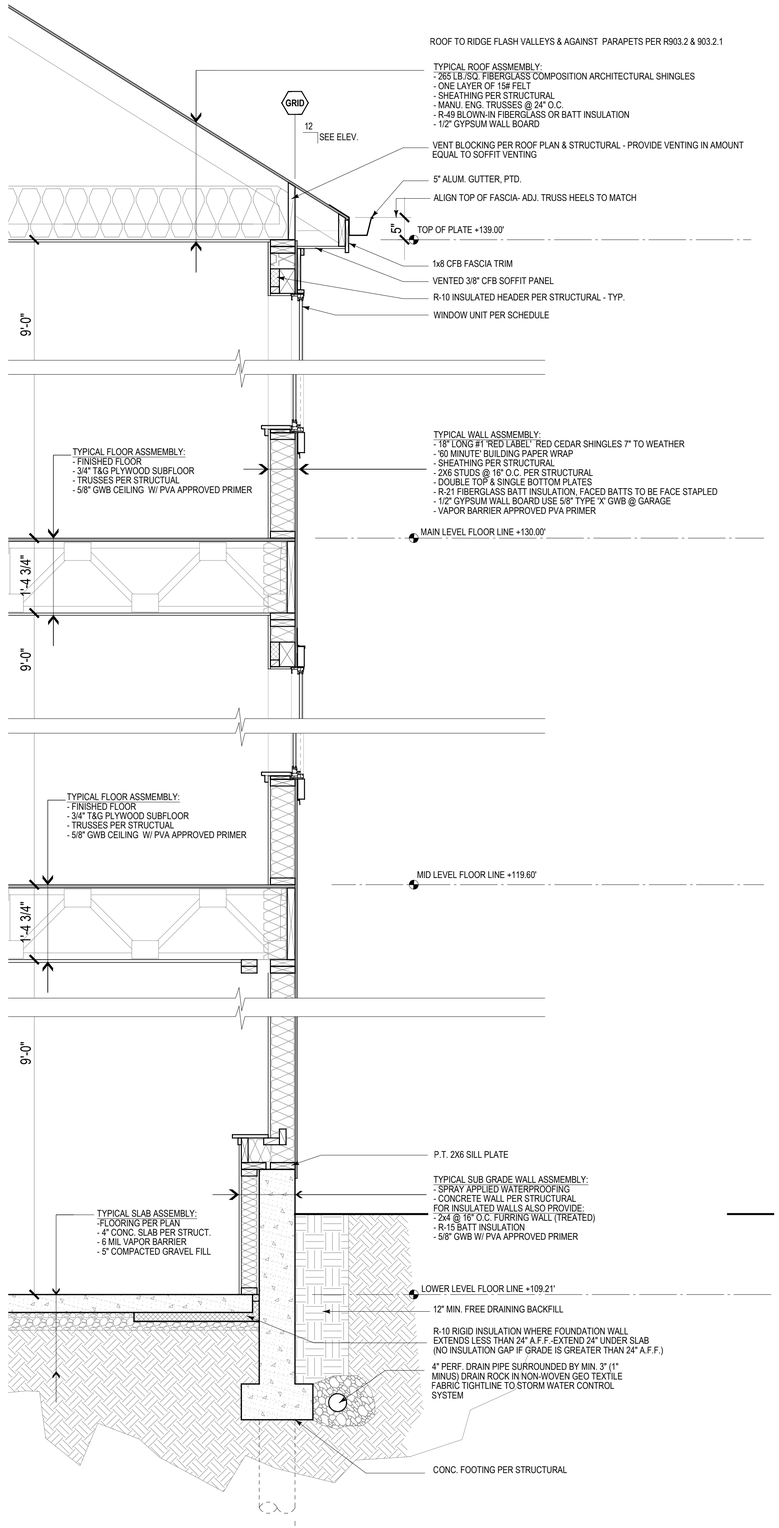
PROJECT INFORMATION	
PROJECT NO:	POV1740
PROJECT MANAGER:	TW
DRAWN BY:	BB

Building Section C

SHEET NO

A14



A BUILDING SECTION

1/4" = 1'- 0"

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ISSUANCE	PERMIT SET 5/15/18

PROJECT INFORMATION	
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PROJECT MANAGER:	TW
DRAWN BY:	BB

Typical Wall Section & Details

SHEET NO

A15

STRUCTURAL NOTES

(THESE NOTES ARE TYPICAL UNLESS NOTED OR DETAILED OTHERWISE ON DRAWINGS)

CODE

ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC), 2015 EDITION. SPECIFICATIONS AND STANDARDS WHERE REFERENCED ON THE DRAWINGS ARE TO BE THE LATEST EDITION.

DESIGN LOADS

DEAD LOADS:

ROOF	15 PSF
FLOOR	15 PSF
GARAGE FLOOR	55 PSF

LIVE LOADS:

ROOF (SNOW LOAD)	25 PSF
RESIDENTIAL	40 PSF
DECKS	60 PSF

EARTHQUAKE LOADS:

EQUIVALENT LATERAL FORCE PROCEDURE PER ASCE 7-10 SECTION 12.8.

SITE CLASS (ASSUMED)	D
SHORT PERIOD SPECTRAL RESPONSE ACCEL (S_s)	1.442
ONE SECOND SPECTRAL RESPONSE ACCEL (S_1)	0.552
SHORT PERIOD DESIGN SPECTRAL RESPONSE ACCEL (S_{DS})	0.961
ONE SECOND DESIGN SPECTRAL RESPONSE ACCEL (S_{D1})	0.554
RISK CATEGORY	II
SEISMIC IMPORTANCE FACTOR (I_E)	1.0
SEISMIC DESIGN CATEGORY	D
BASIC SEISMIC FORCE-RESISTING-SYSTEM	LIGHT-FRAMED WOOD SHEAR WALLS
RESPONSE MODIFICATION FACTOR, (R)	6.5
REDUNDANCY FACTOR (ρ)	1.0
SEISMIC RESPONSE COEFFICIENT (C_s)	0.148

W = TOTAL SEISMIC DEAD LOAD AS DEFINED PER ASCE 7-10 SECTION 12.7.2.

BASE SHEAR (V), $V = C_sW = \frac{S_{DS}}{R/I} W$

WIND LOADS:

BASIC WIND SPEED (3 SECOND GUST)	110 MPH
EXPOSURE	C
K_{ZT}	1.3

SEE PLANS FOR ADDITIONAL DESIGN LOADS.

STATEMENT OF SPECIAL INSPECTIONS

SPECIAL INSPECTIONS ARE REQUIRED AS INDICATED IN THE FOLLOWING TABLE. THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK IN ACCORDANCE WITH CHAPTER 1704.4 OF THE IBC.

STEEL CONSTRUCTION - SPECIAL INSPECTION IS REQUIRED IN CONFORMANCE WITH IBC SECTION 1705.2 AND 1705.11.1.

CONCRETE CONSTRUCTION - SPECIAL INSPECTION IS REQUIRED IN CONFORMANCE WITH IBC SECTION 1705.3 AND TABLE 1705.3.

LIGHT FRAMED WOOD SHEAR WALLS - SPECIAL INSPECTION IS REQUIRED IN CONFORMANCE WITH IBC SECTION 1705.5 AND 1705.11.2. A PRECONSTRUCTION MEETING IS REQUIRED FOR WOOD FRAMING WITH THE STRUCTURAL ENGINEER, GENERAL CONTRACTOR AND FRAMING CONTRACTOR REPRESENTATIVES PRESENT.

SPECIAL INSPECTION FOR THE ABOVE SYSTEMS SHALL BE AS INDICATED IN THE SPECIAL INSPECTION TABLE BELOW.

STRUCTURAL OBSERVATION OF THE STRUCTURAL SYSTEM BY THE ENGINEER IS NOT REQUIRED.

FREQUENCY AND DISTRIBUTION OF REPORTS - INSPECTION REPORTS SHALL BE PROVIDED FOR EACH DAY ON SITE BY SPECIAL INSPECTOR. STRUCTURAL OBSERVATION REPORTS SHALL BE PROVIDED AFTER EACH OBSERVATION. REPORTS SHALL BE DISTRIBUTED TO THE CONTRACTOR, ARCHITECT, ENGINEER AND BUILDING OFFICIAL.

SPECIAL INSPECTION

OPERATION	CONT	PERIODIC	REMARKS
SOILS			
SHORING		X	GEOTECH ENGINEER
EXCAVATION & FILL		X	GEOTECH ENGINEER
AUGERCAST PILE INSTALLATION	X		GEOTECH ENGINEER
CONCRETE			
REINFORCING PLACEMENT		X	
ANCHOR BOLTS		X	
HOLDOWN PLACEMENT		X	
CONCRETE TEST SPECIMENS	X		
CONCRETE PLACEMENT	X		
ADHESIVE ANCHORS	X		IF REQ'D
EMBEDDED PLATES		X	
STRUCTURAL STEEL			
FABRICATION & ERECTION		X	
HIGH STRENGTH BOLTING		X	
SHOP & FIELD WELDING			
SINGLE PASS FILLET WELDS ≤ 5/16"		X	
FILLET WELDS > 5/16"	X		
PARTIAL & COMPLETE PENETRATION	X		
OTHER WELDING		X	
WOOD FRAME			
SHEARWALL & DIAPHRAGM NAILING		X	SPACING ≤ 4" OC
STRAP NAILING		X	
DRAG STRUT INSTALLATION		X	

NOTE:
ALL ITEMS MARKED WITH AN "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17. SPECIAL INSPECTION SHALL BE PERFORMED BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING OFFICIAL SHALL BE FURNISHED WITH COPIES OF ALL RESULTS. ANY INSPECTION FAILING TO MEET THE PROJECT SPECIFICATIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE DESIGN TEAM.

SHOP DRAWINGS

SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION:

1. REINFORCING STEEL
2. CONCRETE MIX DESIGN
3. GROUT MIX DESIGN
4. STRUCTURAL STEEL
5. PREMANUFACTURED WOOD TRUSSES
6. WOOD I-JOISTS & ENGINEERED WOOD BEAMS

SHOP DRAWINGS SHALL BE REVIEWED, REVISED AS REQUIRED FOR FIELD CONDITIONS, AND DATE STAMPED BY THE CONTRACTOR PRIOR TO REVIEW BY THE ENGINEER. CONTRACTOR SHALL PROVIDE (3) SETS OF SHOP DRAWINGS FOR ENGINEER'S REVIEW. ALLOW TWO WEEKS FOR SHOP DRAWING APPROVAL BY ENGINEER.

ENGINEER'S SHOP DRAWING REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND CONTRACT DOCUMENTS. MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFORMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY, AND FOR PERFORMING THE WORK IN A SAFE MANNER.

ENGINEER'S SHOP DRAWING REVIEW OF STRUCTURAL COMPONENTS DESIGNED BY OTHERS IS FOR LOADS IMPOSED ON THE BASIC STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL CONNECTIONS TO THE BASIC STRUCTURE. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF THE LOADS IMPOSED ON THE BASIC STRUCTURE AND SHALL BE STAMPED & SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT.

FABRICATION SHALL BEGIN ONLY AFTER SHOP DRAWINGS BEARING THE STAMP AND SIGNATURE OF THE PROJECT ARCHITECT, ENGINEER OF RECORD, AND CONTRACTOR HAVE BEEN RECEIVED.

DEFERRED APPROVAL ITEMS

SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD WHO SHALL REVIEW THEM AND INDICATE THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

1. PREMANUFACTURED WOOD TRUSSES

FOUNDATIONS: AUGERCAST PILES

SOILS REPORT: REPORT NO: JN14348
PREPARED BY: GEOTECH CONSULTANTS, INC.
DATED: 10/02/2015

16"Ø AUGERCAST PILES:
VERTICAL CAPACITY: 40.0 KIPS/PILE
LATERAL CAPACITY: 8.0 KIPS/PILE
MIN. EMBEDMENT DEPTH: 10 FT INTO COMPETENT NATIVE SOILS

LATERAL EARTH PRESSURE:
UNRESTRAINED: 40 PCF + ANY APPLICABLE SURCHARGE
RESTRAINED: 10 PSF x WALL HEIGHT + ANY APPLICABLE SURCHARGE
PASSIVE: 300 PCF

AUGERCAST PILES SHALL BE INSTALLED BY AN EXPERIENCED CONTRACTOR. PILES SHALL EXTEND TO THE MINIMUM DEPTHS INDICATED ON THE STRUCTURAL DRAWINGS OR TO THE DEPTHS AS DETERMINED BY THE GEOTECHNICAL ENGINEER ON SITE. THE GEOTECHNICAL REPORT GIVES APPROXIMATE PILE LENGTHS FOR BIDDING PURPOSES ONLY. ALL FINAL PILE LENGTHS ARE SUBJECT TO SITE CONDITIONS & SHALL BE ESTABLISHED IN THE FIELD BY THE GEOTECHNICAL ENGINEER.

FLOATING SLABS SHALL BEAR ON 4 INCHES OF WASHED GRAVEL OVER A 10 MIL VAPOR BARRIER OVER 2 FEET OF STRUCTURAL FILL SUBGRADE. GRADE BEAM ELEVATIONS SHOWN IN THE DRAWINGS REPRESENT MINIMUM DEPTHS AND ARE FOR BIDDING ONLY. ACTUAL FOOTING ELEVATIONS ARE SUBJECT TO SITE CONDITIONS AND MUST THEREFORE BE ESTABLISHED BY THE CONTRACTOR. FOOTINGS SHALL BE CENTERED BELOW COLUMNS OR WALLS ABOVE, UNLESS NOTED OTHERWISE.

BACKFILL BEHIND ALL RETAINING WALLS WITH WELL-DRAINING, GRANULAR FILL & PROVIDE FOR SUBSURFACE DRAINAGE. PROVIDE DAMPPROOFING AT EXTERIOR FACE OF ALL FOUNDATION WALLS EXPOSED TO EARTH PER ARCHITECTURAL SPECIFICATIONS.

EXCAVATIONS AND DRAINAGE INSTALLATION SHALL BE OBSERVED BY A SOILS ENGINEER RETAINED BY THE OWNER. IF EXCAVATION SHOWS SOIL CONDITIONS TO BE OTHER THAN THOSE ASSUMED ABOVE, NOTIFY THE STRUCTURAL ENGINEER FOR POSSIBLE FOUNDATION REDESIGN.

CONCRETE

ALL CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED, AND PLACED IN ACCORDANCE WITH SECTION CHAPTER 5 OF ACI 318 AND THE AMERICAN CONCRETE INSTITUTE'S SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301).

ALL CONCRETE SHALL BE STONE-AGGREGATE CONCRETE HAVING A UNIT WEIGHT OF APPROXIMATELY 150 POUNDS PER CUBIC FOOT.

CONCRETE STRENGTHS AT 28 DAYS (f'c) AND MIX CRITERIA SHALL BE AS FOLLOWS:

TYPE OF CONSTRUCTION	f'c	MAXIMUM WATER/CEMENT RATIO	MIN CEMENT CONTENT PER CUBIC YARD	MAXIMUM SHRINKAGE STRAIN
AUGERCAST PILES	4000 PSI	0.50	6 1/2 SACK	N/A
SLABS ON GRADE	3000 PSI	0.55	5 1/2 SACK	N/A
FOOTINGS	3000 PSI	0.55	5 1/2 SACK	N/A
GRADE BEAMS	3000 PSI	0.50	5 1/2 SACK	N/A
WALLS	4000 PSI	0.45	5 1/2 SACK	N/A

THE MINIMUM AMOUNT OF CEMENT LISTED ABOVE MAY BE CHANGED IF A CONCRETE PERFORMANCE MIX IS SUBMITTED TO THE ENGINEER AND THE BUILDING DEPARTMENT FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE. THE PERFORMANCE MIX SHALL INCLUDE THE AMOUNTS OF CEMENT, FINE AND COARSE AGGREGATE, WATER, AND ADMIXTURES AS WELL AS THE WATER-CEMENT RATIO, SLUMP, CONCRETE YIELD, AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH CHAPTER 5 OF ACI 318.

ALL CONCRETE EXPOSED TO WEATHER OR TO FREEZING TEMPERATURES SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH ACI 318 TABLE 4.2.1 FOR MODERATE EXPOSURE CONDITION.

REINFORCING STEEL

REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615, AND SHALL BE GRADE 60 (Fy = 60,000 PSI), UNLESS NOTED OTHERWISE. GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCING COMPLYING WITH ASTM A615 MAY BE WELDED IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN AWS D1.4 ARE SUBMITTED.

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. PROVIDE WELDED WIRE FABRIC IN SHEETS NOT ROLLS. LAP WELDED WIRE FABRIC 12" AT SIDES AND ENDS.

REINFORCING STEEL SHALL BE DETAILED INCLUDING HOOKS AND BENDS IN ACCORDANCE WITH SP-66 AND ACI 318R, LATEST EDITIONS. UNLESS OTHERWISE NOTED, REINFORCING SPLICE LENGTHS AND DEVELOPMENT LENGTHS SHALL BE PER SCHEDULE.

MECHANICAL SPLICING OF REINFORCING BARS, WHERE INDICATED ON THE DRAWINGS, SHALL BE BY AN ICBO APPROVED SYSTEM, SHALL DEVELOP 125% OF THE SPECIFIED YIELD STRENGTH OF THE BAR, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

REINFORCING SHALL BE PLACED AND ADEQUATELY SUPPORTED PRIOR TO PLACING CONCRETE. WET-SETTING EMBEDDED ITEMS IS NOT ALLOWED WITHOUT PRIOR ENGINEER APPROVAL. BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL NOT BE FIELD BENT UNLESS SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. REFER TO CHAPTER 7 OF ACI 318 FOR OTHER REINFORCING STEEL REQUIREMENTS.

MINIMUM LAPS AND EMBEDMENT

UNLESS OTHERWISE NOTED, REINFORCING SPLICE LENGTHS AND DEVELOPMENT LENGTHS SHALL BE AS TABULATED BELOW:

f'c = 3000 PSI

BAR SIZE	DEVELOPMENT LENGTH			LAP SPLICE		
	TENSION		COMPRESSION	TENSION		COMPRESSION
	TOP BARS	OTHER BARS	ALL BARS	TOP BARS	OTHER BARS	ALL BARS
#3	22	17	9	28	22	12
#4	29	22	11	37	29	15
#5	36	28	14	47	36	19
#6	43	33	17	56	43	23
#7	63	48	20	81	63	27
#8	72	55	22	93	72	30

f'c = 4000 PSI

BAR SIZE	DEVELOPMENT LENGTH			LAP SPLICE		
	TENSION		COMPRESSION	TENSION		COMPRESSION
	TOP BARS	OTHER BARS	ALL BARS	TOP BARS	OTHER BARS	ALL BARS
#3	19	15	8	24	19	12
#4	25	19	10	33	25	15
#5	31	24	12	41	31	19
#6	37	29	15	49	37	23
#7	54	42	17	71	54	27
#8	62	48	19	81	62	30

NOTE:
1. ALL LENGTHS ARE IN INCHES.
2. ALL LAP SPLICES ARE CLASS B.
3. "TOP BARS" ARE HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

CONCRETE WALL REINFORCING

PROVIDE THE FOLLOWING MINIMUM REINFORCING UNLESS NOTED OR DETAILED OTHERWISE (GRADE 60):

THICKNESS	REINFORCING	PLACEMENT
8" WALLS	#5 @ 15" OC	EA WAY CENTERED

CONCRETE COVER ON REINFORCING

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"

CONCRETE EXPOSED TO EARTH AND WEATHER:
#6 BARS AND LARGER 2"
#5 BARS AND SMALLER 1 1/2"

CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
SLABS, WALLS AND JOISTS 3/4"
COLUMN TIES OR SPIRALS AND BEAM STIRRUPS 1 1/2"

CONCRETE GENERAL NOTES

VERTICAL BARS SHALL START FROM TOP OF FOOTING. HORIZONTAL BARS SHALL START A DISTANCE OF 1/2 THE NORMAL BAR SPACING FROM TOP OF FOOTING AND TOP OF FRAMED SLABS. IN ADDITION, THERE SHALL BE A HORIZONTAL BAR AT A MAXIMUM OF 3" FROM TOP OF WALL AND BOTTOM OF FRAMED SLABS.

PROVIDE CORNER BARS TO MATCH THE HORIZONTAL REINFORCING WITH TENSION LAP SPLICE AT EACH SIDE PER TABLE, OR BEND ONE SIDE OVER TO PROVIDE TENSION LAP.

PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS ON GRADE TO BREAK UP SLAB INTO RECTANGULAR AREAS OF NOT MORE THAN 400 SQUARE FEET EACH. AREAS TO BE AS SQUARE AS PRACTICAL AND HAVE NO ACUTE ANGLES. JOINT LOCATIONS TO BE APPROVED BY THE ARCHITECT.

ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND PROPERLY PREPARED IMMEDIATELY PRIOR TO POURING OF CONCRETE. DOWEL STEEL SHALL BE THE SAME SIZE AND SPACING AS MAIN REINFORCING DETAILED BEYOND JOINT.

SEE ARCHITECTURAL DRAWINGS AND MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF OPENINGS IN CONCRETE WALLS, FLOORS AND ROOF. UNLESS INDICATED OTHERWISE, REINFORCE AROUND OPENINGS GREATER THAN 12" IN EITHER DIRECTION WITH (2) #5 EACH SIDE AND (1) #5 x 4'-0" DIAGONAL AT EACH CORNER. EXTEND BARS 2'-0" BEYOND EDGE OF OPENING. IF 2'-0" IS UNAVAILABLE, EXTEND AS FAR AS POSSIBLE AND HOOK. HOOK ALL REINFORCING INTERRUPTED BY OPENINGS.

BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL NOT BE FIELD BENT UNLESS SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES. PROVIDE 3/4" CHAMFER AT ALL CORNERS EXCEPT AS NOTED.

NON-SHRINK GROUT

NON-SHRINK GROUT SHALL BE CEMENT-BASED WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI WHEN TESTED IN ACCORDANCE WITH ASTM C-109. GROUT SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

STRUCTURAL STEEL

STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.

SHAPES SHALL CONFORM TO ASTM A992, Fy = 50 KSI.

PLATES, ANGLES, AND RODS SHALL CONFORM TO ASTM A36, Fy = 36 KSI.

STRUCTURAL TUBING SHALL CONFORM TO ASTM A500 GRADE B, Fy = 46 KSI.

STEEL PIPE SHALL CONFORM TO ASTM A53 GRADE B, Fy = 35 KSI.

BOLTS CONNECTING STEEL MEMBERS SHALL CONFORM TO ASTM A325-N. BOLTS SHALL BE 3/4"Ø MINIMUM, UNO ANCHOR BOLTS SHALL CONFORM TO ASTM A307.

CONTRACTOR SHALL PROVIDE CONNECTION ADJUSTMENT TOLERANCES TO SATISFY THE REQUIREMENTS OF AISC MANUAL OF STEEL CONSTRUCTION.

UNLESS SPECIFIED AS STAINLESS STEEL, ALL STEEL MEMBERS, SHAPES, BOLTS, AND ACCESSORIES EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED.

WELDING

WELDING SHALL CONFORM TO AWS "STRUCTURAL WELDING CODE", LATEST EDITION. ALL WELDING SHALL BE DONE WITH 70 KSI LOW HYDROGEN ELECTRODES. WHERE NOT CALLED OUT, MINIMUM FILLET WELD SIZE SHALL BE PER TABLE 5.8 IN AWS D1.1, LATEST EDITION.

WELDING OF REINFORCING BARS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY CALLED OUT ON DRAWINGS OR APPROVED BY STRUCTURAL ENGINEER. WELDING OF GRADE 60 REINFORCING BARS SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING OF GRADE 40 REINFORCING BARS SHALL BE PERFORMED USING E70XX ELECTRODES. SEE REINFORCING NOTES FOR MATERIAL REQUIREMENTS OF WELDED BARS. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING BARS IS NOT PERMITTED.

ALL WELDING SHALL BE DONE BY WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO) CERTIFIED WELDERS.

LUMBER

ALL GRADES SPECIFIED ARE MINIMUM GRADES REQUIRED. ALL LUMBER SHALL BE IN ACCORDANCE WITH WWPA GRADING RULES, KILN-DRIED TO MC 19 AND OF THE FOLLOWING MINIMUM STANDARDS:

SIZE CLASSIFICATION	SPECIES	GRADE	Fb (PSI)	Fc (PSI)
LIGHT FRAMING (STUDS)	HEM-FIR	STUD	675	800
2x JOISTS AND PLANKS	HEM-FIR	#2	850	-
PLATES AND BLOCKING	HEM-FIR	#2	850	-
6x AND LARGER BEAMS AND STRINGERS	DOUG-FIR	#2	875	-
4x AND SMALLER BEAMS AND STRINGERS	HEM-FIR	#2	850	-
ALL POSTS AND TIMBERS	DOUG-FIR	#1	1200	1000

REFER TO PLAN NOTES, SCHEDULES, AND DETAILS FOR MORE SPECIFIC LUMBER SIZE AND GRADE REQUIREMENTS.

UNLESS NOTED OTHERWISE IN THE PLANS, ALL WOOD AND WOOD-BASED MEMBERS EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE, MASONRY, OR WITHIN 8" OF SOIL SHALL BE PRESERVATIVE-TREATED BY VACUUM-PRESSURE IMPREGNATION IN ACCORDANCE WITH AWPA STANDARD U1.

NAILS, BOLTS, AND METAL CONNECTORS FOR WOOD

ALL NAILS SHALL CONFORM TO THE STANDARDS SET FORTH BY THE NATIONAL DESIGN STANDARDS (NDS) FOR WOOD CONSTRUCTION, LATEST EDITION. NAILING NOT SPECIFIED SHALL BE PER IBC TABLE 2304.9.1 NAILING SCHEDULE. ALL NAILS CALLED OUT ON PLANS SHALL BE COMMON NAILS UNLESS NOTED OTHERWISE AND SHALL MEET OR EXCEED THE FOLLOWING MINIMUM GUIDELINES:

NAIL	SHANK Ø	MIN LENGTH
8d COMMON	0.131Ø	2 1/2" SHANK
10d COMMON	0.148Ø	3" SHANK
12d COMMON	0.148Ø	3 1/4" SHANK
16d COMMON	0.162Ø	3 1/2" SHANK

10d BOX NAILS MAY BE SUBSTITUTED FOR 8d COMMON NAILS WITH NO CHANGE IN NAIL SPACING. FRAMING MEMBERS MAY BE NAILED WITH 16d SINKERS (0.148"Ø x 3 1/4"), BUT ONLY 16d COMMON NAILS SHALL BE USED WHERE 16d NAILS ARE INDICATED IN THIS DRAWING SET. ENGINEER MAY APPROVE OTHER NAILS IF NAIL LABELS ARE SUBMITTED TO ENGINEER PRIOR TO START OF CONSTRUCTION.

ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. LEAD HOLES FOR LAG BOLTS SHALL BE BORED FOR THE SHANK AND THREADED PORTIONS PER NDS 11.1.3.

CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, CATALOG TO BE THE LATEST EDITION, OR ENGINEER APPROVED EQUAL. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND WITH THE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY THE MANUFACTURER. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS, SCREWS, OR BOLTS IN EACH MEMBER.

INSTALL SOLID BLOCKING AT ALL BEARING POINTS. ALL SHIMS SHALL BE SEASONED, DRIED, AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

GALVANIZATION

UNLESS NOTED OTHERWISE, STEEL CONNECTORS IN CONTACT WITH TREATED WOOD SHALL BE GALVANIZED ACCORDING TO THE FOLLOWING TABLE:

GALVANIZATION	UNTREATED WOOD	CCA-C	SBX	ACQ-C ACQ-D	CBA-A CA-B	OTHER BORATE	ACZA	OTHER PT WOOD
G90	X	X	X					
G185	X	X	X	X	X	X		
HDG	X	X	X	X	X	X		
STT300	X	X	X	X	X	X	X	X

G90 = 0.90 OZ. OF ZINC PER SQUARE FOOT OF AREA
G185 = 1.85 OZ. OF ZINC PER SQUARE FOOT OF AREA
HDG = HOT DIP GALVANIZED
SST300 = TYPE 316L STAINLESS STEEL

RATED SHEATHING

RATED SHEATHING SHALL BE GRADE C-D INT-APA WITH EXTERIOR GLUE OR OSB SHEATHING WITH EXTERIOR GLUE IN CONFORMANCE WITH IBC STANDARD 2303.1.4.

TIMBERSTRAND, MICROLLAM, AND PARALLAM MEMBERS

FABRICATED IN CONFORMANCE WITH THE INTERNATIONAL CODE COUNCIL EVALUATION SERVICE (ICC-ES) REPORT NO. ESR-1387 OR CCMC REPORT NO. 12627-R, 08675-R, AND 11161-R. EACH MEMBER SHALL BE IDENTIFIED BY A STAMP INDICATING THE PRODUCT TYPE AND GRADE, ICC-ES OR CCMC REPORT NUMBER, MANUFACTURER'S NAME, PLANT NUMBER AND INDEPENDENT INSPECTION AGENCY'S LOGO. FABRICATOR SHALL BE CERTIFIED. MEMBERS SHALL MEET THE FOLLOWING MINIMUM STANDARDS:

SIZE CLASSIFICATION	SPECIES	GRADE	Fb (PSI)	Fv (PSI	Fc (PSI)
BEAMS & POSTS (d < 9 1/2")	LSL	1.3E	1,700	425	1,835
RIMS & BEAMS (d ≥ 9 1/2")	LSL	1.55E	2,325	310	-
BEAMS & POSTS	LVL	2.0E	2,600	285	2,510
POSTS (d < 9 1/2")	PSL	1.8E	2,400	190	2,500
BEAMS (d ≥ 9 1/2")	PSL	2.2E	2,900	290	-
PSL PLUS*	PSL	1.46	1,830	197	1,508

TIMBERSTRAND, MICROLLAM, AND UNTREATED PARALLAM MEMBERS ARE INTENDED FOR DRY-USE APPLICATIONS. UNLESS NOTED OTHERWISE, ENGINEERED WOOD BEAMS EXPOSED TO WEATHER SHALL BE TREATED PER MANUFACTURES RECOMMENDATIONS.

*PSL PLUS DESIGN PROPERTIES BASED ON A AWDA USE CATEGORY OF UC3B (16% < MC ≤ 28%).

GLUE-LAMINATED TIMBER

GLUE-LAMINATED TIMBER SHALL BE DOUGLAS FIR, FABRICATED IN CONFORMANCE WITH ANSI/AITC STANDARD A190.1, LATEST EDITION. EACH MEMBER SHALL BEAR AN AITC IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC CERTIFICATE OF CONFORMANCE. FABRICATOR SHALL BE CERTIFIED. MEMBERS SHALL BE OF THE FOLLOWING MINIMUM STANDARDS:

SPAN	COMBINATION	Fb
SIMPLE SPAN BEAMS	20F-V4	2400 PSI

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01/18/19

MARK	DATE	DESCRIPTION
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	01/18/19	COMMENT RESPONSE

DESIGN: JGG
DRAWN: ZOS
CHECK: GAG
JOB NO: 15227.10
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STRUCTURAL NOTES

FILE NAME:

SHEET:

S1.1

STRUCTURAL NOTES

(THESE NOTES ARE TYPICAL UNLESS NOTED OR DETAILED OTHERWISE ON DRAWINGS)

PRE-MANUFACTURED WOOD TRUSSES

WOOD TRUSSES SHALL BE SIZED AND DETAILED TO FIT DIMENSIONS AND LOADS INDICATED ON THE PLANS. ALL DESIGN SHALL BE IN ACCORDANCE WITH THE ALLOWABLE VALUES AND SECTION PROPERTIES ASSIGNED BY THE BUILDING CODE. SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW PRIOR TO FABRICATION. CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE SAME STATE AS THE PROJECT. TRUSS DESIGN AND SHOP DRAWINGS SHALL BE IN CONFORMANCE WITH IBC 2303.4

PROVIDE TEMPORARY BRACING UNTIL SHEATHING AND PERMANENT BRACING IS INSTALLED. MANUFACTURER SHALL PROVIDE ALL SPECIALTY ITEMS REQUIRED FOR A COMPLETE INSTALLATION OF JOISTS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

FOR TOP CHORD DESIGN LIVE LOADS, REFER TO THE DESIGN LOAD SECTION. IN ADDITION TO ROOF LOADING LISTED IN THE DESIGN LOAD SECTION, ROOF TRUSSES SHALL BE DESIGNED FOR A BOTTOM CHORD LIVE LOAD OF 10 PSF. TOP AND BOTTOM CHORD LIVE LOAD DO NOT NEED TO BE DESIGNED FOR SIMULTANEOUSLY.

SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOADS AND OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

DEFLECTIONS SHALL NOT EXCEED L/360 FOR LIVE LOADS, OR L/240 FOR TOTAL LOADS AT ROOF. DEFLECTIONS SHALL NOT EXCEED L/480 FOR LIVE LOADS, OR L/360 FOR TOTAL LOADS AT FLOOR.

TYPICAL FRAMING NOTES

1. BEARING WALL FRAMING

2x STUDS @ 16" OC FOR ALL SHEAR AND/OR BEARING WALLS UNO.

REFER TO FRAMING PLAN NOTES FOR TYPICAL DOOR & WINDOW HEADERS NOT CALLED OUT ON THE PLANS. HEADERS SHALL BE SUPPORTED BY A MINIMUM OF (1) CRIPPLE AND (1) FULL HEIGHT STUD UNO.

COLUMNS BELOW FLUSH MULTIPLE JOIST BEAMS SHALL BE EQUAL IN WIDTH TO THE BEAM. ALL COLUMNS NOT CALLED OUT OTHERWISE SHALL BE TWO STUDS.

2. WALL BASE PLATE ON CONCRETE

WALL PLATES BEARING ON CONCRETE SHALL BE PRESSURE-TREATED. FOR ALL EXTERIOR AND INTERIOR WALLS, BOLT PLATES OR SILLS TO CONCRETE WITH 5/8 INCH DIAMETER ANCHOR BOLTS WITH 7 INCH MINIMUM EMBEDMENT. PLACE AT 5'-0" OC MAXIMUM FOR SHEAR WALLS, AND AT 6'-0" OC FOR BEARING WALLS AND OTHER PARTITIONS. USE MINIMUM OF TWO ANCHOR BOLTS PER SILL AND PLACE ONE WITHIN 12 INCHES OF EITHER END TYPICAL UNLESS NOTED OR DETAILED OTHERWISE. REFER TO SHEAR WALL SCHEDULE. AT ALL SILL PLATE ANCHOR BOLTS, CONTRACTOR SHALL INSTALL 1/4" x 3" x 3" FLAT PLATE WASHERS.

3. ROOF AND FLOOR FRAMING

PROVIDE 1 1/2" LSL BLOCKING FOR JOISTS AND RAFTERS AT ALL SUPPORTS AND AT 8'-0" OC MAXIMUM UNO. INSTALL DOUBLE JOISTS UNDER PARTITIONS EXTENDING ONE HALF OR MORE OF THE JOIST SPAN. PROVIDE TRUSS BLOCKING PANELS FOR ROOF TRUSSES AT SUPPORTS AND SHEAR WALLS, AND WHERE INDICATED ON PLANS AND DETAILS.

4. DIAPHRAGM NAILING

ALL SHEAR WALLS, FLOOR AND ROOF DIAPHRAGM NAILINGS SHALL BE AS CALLED OUT ON SCHEDULES OR ON THE PLANS. EXTERIOR WALLS NOT INDICATED AS SHEAR WALLS SHALL BE SHEATHED AND NAILED TO SUPPORTING FRAMING WITH 8d NAILS AT 6" OC AT ALL PANEL EDGES AND 12" OC AT ALL INTERMEDIATE SUPPORTS.

THE USE OF NAIL GUNS WILL BE APPROVED IF NAILING INTO THE DIAPHRAGMS CAN BE INSTALLED FLUSH WITH FACE OF SHEATHING. NAIL PENETRATIONS GREATER THAN 1/16" ARE NOT ACCEPTABLE.

5. ALLOWABLE STUD AND PLATE PENETRATIONS

CUTTING AND/OR NOTCHING OF WOOD STUDS OR PLATES SHALL NOT EXCEED 25% OF THE STUD/PLATE WIDTH IN EXTERIOR AND BEARING WALLS AND SHALL NOT EXCEED 40% OF THE STUD/PLATE WIDTH IN ANY NON-BEARING PARTITIONS. BORED HOLE DIAMETER IS LIMITED TO 40% OF STUD/PLATE WIDTH IN ANY STUD AND MAY BE 60% IN NONBEARING PARTITIONS OR IF STUD IS DOUBLED. MAINTAIN 5/8" MINIMUM EDGE DISTANCE FROM HOLE EDGE.

6. GYPSUM WALLBOARD NAILING

ALL GYPSUM WALLBOARD SHALL BE NAILED TO ALL STUDS AND TOP AND BOTTOM PLATES WITH 6d COOLER NAILS OR NO. 13 GAUGE x 1 5/8" @ 7" OC (5d COOLER NAILS FOR 1/2 INCH GYPSUM SHEATHING). TYPICAL UNLESS NOTED OTHERWISE. INSTALLATION OF GWB SHALL BE SUCH THAT JOINTS ARE STAGGERED ON EACH SIDE OF A SINGLE WALL.

GENERAL

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, CIVIL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS FOR COMPATIBILITY BEFORE PROCEEDING. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING.

CONTRACTOR TO SEE ARCHITECTURAL, CIVIL, ELECTRICAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF PIPE, VENT, DUCT AND OTHER OPENINGS AND DETAILS NOT SHOWN ON THESE DRAWINGS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTION STABILITY AND TEMPORARY SHORING AS NECESSARY UNTIL PERMANENT SUPPORT AND STIFFENING ARE INSTALLED.

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.

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

LEGEND

DEFINITION	SYMBOL	DEFINITION	SYMBOL
DIRECTION OF FRAMING		NATIVE SOIL	
EXTENT OF FRAMING		GRANULAR FILL	
COLUMNS		STRUCTURAL STEEL	
COLUMN BEARING ON BEAM	(A)	RATED SHEATHING	
BEAM CONTINUOUS OVER SUPPORT	(B)	SHEAR WALL (SEE SCHEDULE)	SWX
CONCRETE WALL		COLUMN MARK (SEE SCHEDULE)	C#
BEARING STUD WALL		FOOTING MARK (SEE SCHEDULE)	FX
NON-BEARING STUD WALL		HOLDOWN MARK (SEE SCHEDULE)	HD
BEARING STUD SHEAR WALL		HANGER MARK (SEE SCHEDULE)	X
NON-BEARING STUD SHEAR WALL		FLAG NOTE (SEE PLAN NOTES)	X
CMU WALL		STEEL MOMENT FRAME CONN.	

ABBREVIATIONS

(A)	ABOVE	GLB	GLUE-LAMINATED BEAM
AB	ANCHOR BOLT	HORIZ	HORIZONTAL
ALT	ALTERNATE	KP	KING POST
ARCH	ARCHITECT	KSI	KIPS PER SQUARE INCH
(B)	BELOW	L	ANGLE
BD	BAR DIAMETER	MECH	MECHANICAL
BLKG	BLOCKING	MF	MOMENT FRAME
BM	BEAM	MTL	METAL
BOT	BOTTOM	NS	NEAR SIDE
BRNG	BEARING	OC	ON CENTER
BTWN	BETWEEN	OPP	OPPOSITE
CJP	COMPLETE JOINT PENETRATION	PL	PLATE
CLR	CLEAR	PLCS	PLACES
CMU	CONCRETE MASONRY UNIT	PSI	POUNDS PER SQUARE INCH
COL	COLUMN	PSF	POUNDS PER SQUARE FOOT
CONC	CONCRETE	P/T	POST TENSIONED
CONN	CONNECTION	PT	PRESSURE TREATED
CONT	CONTINUOUS	REINF	REINFORCING
COORD	COORDINATE	REQ'D	REQUIRED
DBL	DOUBLE	SCHED	SCHEDULE
DET	DETAIL	SIM	SIMILAR
DIA	DIAMETER	SOG	SLAB ON GRADE
DIM	DIMENSION	STD	STANDARD
DIR	DIRECTION	STIFF	STIFFENER
EA	EACH	STL	STEEL
ELEV	ELEVATION	SYMM	SYMMETRICAL
ES	EACH SIDE	SW	SHEARWALL
EX	EXISTING	TOC	TOP OF CONCRETE
EXP	EXPANSION	TOS	TOP OF STEEL
FLR	FLOOR	TOW	TOP OF WALL
FDN	FOUNDATION	TYP	TYPICAL
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
FS	FAR SIDE	VERT	VERTICAL
GC	GENERAL CONTRACTOR	WF	WIDE FLANGE

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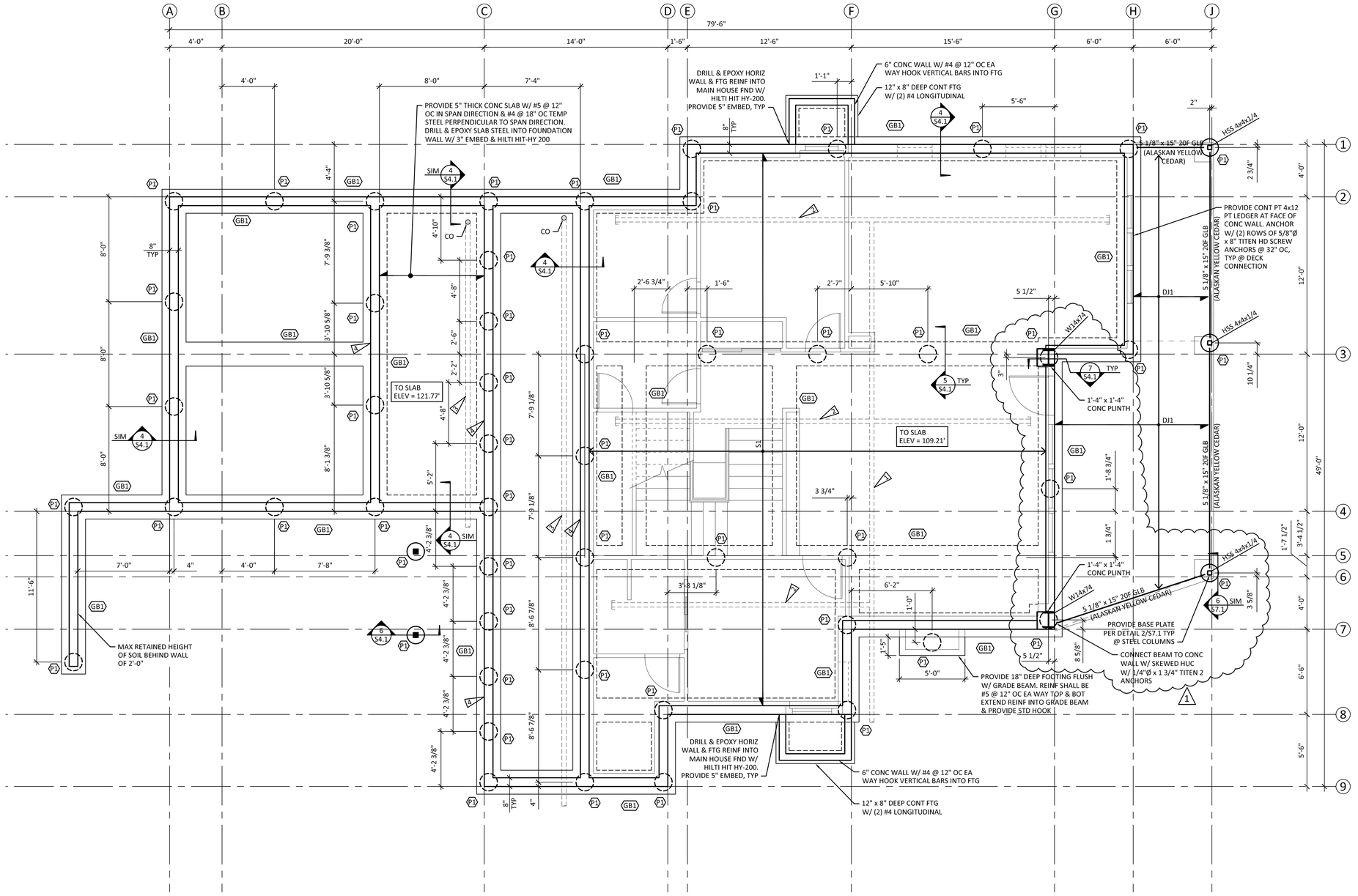
STRUCTURAL NOTES

FILE NAME:

SHEET:

S1.2



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

2'-0" 0 2'-0" 4'-0"

FOUNDATION PLAN NOTES:

1. PX INDICATES PILE TYPE. REFER TO PILE SCHEDULE ON S3.1 FOR SIZE AND REINFORCEMENT. REFER TO DETAIL 3/S4.1 FOR PILE ELEVATION.
2. NOTIFY THE STRUCTURAL ENGINEER AND THE GEOTECHNICAL ENGINEER IF OBSTRUCTIONS ARE ENCOUNTERED DURING THE DRILLING PROCESS. ALL FINAL PILE LOCATIONS SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER FOR REVIEW.
3. PILES THAT DO NOT MEET THE ACCEPTANCE CRITERIA OF THE GEOTECHNICAL ENGINEER SHALL BE REPLACED WITH A PAIR OF PILES, ORIENTED SO THAT THEY ARE ORTHOGONAL TO AND CENTERED ON THE ORIGINAL PILE LOCATION. ABANDONED HOLES SHALL BE FILLED WITH GROUT UP TO THE BOTTOM OF GRADE BEAM OR BOTTOM OF SLAB ELEVATION. THE CONTRACTOR SHALL WAIT A MINIMUM OF 24 HOURS BEFORE DRILLING AT NEW PILE LOCATIONS.
4. SX INDICATES 7" STRUCTURAL SLAB W/ #5 BARS @ 10" OC IN DIRECTION OF SPAN. REINF SHALL BE CENTERED IN SLAB. PROVIDE #4 @ 12" OC TEMPERATURE STEEL PERPENDICULAR TO SLAB SPAN. SLAB SHALL BE POURED OVER A 10 MIL VAPOR BARRIER OVER 4" OF 5/8" CLEAN CRUSHED ROCK OR PEA GRAVEL.
5. REFER TO SHEET S4.1 AND S4.2 FOR FOUNDATION DETAILS.
6. PLACE ALL REINFORCEMENT PER THE STRUCTURAL NOTES AND FOUNDATION DETAILS. REFER TO SHEET S1.1 FOR ADDITIONAL CONCRETE DETAILING REQUIREMENTS.
7. FOUNDATION LEVEL HOLDOWNS ARE SHOWN ON MAIN AND UPPER FLOOR FRAMING PLAN. REFER TO HOLDOWN SCHEDULE ON SHEET S3.1 FOR HOLDOWN TYPES AND MAIN AND UPPER FLOOR FRAMING PLAN FOR HOLDOWN ANCHOR BOLT LOCATIONS.
8. REFER TO MAIN AND UPPER FLOOR FRAMING PLAN AND SHEAR WALL SCHEDULE ON SHEET S3.1 FOR LOCATION OF SHEAR WALL ANCHOR BOLTS. ANCHORAGE AT NON-SHEAR WALLS SHALL BE PER STRUCTURAL NOTES.
9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, WALL LOCATIONS, AND CONCRETE ROUGH OPENINGS WITH ARCHITECTURAL DRAWINGS AND NOTIFY ALL PARTIES OF ANY DISCREPANCIES.
10. REFER TO DETAIL 3/S4.2 FOR PIPE PENETRATIONS THROUGH CONCRETE WALL OR FOOTINGS.
11. CONTRACTOR SHALL PROVIDE FOOTING AND SLAB SUBSTRATE PREPARATION, WATERPROOFING, AND BACKFILL & DRAINAGE BEHIND RETAINING WALLS PER GEOTECHNICAL REPORT. GEOTECHNICAL ENGINEER SHALL OBSERVE EXCAVATED SOIL CONDITIONS DURING CONSTRUCTION (AND GROUNDWATER CONDITIONS) AS REQUIRED, AND PROVIDE ADDITIONAL RECOMMENDATIONS IF NECESSARY BASED ON ACTUAL SITE CONDITIONS.
12. THE STRUCTURAL ENGINEER SHALL BE CONTACTED PRIOR TO PLACING THE STRUCTURAL SLAB. THIS SLAB SHALL BE PLACED IN DRY WEATHER OR SHALL MEET THE PROVISIONS OF ASTM E-1643 FOR INSTALLATION GUIDELINES FOR USE OF PROTECTION/BLOTTER MATERIAL ABOVE VAPOR BARRIER. MINIMUM VAPOR BARRIER SHALL BE 10 MILS (STEGO WRAP 877-464-7834)
13. AT CONCRETE WALLS EXPOSED TO EARTH ABOVE SLAB ELEVATION PROVIDE WATERPROOFING SYSTEM AS FOLLOWS: CCW BARRICOAT-S OR R AT 90 WET MILS/60 DRY MILS BY CARLISLE OR ARCHITECT APPROVED EQUAL APPLY MIRA DRAIN 6000 DRAINAGE COMPOSITE OVER SYSTEM.
14. PROVIDE 5" THICK CONC SLAB W/ #5 @ 12" OC IN SPAN DIRECTION AND #4 @ 18" OC TEMPERATURE STEEL. DRILL AND EPOXY LAPPED DOWELS TO MATCH SLAB REINF. W/ HILTI HIY HY-200 AND 3" EMBED TYP ALL SIDES.

FLAG NOTES:

1. INDICATES 4"Ø PVC TIGHTLINE DRAINAGE SYSTEM CONNECTING SHORING WALL DRAINAGE SYSTEM TO TIE INTO DRAINAGE STUB AT NW CORNER OF BUILDING SEE CIVIL PLANS.
2. INDICATES UNDERSLAB DRAINAGE SYSTEM CONSISTING OF 4"Ø PVC PERFORATED PIPE WRAPPED IN MIRAFI 140N OR SUPAC 4NP & IN A 12" x 12" PEA GRAVEL TRENCH SLOPE TO EXTERIOR POINT OF CONNECTION.
3. PROVIDE MIRA DRAIN 6000 DRAINAGE MATTING NEAR BOTTOM OF GRADE BEAM & BELOW SLAB ELEVATION SLOPE TO TIE INTO EXTERIOR POINT OF CONNECTION.
4. AT WALL RETAINING OVER 4'-0" OF SOIL (BUT NO GREATER THAN 6'-0") PROVIDE #5 VERTICAL BARS @ 12" OC, CENTERED IN WALL. WALLS SHALL RETAIN NO MORE THAN 6'-0" OF SOIL.

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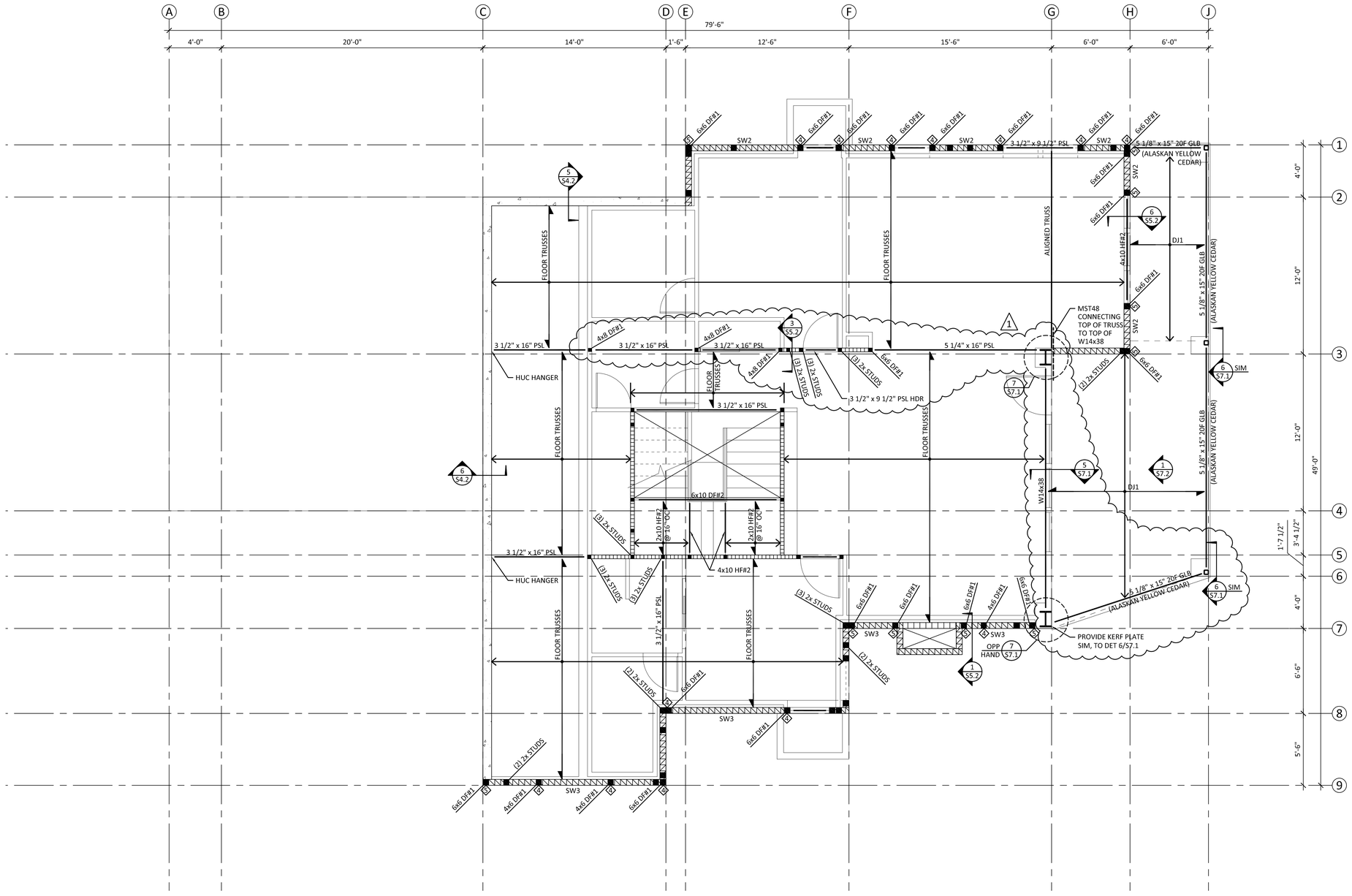
FOUNDATION PLAN

FILE NAME:

SHEET:
S2.1



1 MAIN FLOOR FRAMING PLAN

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

2'-0" 0 2'-0" 4'-0"

TYPICAL FLOOR FRAMING PLAN NOTES:

1. FLOOR SHEATHING SHALL BE 3/4" PI 40/20 W/ 10d COMMON NAILS SPACED AT 6" OC AT ALL DIAPHRAGM BOUNDARIES, PANEL EDGES AND SHEAR WALLS AND 10" OC AT INTERMEDIATE FRAMING. FOR SHEATHING LAYOUT AND NAILING REFER TO DETAIL 2/S5.1
2. COLUMNS AND BEARING WALLS SHOWN ON PLANS SHALL BE CONTINUED DOWN TO THE FOUNDATION UNLESS CARRIED BY A BEAM BELOW.
3. REFER TO SHEET S5.1 THRU S6.1 FOR TYPICAL FLOOR FRAMING DETAILS.
4. (C) (B) INDICATES COLUMN BELOW AND BEAM SHALL BE CONTINUED OVER COLUMN, TYP.
5. CONTRACTOR SHALL HAVE THE OPTION TO DRILL A 1 1/2"Ø HOLE CENTERED IN THE DEPTH AND AT THE THIRD POINT OF THE SPAN FOR ALL WOOD FLUSH BEAMS SHOWN ON THE PLAN.
6. WALLS SHOWN ON THE FRAMING PLANS ARE WALLS BELOW THE FRAMING LEVELS INDICATED. HOLDOWNS SHALL BE PLACED AT THE BASE OF THE WALLS SHOWN.
7. TYPICAL HEADERS AT BEARING LOCATION SHALL BE 4x6 HF#2 UNO SUPPORTED BY A MINIMUM OF (1) CRIPPLE STUD AND (1) FULL HEIGHT STUD.
8. COLUMNS NOT OTHERWISE SHOWN OR CALLED OUT ON PLAN SHALL BE (2) 2x STUDS.
9. UNLESS NOTED OTHERWISE ALL STUDS SHALL BE HF STUD GRADE AND SPACED AT 16" OC.
10. UNLESS NOTED OTHERWISE, ALL BEAM-TO-BEAM CONNECTIONS SHALL BE SIMPSON HU SERIES FACE MOUNT HANGERS W/ MAX NAILING.
11. ALL EXTERIOR GLU LAM BEAM DECK MEMBERS 20F CEDAR.
12. FLOOR TRUSSES SHALL BE PRE-ENGINEERED BY OTHERS & SPACED @ 16" OC, TYP
13. DRAG TRUSS ON GRID G FROM GRIDS 1-3 SHALL BE NAILED TO FLOOR DIAPHRAGM @ 4" OC TRUSS MANUFACTURE TO ACCOUNT FOR MST STRAP @ TOP CHORD.

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01/18/19

MARK	DATE	DESCRIPTION
1	05/11/18	PERMIT SUBMITTAL
2	01/18/19	COMMENT RESPONSE

DESIGN:	JGG
DRAWN:	ZOS
CHECK:	GAG
JOB NO:	15227.10
DATE:	05/11/18

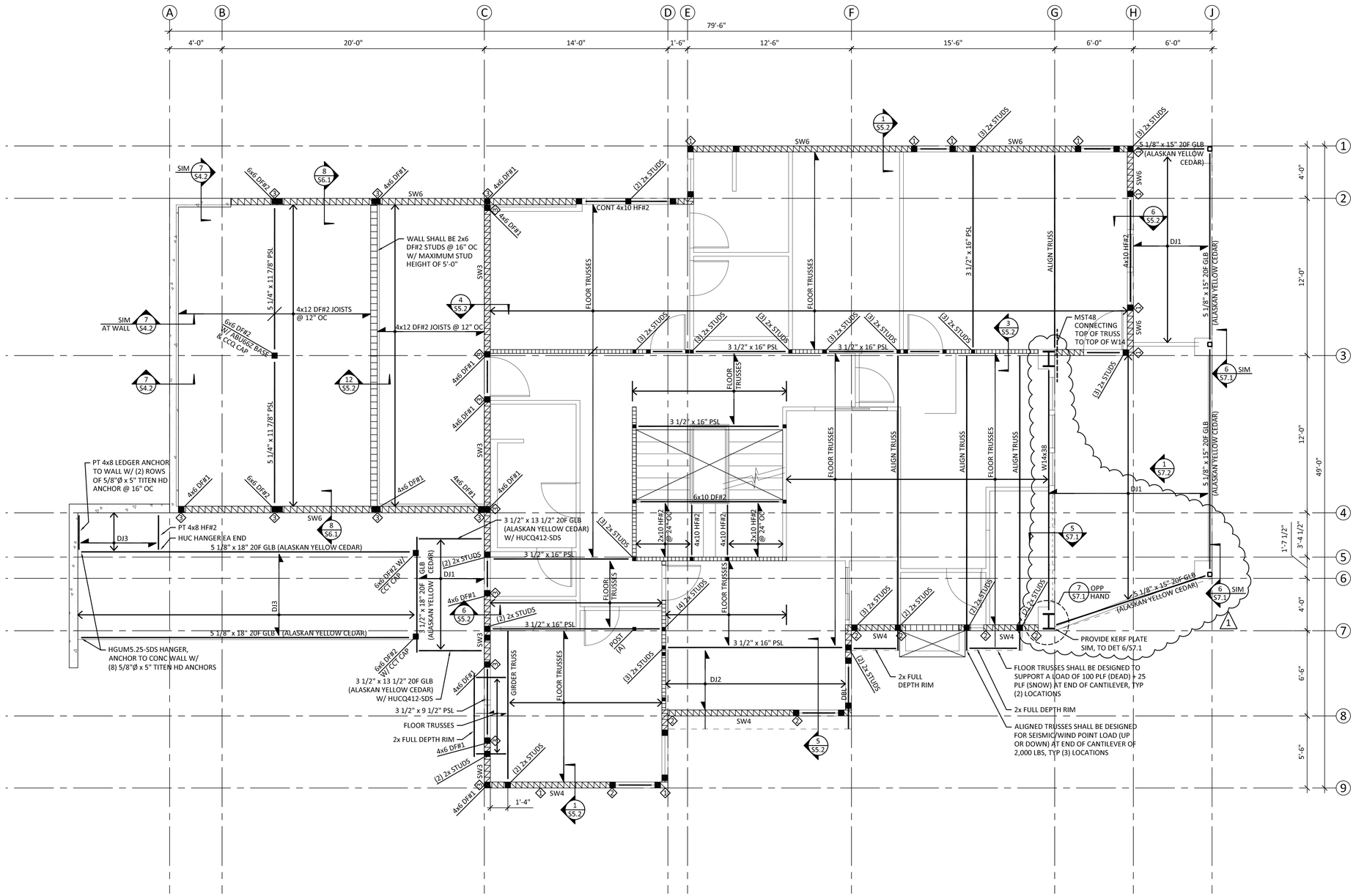
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

FILE NAME:

MAIN FLOOR FRAMING PLAN

SHEET:

S2.2



1 UPPER FLOOR FRAMING PLAN

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

2'-0" 0 2'-0" 4'-0"

THIS FLOOR FRAMING PLAN NOTES:

1. REFER TO S2.2 FOR TYPICAL FLOOR FRAMING PLAN NOTES
2. GARAGE FLOOR SHALL BE 3 1/2" CONCRETE TOPPING SLAB OVER 1 1/8" T&G DECKING. CONCRETE SHALL BE REINF W/ #3 @ 18" OC EA WAY. FLOOR DECKING SHALL HAVE 16d NAILS @ 6" OC AT ALL PANEL EDGES & DIAPHRAGM BOUNDARIES & 10"OC AT INTERMEDIATE FRAMING.
3. THE DECK GLU LAM BEAMS ARE CEDAR & WEATHER RESISTANT.
4. DRAG TRUSS ON GRID G FROM GRIDS 1-3 SHALL BE NAILED TO FLOOR DIAPHRAGM @ 4" OC TRUSS MANUFACTURE TO ACCOUNT FOR MST STRAP @ TOP CHORD.

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DESIGN:	JGG
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DATE:	05/11/18

RUDOLF RESIDENCE
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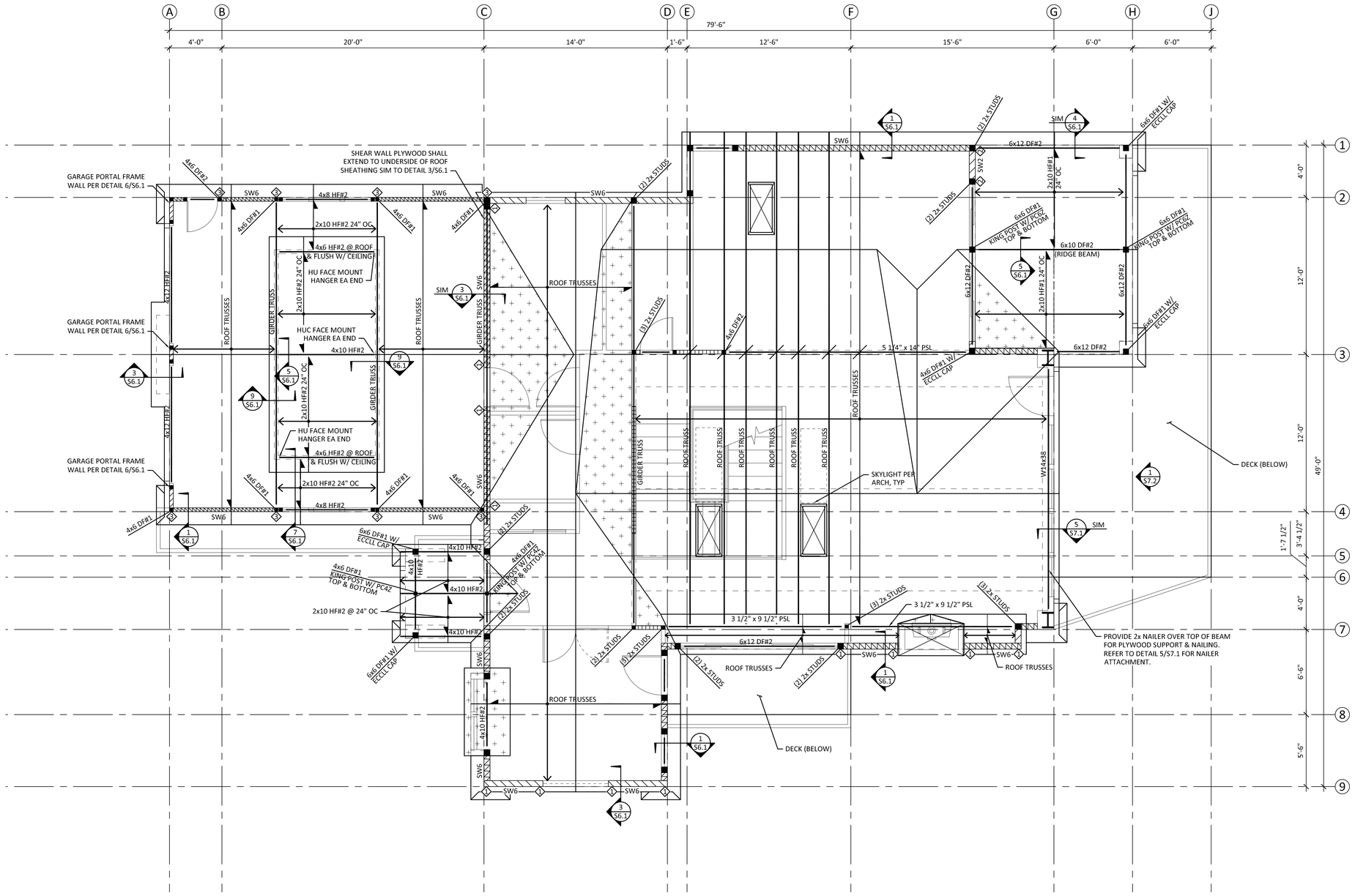
UPPER FLOOR FRAMING PLAN

FILE NAME:

SHEET:

S2.3



1 ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

2'-0" 0 2'-0" 4'-0"

TYPICAL ROOF FRAMING PLAN NOTES:

1. WALLS SHOWN ON ROOF FRAMING PLAN ARE WALLS BELOW ROOF FRAMING.
2. BEAMS SHOWN ON ROOF FRAMING PLAN SHALL BE ABOVE DOUBLE TOP PLATE UNLESS USED AS A DOOR OR WINDOW HEADER. TRUSS MFR SHALL DESIGN TRUSSES TO ACCOMMODATE BEAMS ABOVE DOUBLE TOP PLATE.
3. ROOF SHEATHING SHALL BE 5/8" PI 40/20 WITH 8d COMMON NAILS SPACED AT 6" OC AT ALL DIAPHRAGM BOUNDARIES, PANEL EDGES, SHEAR WALLS, COLLECTOR TRUSSES, AND BLOCKING OR TRUSS BLOCKING PANELS INDICATED ON PLANS. NAILING AT INTERMEDIATE FRAMING SHALL BE 8d COMMON NAILS @ 12" OC. REFER TO DETAIL 2/S5.1 FOR SHEATHING LAYOUT AND NAILING.
4. UNLESS NOTED OTHERWISE, HEADERS AT ALL EXTERIOR WALLS SHALL BE 4x6 HF#2 WHERE MAXIMUM SPAN = 5'-5".
5. UNLESS NOTED OTHERWISE, DOOR HEADERS AT INTERIOR BEARING WALLS SHALL BE 4x6 HF#2 WHERE MAXIMUM SPAN = 4'-6".
6. STUD WALL FRAMING SHALL BE 2x HF STUDS @ 16" OC FOR ALL STUD WALLS SHOWN ON THE PLAN.
7. REFER TO SHEET S6.1 FOR TYPICAL ROOF FRAMING DETAILS.
8. REFER TO DETAIL 3/S5.1 FOR CONSTRUCTION OF MULTIPLE STUD COLUMNS.
9. (B1) INDICATES COLUMN BELOW AND BEAM SHALL BE CONTINUED OVER COLUMN, TYP.
10. REFER TO THE STRUCTURAL NOTES SHEET FOR COLUMNS SUPPORTING TYPICAL BEARING WALL HEADER BEAMS.
11. HATCHED AREAS INDICATE VALLEY TRUSSES @ 24" OC APPLIED ABOVE PLYWOOD SHEATHING. REFER TO TYPICAL OVERFRAMING DETAIL ON S6.1.
12. COLUMNS AND BEARING WALLS SHOWN ON PLAN SHALL BE CONTINUED DOWN TO THE FOUNDATION UNLESS CARRIED BY A BEAM BELOW.
13. HOLDOWNS SHOWN ON ROOF FRAMING PLAN SHALL BE PLACED ON UPPER FLOOR LEVEL.
14. ROOF TRUSSES SHALL BE PRE-ENGINEERED BY OTHERS AND SPACED AT 24" OC, TYP.
15. ATTACH ALL ROOF TRUSSES TO WALLS BELOW WITH SIMPSON H2.5 HURRICANE TIES.
16. ALIGN (2) STUDS MIN BELOW ENDS OF GIRDER TRUSSES UNO ON PLANS.
17. PROVIDE ATTIC ACCESS AND VENTILATION OPENINGS IN ROOF SHEATHING AT OVERFRAMED AREAS PER THE ARCHITECTURAL DWGS.

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ROOF FRAMING PLAN

FILE NAME:

SHEET:

S2.4

CONCRETE PILE SCHEDULE

MARK	PILE SIZE	PILE REINFORCING	TIES / SPIRALS	LAYOUT	PILE LATERAL CAPACITY
P1	16"Ø	(6) #6	#3 SPIRAL W/ 3" PITCH (3) TURNS AT TOP & BOT OF CAGE		5 KIPS

BEAM AND GIRDER SCHEDULE

MARK	SIZE		BOTTOM	TOP	STIRRUPS	
	W	D			NO SIZE	SPACING FROM FACE OF SUPPORT
GB1	22	18	(4) #6	(4) #6	#3	(1) @ 2", BALANCE @ 7" OC

NOTE:
REFER TO DET 4 & 8/S4.1 FOR PLACEMENT OF REINF.

SHEAR WALL SCHEDULE

TYPE	APA-RATED SHEATHING	MIN FRAMING AT ADJOINING PANEL EDGES (SEE NOTE 5)	SHEAR WALL NAILING AT PANEL EDGES	RIM JOIST OR BLOCK CONN TO TOP PLATE	SILL PLATE NAILING TO RIM/BLKG BELOW	SILL PLATE ANCHOR BOLT TO SLAB OR FOUNDATION	FOUNDATION SILL PLATE SIZE	SHEAR CAPACITY (PLF)
SW6	15/32" ONE SIDE	2x STUD AND BLKG	0.131"Ø x 2 1/2" @ 6" OC	LTP4 OR A35 @ 24" OC	0.131"Ø x 3 1/4" @ 6" OC	5/8"Ø AB @ 5'-0" OC	2x	242
SW4	15/32" ONE SIDE	2x STUD AND BLKG	0.131"Ø x 2 1/2" @ 4" OC	LTP4 OR A35 @ 20" OC	0.131"Ø x 3 1/4" @ 4" OC	5/8"Ø AB @ 4'-0" OC	2x	350
SW3	15/32" ONE SIDE	(2) 2x STUD AND 2x FLAT BLKG	0.131"Ø x 2 1/2" @ 3" OC	LTP4 OR A35 @ 15" OC	0.131"Ø x 3 1/4" @ 3" OC	5/8"Ø AB @ 3'-0" OC	2x	455
SW2	15/32" ONE SIDE	3x STUD AND 2x FLAT BLKG	0.131"Ø x 2 1/2" @ 2" OC	LTP4 OR A35 @ 12" OC	0.131"Ø x 3 1/4" @ 2.5" OC	5/8"Ø AB @ 2'-6" OC	2x	595
2SW4	15/32" BOTH SIDES	(2) 2x STUD AND BLKG	0.131"Ø x 2 1/2" @ 4" OC	LTP4 OR A35 @ 10" OC	0.131"Ø x 3 1/4" @ 2" OC	5/8"Ø AB @ 2'-0" OC	2x	706
2SW3	15/32" BOTH SIDES	(2) 2x STUD AND BLKG	0.131"Ø x 2 1/2" @ 3" OC	LTP4 OR A35 @ 7.5" OC	0.131 x 3 1/4" @ 1.5" OC	5/8"Ø AB @ 1'-6" OC	2x	910
2SW2	15/32" BOTH SIDES	3x STUD AND BLKG	0.131"Ø x 2 1/2" @ 2" OC	LTP4 OR A35 @ 6" OC	0.131 x 3 1/4" @ 1.5" OC	5/8"Ø AB @ 1'-0" OC	2x	1190

NOTES:
1. REFER TO THE TYPICAL SHEAR WALL DETAIL.
2. THE VALUES IN THIS TABLE ARE APPROPRIATE FOR HF GRADE STUDS AND HF GRADE PLATES & RIM/BLOCKING.
3. NAILS AT ADJOINING PANEL EDGES SHALL BE STAGGERED EACH SIDE OF THE COMMON JOINT.
4. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS, OR FRAMING SHALL BE 3x AT ADJOINING PANEL EDGES AND NAILS SHALL BE STAGGERED.
5. WHERE TABLE SPECIFIES (2) 2x FRAMING, CONNECT (2) 2x STUDS AND BLOCKING AS FOLLOWS: SW3 = (2) 0.131"Ø @ 3.5" OC, 2SW4 = 0.131"Ø @ 2.5" OC, 2SW3 = (2) 0.131"Ø @ 1.5" OC.
6. NOTE THAT 3x FRAMING MAY BE USED IN LIEU OF (2) 2x FRAMING SPECIFIED IN TABLE.
7. INTERMEDIATE FRAMING TO BE WITH 2x MINIMUM MEMBERS. FIELD NAILING 12" OC MAXIMUM.
8. AT ALL 5/8"Ø SILL PLATE ANCHOR BOLTS, INSTALL 1/4" x 3" x 3" PLATE WASHERS. EDGE OF PLATE WASHER SHALL BE WITHIN 1/2" OF SHEATHED EDGE. FOR DOUBLE SIDED SHEAR WALLS, USE WIDER PLATE WASHERS AS REQUIRED TO MEET THIS REQUIREMENT.
9. PROVIDE A MINIMUM OF 7" EMBEDMENT FOR AB INTO FOUNDATION OR STEM WALL.
10. 7/16" SHEATHING MAY BE USED IN PLACE OF 15/32" SHEATHING PROVIDED ALL STUDS ARE SPACED 16" OC OR PANELS ARE APPLIED WITH LONG DIMENSION ACROSS STUDS.

HOLDOWN SCHEDULE

MARK	TYPE	MIN CHORD SIZE	STUD NAILS OR BOLTS	ANCHOR BOLT (SEE NOTE 4)	CAPACITY (LB)
1	MST48	(2) 2x	(17) 16d EA END	-	3,640
2	MST72	(2) 2x	(31) 16d EA END	-	6,475
3	HDU8	4x DF#2	(20) SDS 1/4" x 2 1/2" SCREWS	7/8"Ø	6,970
4	HDU11	6x DF#2	(30) SDS 1/4" x 2 1/2" SCREWS	1"Ø	9,535
5	HDU14	6x DF#2	(36) SDS 1/4" x 2 1/2" SCREWS	1"Ø	14,445

NOTES:
1. REFER TO THE LATEST SIMPSON STRONG-TIE CATALOG FOR ADDITIONAL INSTALLATION REQUIREMENTS.
2. REFER TO DETAIL 7/S5.2 FOR INSTALLATION OF MST FLOOR TO FLOOR STRAPS. REFER TO DETAILS 8 & 9/S5.2 FOR CONNECTION OF STRAP TO BEAM BELOW.
3. INSTALL HD HOLDOWNS AT FOUNDATION WALLS OR THICKENED SLAB FOOTINGS PER DETAIL 4/S4.2.
4. AT ALL HOLDOWN CHORDS, PROVIDE PANEL EDGE NAILING PER SHEAR WALL SCHED.

JOIST SCHEDULE

MARK	JOIST	SPACING	REMARKS
DJ1	2x12 HF#2	16" OC	SEE NOTE 2 & 3
DJ2	1 1/2" x 16" LSL	16" OC	SEE NOTE 1 & 2
DJ3	2x8 HF#2	16" OC	SEE NOTE 2 & 3

NOTES:
1. FOR JOIST HANGERS REFER TO THE LATEST SIMPSON STRONG-TIE CATALOG FOR ALL INSTALLATION REQUIREMENTS.
2. SOLID SAWN DECK JOISTS SHALL HANGER OFF THE WALL RIM USING LU SERIES FACE MOUNT HANGERS.
3. ALL LUMBER EXPOSED TO WEATHER SHALL BE PRESSURE TREATED PER STRUCTURAL NOTES.

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DESIGN: JGG
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CHECK: GAG
JOB NO: 15227.10
DATE: 05/11/18

RUDOLF RESIDENCE
8253 W MERCER WAY
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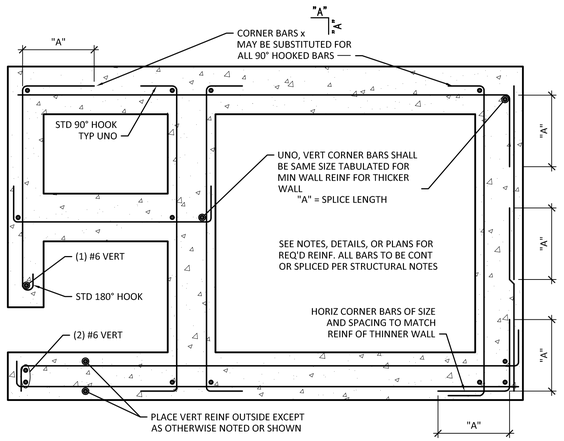
SCHEDULES

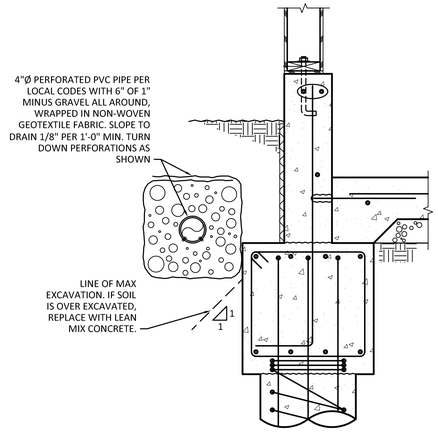
FILE NAME:

SHEET:

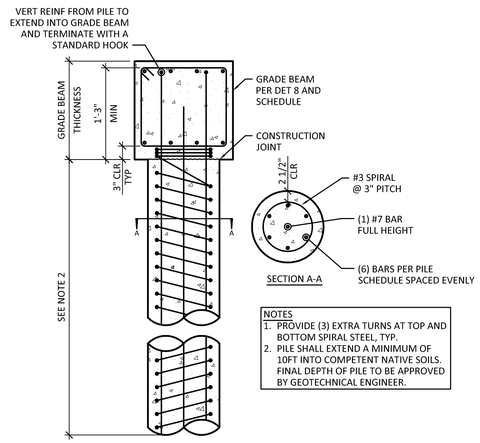
S3.1



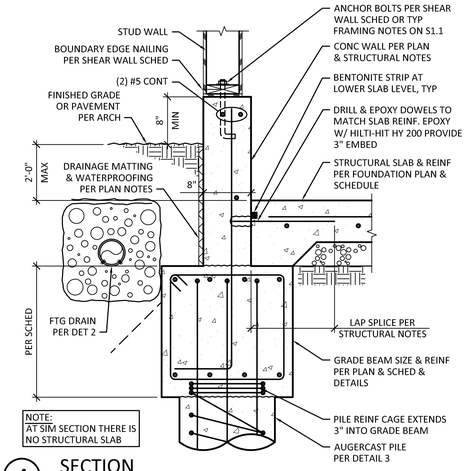
1 TYPICAL CONCRETE WALL REINFORCING DETAIL
SCALE: NTS



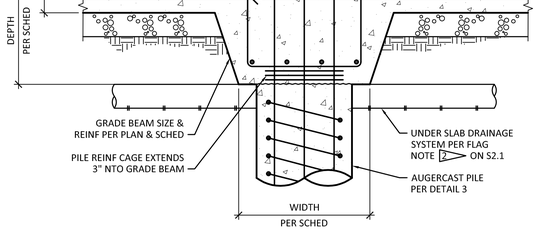
2 TYPICAL FOOTING DRAIN
SCALE: 1" = 1'-0"



3 PILE ELEVATION
SCALE: 3/4" = 1'-0"



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



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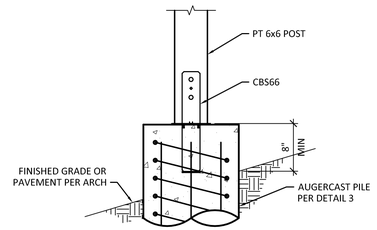
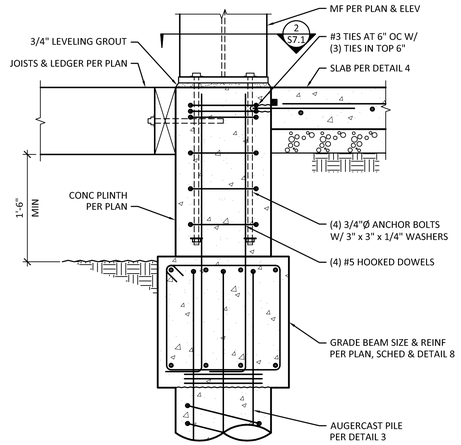


6 SECTION
SCALE: 1" = 1'-0"



7 SECTION
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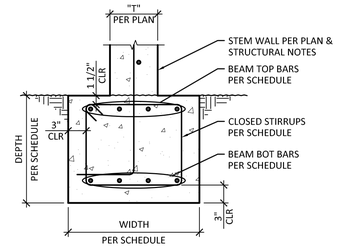
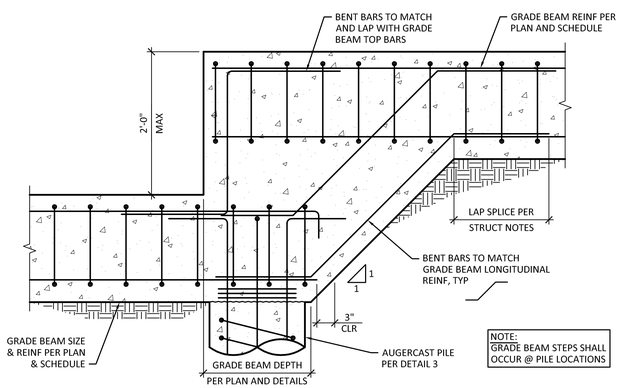
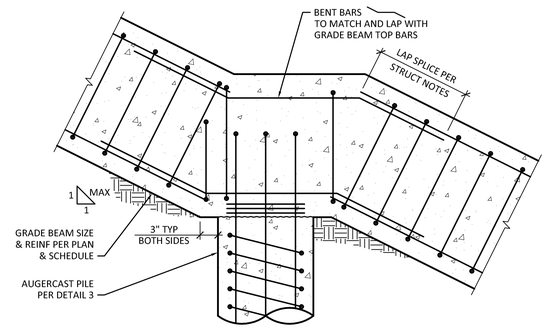


8 TYPICAL CONCRETE BEAM SECTION
SCALE: 1" = 1'-0"



9 TYPICAL STEPPED GRADE BEAM SECTION
SCALE: 1" = 1'-0"



10 TYPICAL SLOPE GRADE BEAM SECTION
SCALE: 1" = 1'-0"

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RUDOLF RESIDENCE
8253 W MERCER WAY
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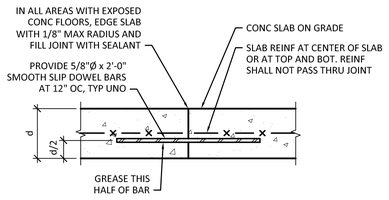
FOUNDATION DETAILS

FILE NAME:

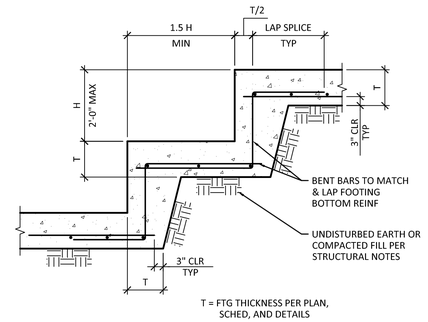
SHEET:

S4.1



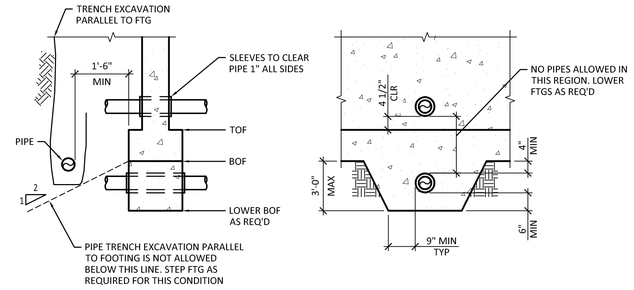
1 TYPICAL SLAB ON GRADE DETAILS

SCALE: 1" = 1'-0"



2 TYPICAL STEPPED WALL FOOTING

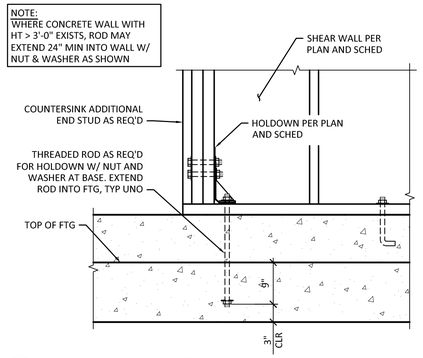
SCALE: 1/2" = 1'-0"



3 TYPICAL PIPE PENETRATION AT WALLS AND FOOTINGS

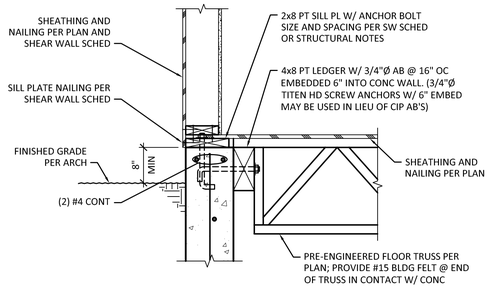
SCALE: 1/2" = 1'-0"

NOTE:
WHERE CONCRETE WALL WITH HT > 3'-0" EXISTS, ROD MAY EXTEND 24" MIN INTO WALL W/ NUT & WASHER AS SHOWN



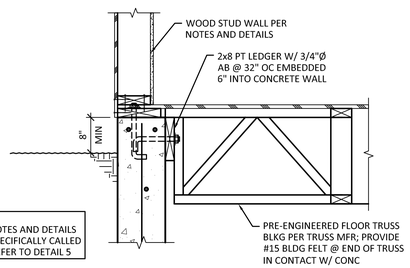
4 HOLDOWN DETAIL

SCALE: 1" = 1'-0"



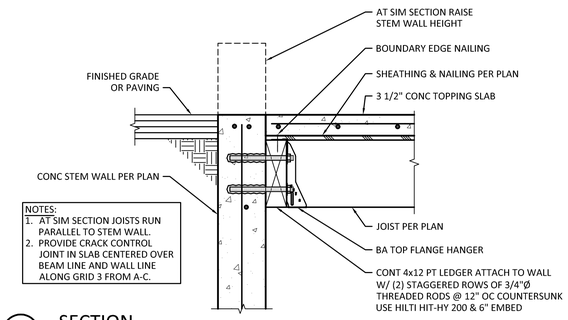
5 SECTION

SCALE: 1" = 1'-0"



6 SECTION

SCALE: 1" = 1'-0"



7 SECTION

SCALE: 1/2" = 1'-0"

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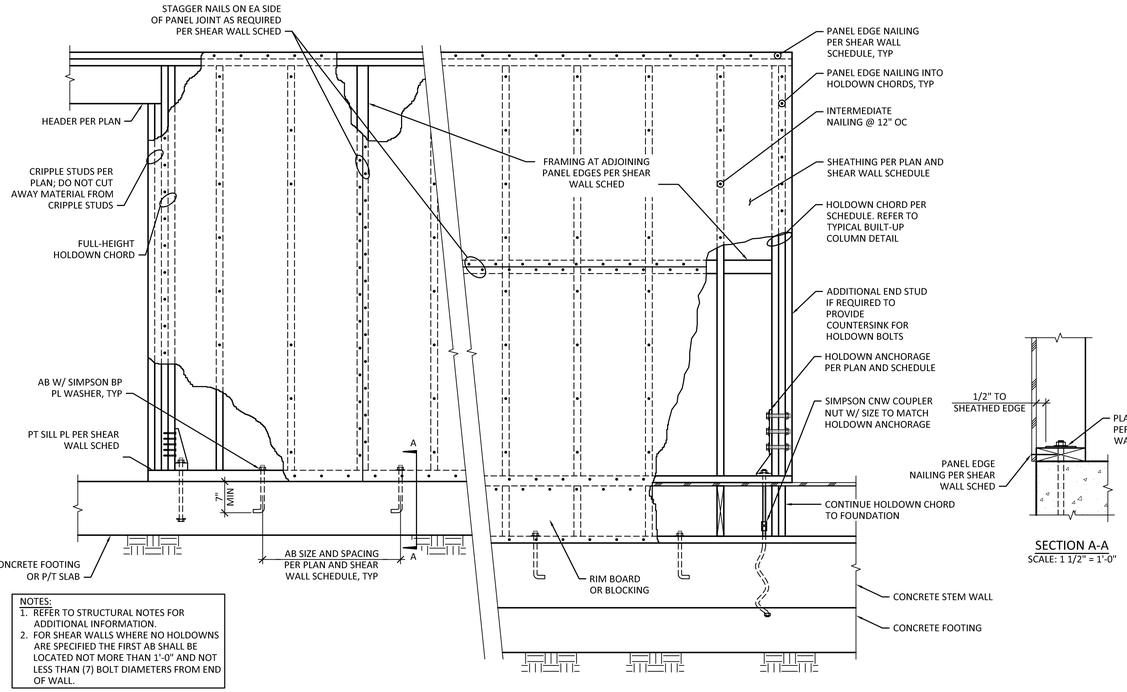
FOUNDATION DETAILS

FILE NAME:

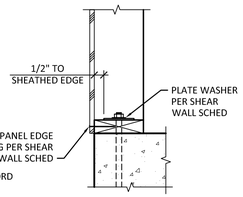
SHEET:

S4.2



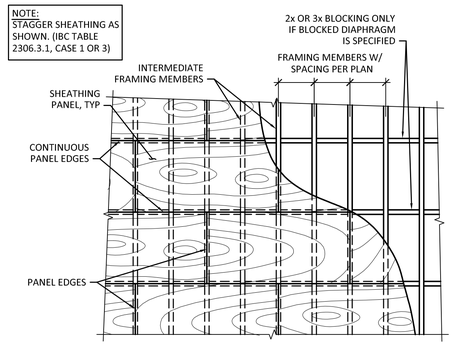
NOTES:
1. REFER TO STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
2. FOR SHEAR WALLS WHERE NO HOLDOWNS ARE SPECIFIED THE FIRST AB SHALL BE LOCATED NOT MORE THAN 1'-0" AND NOT LESS THAN (7) BOLT DIAMETERS FROM END OF WALL.

1 TYPICAL SHEAR WALL DETAIL
SCALE: 3/4" = 1'-0"

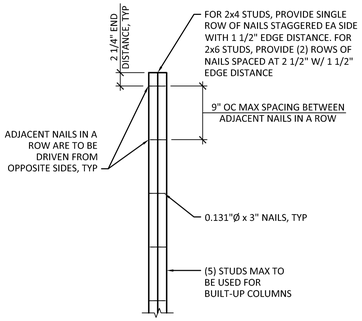


SECTION A-A
SCALE: 1 1/2" = 1'-0"

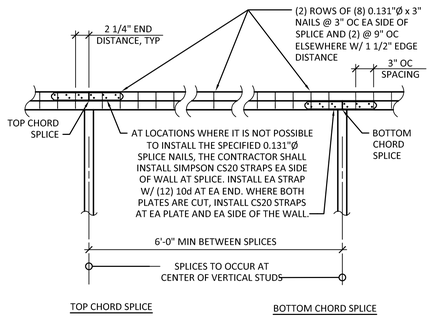
NOTE:
STAGGER SHEATHING AS SHOWN. (IBC TABLE 2306.3.1, CASE 1 OR 3)



2 TYPICAL FLOOR/ ROOF SHEATHING DETAIL
SCALE: NTS



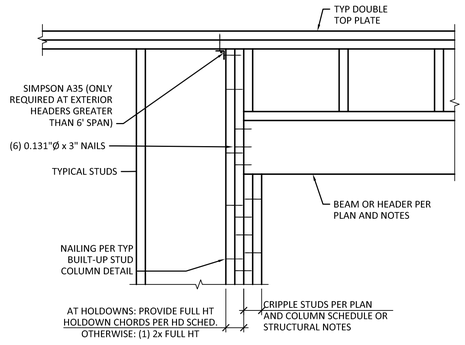
3 TYPICAL BUILT-UP STUD COLUMN DETAIL
SCALE: 1" = 1'-0"



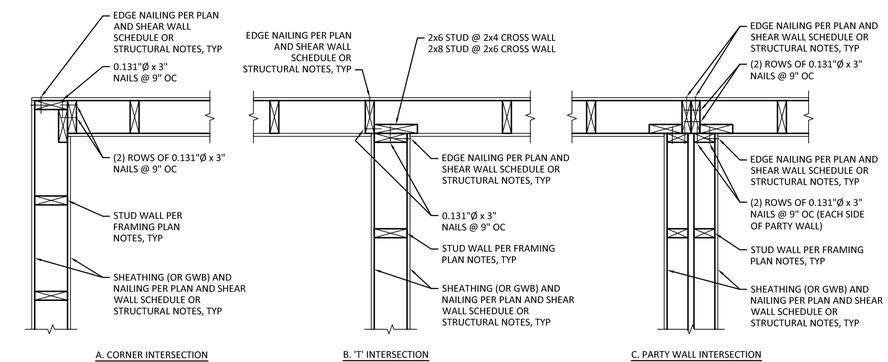
TOP CHORD SPLICE

BOTTOM CHORD SPLICE

4 TYPICAL TOP PLATE SPLICE DETAIL
SCALE: 1" = 1'-0"



5 TYPICAL HEADER DETAIL
SCALE: 1" = 1'-0"

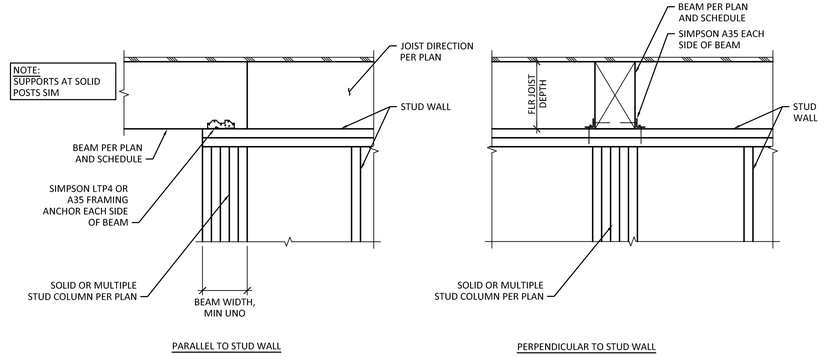


A. CORNER INTERSECTION

B. 'T' INTERSECTION

C. PARTY WALL INTERSECTION

6 TYPICAL WALL INTERSECTION DETAIL
SCALE: 1" = 1'-0"



PARALLEL TO STUD WALL

PERPENDICULAR TO STUD WALL

7 TYPICAL FLUSH BEAM SUPPORT DETAILS
SCALE: 1" = 1'-0"

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01/18/19

MARK	DATE	DESCRIPTION
	05/11/18	PERMIT SUBMITTAL
	01/18/19	COMMENT RESPONSE

DESIGN:	JGG
DRAWN:	ZOS
CHECK:	GAG
JOB NO:	15227.10
DATE:	05/11/18

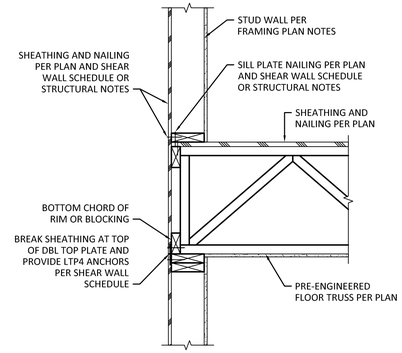
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

WOOD FRAMING DETAILS

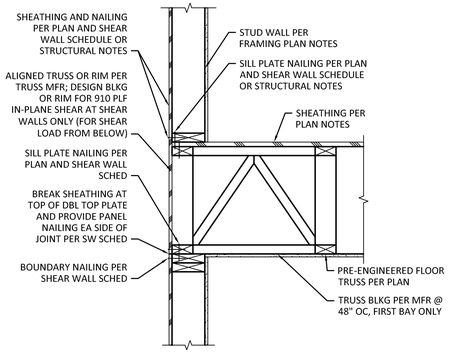
FILE NAME

SHEET:

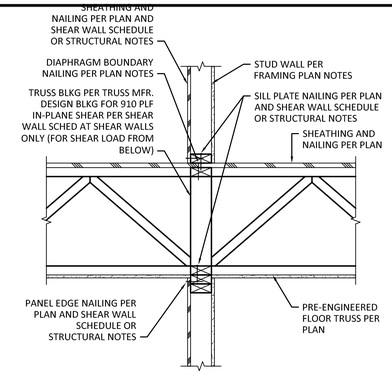
S5.1



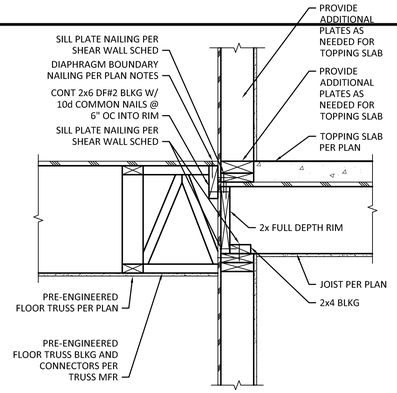
1 EXTERIOR WALL FRAMING DETAIL
SCALE: 1" = 1'-0"



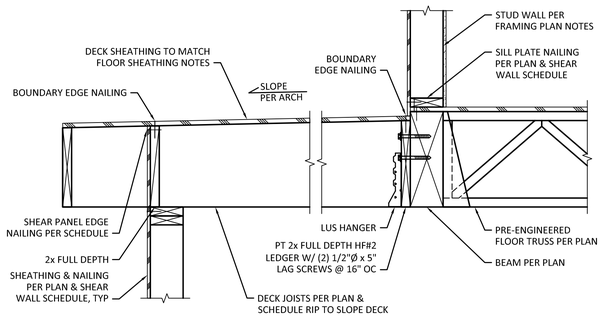
2 EXTERIOR WALL FRAMING DETAIL
SCALE: 1" = 1'-0"



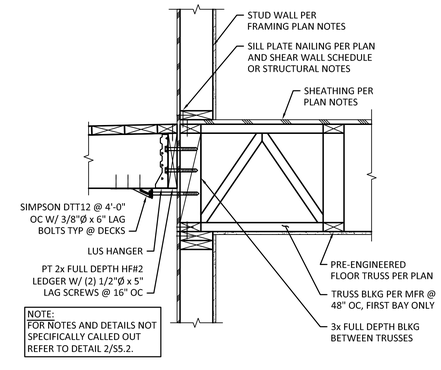
3 INTERIOR BEARING ON BOTH SIDES
SCALE: 1" = 1'-0"



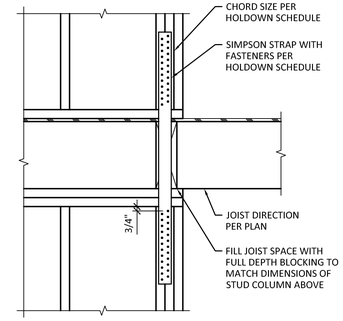
4 SECTION
SCALE: 1" = 1'-0"



5 SECTION
SCALE: 1" = 1'-0"

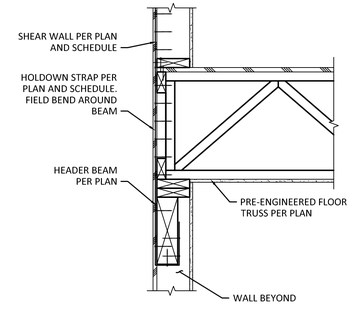


6 DECK CONNECTION
SCALE: 1" = 1'-0"

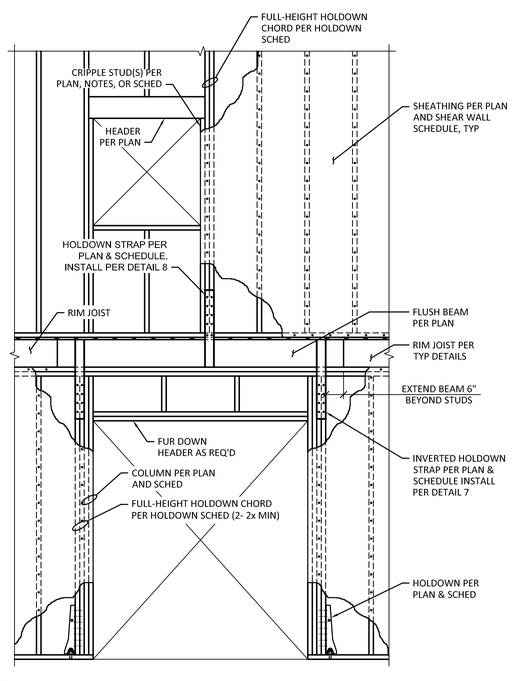


A. STRAP

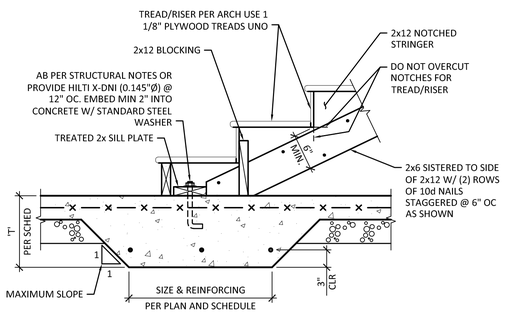
7 TYPICAL STRAP
SCALE: 1" = 1'-0"



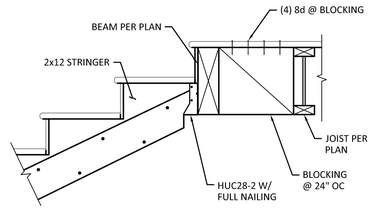
8 HOLDOWN TO BEAM
SCALE: 1" = 1'-0"



9 TYPICAL HOLDOWN OVER OPENING DETAIL
SCALE: 1/2 = 1'-0"

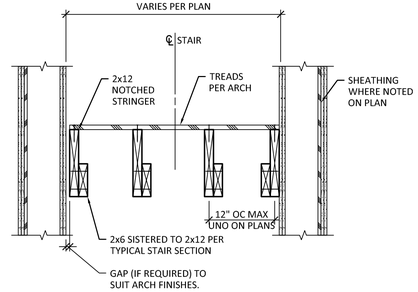


A. TYPICAL STRINGER TO LOWER LANDING

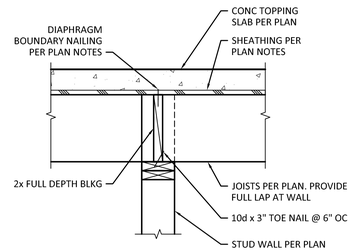


B. TYPICAL STRINGER TO UPPER LANDING

10 TYPICAL STAIR SECTIONS
SCALE: 1" = 1'-0"



11 TYPICAL STAIR SECTION
SCALE: 1" = 1'-0"



12 SECTION
SCALE: 1" = 1'-0"

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GREG GUILLEN — STATE OF WASHINGTON — 15227 — REGISTERED PROFESSIONAL ENGINEER

01/18/19

MARK	DATE	DESCRIPTION
	05/11/18	PERMIT SUBMITTAL
	01/18/19	COMMENT RESPONSE

DESIGN:	JGG
DRAWN:	ZOS
CHECK:	GAG
JOB NO:	15227.10
DATE:	05/11/18

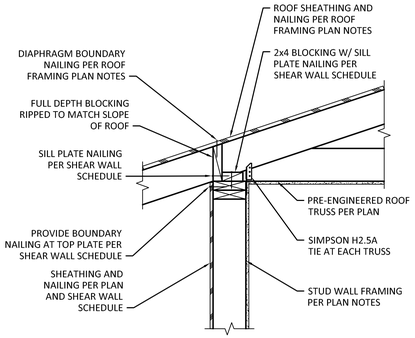
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

WOOD FRAMING DETAILS

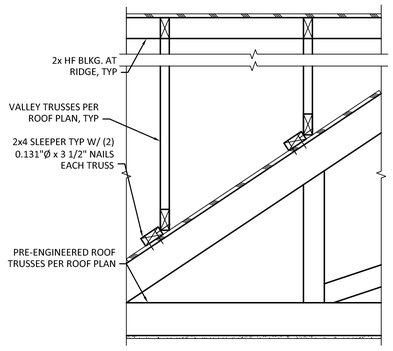
FILE NAME:

SHEET:

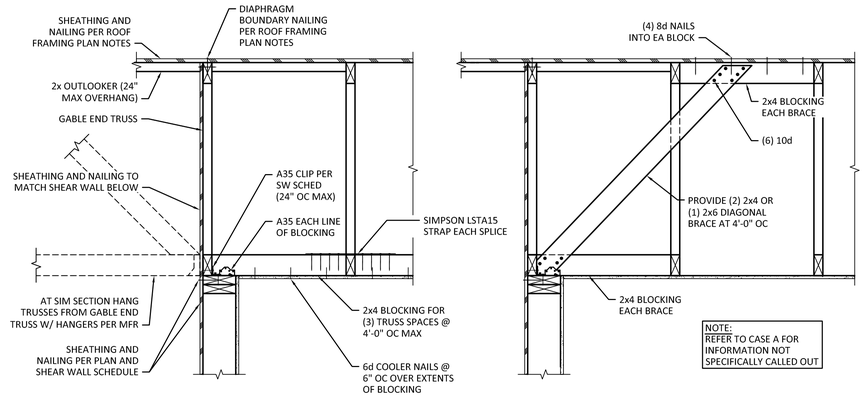
S5.2



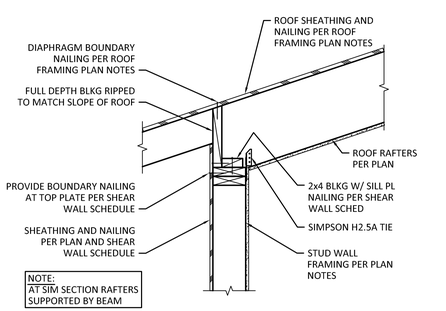
1 TYPICAL TRUSS SUPPORT DETAIL
SCALE: 1" = 1'-0"



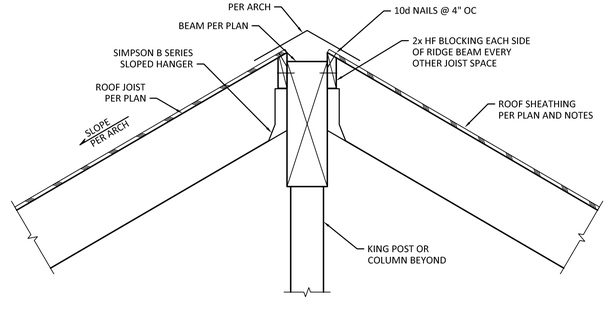
2 TYPICAL OVERFRAMING DETAIL
SCALE: 1" = 1'-0"



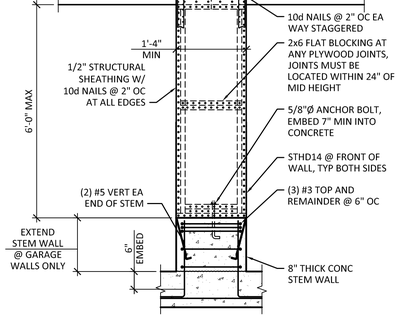
3 TYPICAL GABLE END SECTION
SCALE: 1" = 1'-0"



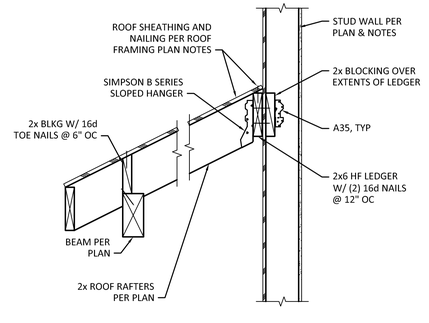
4 TYPICAL RAFTER SUPPORT DETAIL
SCALE: 1" = 1'-0"



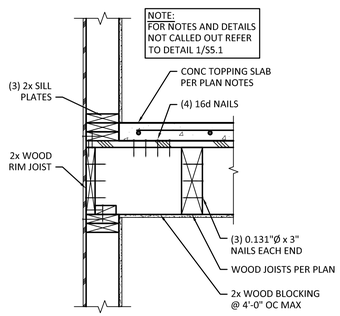
5 SECTION
SCALE: 1" = 1'-0"



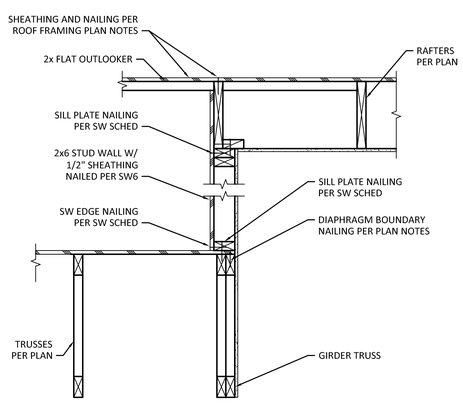
6 PORTAL FRAME AT GARAGE ENTRANCE
SCALE: 1/2" = 1'-0"



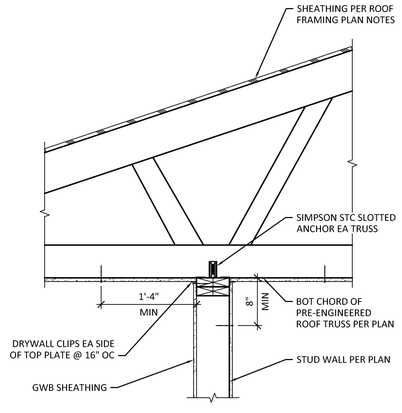
7 SECTION
SCALE: 1" = 1'-0"



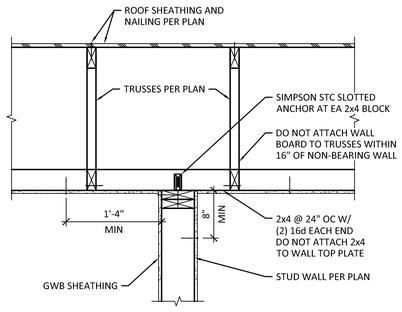
8 TYPICAL STUD WALL FRAMING DETAIL
SCALE: 1" = 1'-0"



9 SECTION
SCALE: 1" = 1'-0"



10 INTERIOR NON-BEARING WALL TO ROOF TRUSS CONNECTION
SCALE: 1" = 1'-0"



1
11 INTERIOR NON-BEARING WALL TO TRUSS BLOCKING
SCALE: 1" = 1'-0"

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GREG GUILLEN STATE OF WASHINGTON 23381 REGISTERED PROFESSIONAL ENGINEER
01/18/19

MARK	DATE	DESCRIPTION
	05/11/18	PERMIT SUBMITTAL
A	01/18/19	COMMENT RESPONSE

DESIGN:	JGG
DRAWN:	ZOS
CHECK:	GAG
JOB NO:	15227.10
DATE:	05/11/18

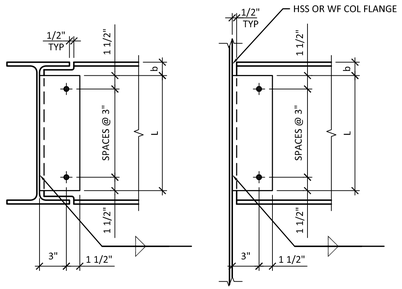
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

ROOF FRAMING DETAILS

FILE NAME:

SHEET:

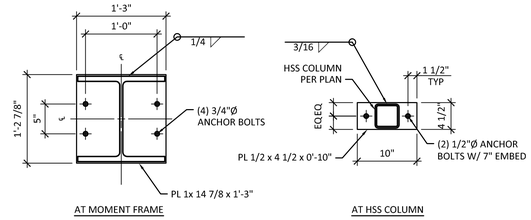
S6.1



BEAM SIZE	NO OF BOLTS	PL LENGTH (L)	PL THICKNESS	WELD SIZE	DIM (a)	DIM (b)
W10	(2) 7/8"Ø	6"	1/4"	1/4"	1 1/2"	1 1/2"
W14	(3) 7/8"Ø	9"	3/8"	5/16"	1 1/2"	1 1/2"

NOTES:
1. ALL BOLTS SHALL BE A490-N, TYP UNO BOLT HOLES SHALL BE STANDARD SIZE, TYP UNO.
2. BOLT INSTALLATION SHALL BE PER AISC SPECIFICATIONS, LATEST EDITION.

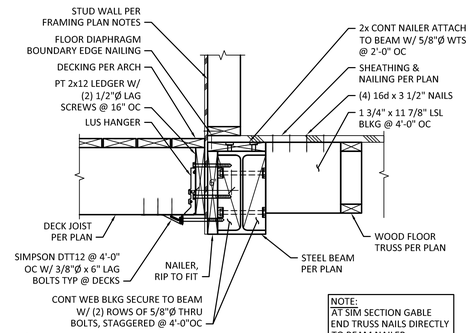
1 TYPICAL SINGLE PLATE SHEAR CONNECTION TABLE
SCALE: NTS



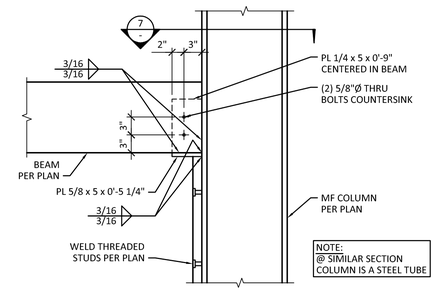
2 TYPICAL BASE PLATE DETAIL
SCALE: 1" = 1'-0"

3 NOT USED
SCALE: 1 1/2" = 1'-0"

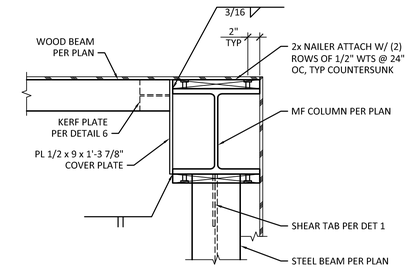
4 NOT USED
SCALE: 1" = 1'-0"



5 SECTION
SCALE: 1" = 1'-0"



6 KERF PLATE AT STEEL COLUMN
SCALE: 1" = 1'-0"



7 WOOD BEAM PERPENDICULAR TO MF COLUMN
SCALE: 1" = 1'-0"

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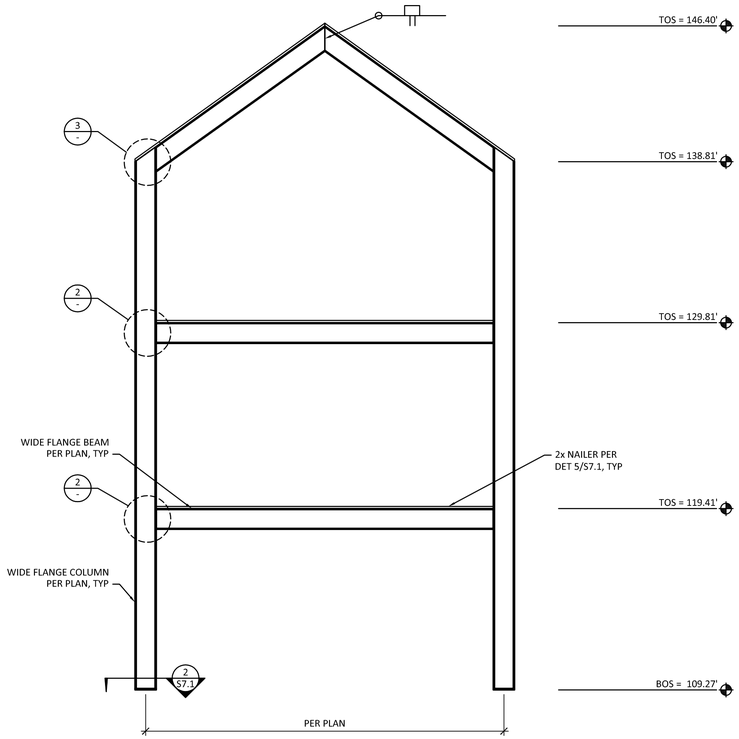
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

STEEL FRAMING DETAILS

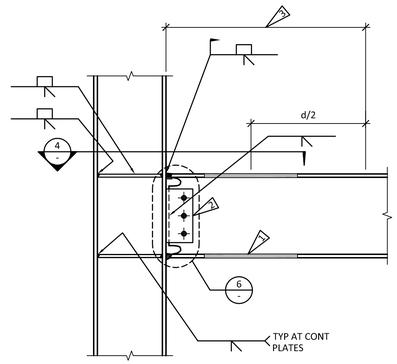
FILE NAME:

SHEET:

S7.1

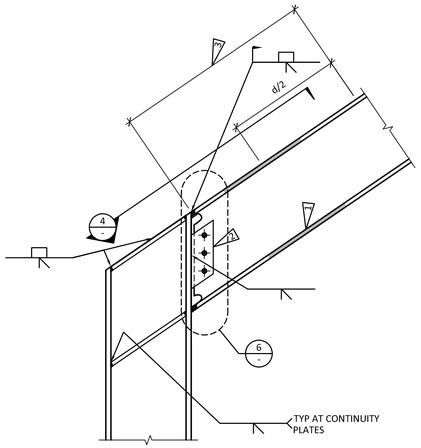


NOTE:
CONTRACTOR VERIFY ALL
TOP OF STEEL ELEVATIONS
W/ ARCHITECTURAL DWGS



FLAG NOTES:

1. SURFACE ROUGHNESS NOT GREATER THAN 500 MICROINCHES.
2. NO PAINT INSIDE FAYING ZONE.
3. NO DRILLING OR WELDING IN THIS PROTECTED AREA.



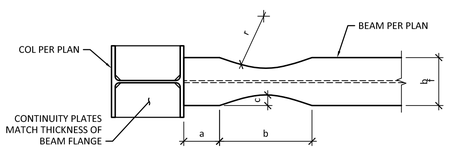
FLAG NOTES:

1. SURFACE ROUGHNESS NOT GREATER THAN 500 MICROINCHES.
2. NO PAINT INSIDE FAYING ZONE.
3. NO DRILLING OR WELDING IN THIS PROTECTED AREA.

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

2 TYPICAL SEISMIC BEAM SECTION
SCALE: 1" = 1'-0"

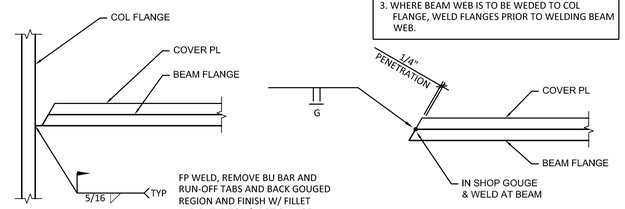
3 SEISMIC BEAM SECTION
SCALE: 1/4" = 1'-0"



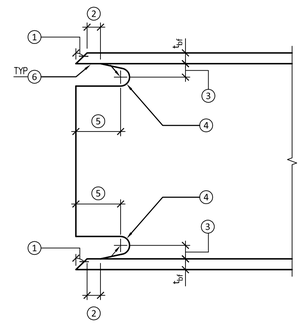
$a = 0.6\ b_f \quad b = 0.75\ d$
$c = 0.2\ b_f$
$r = \dfrac{4c^2 + b^2}{8c}$

NOTES:
1. TOLERANCES FOR RBS SECTION - a : ± 15%
   b : ± 15%
   c : ± 1/4"
2. GOUGES UP TO 1/4" DEEP SHALL BE REPAIRED BY GRINDING OUT A LENGTH OF 10x DEPTH OF GOUGE.

4 TYPICAL REDUCED BEAM SECTION
SCALE: 1" = 1'-0"



5 MOMENT FRAME BEAM FLANGE WELD
SCALE: NTS



NOTES:

1. BEVEL AS REQUIRED PER AWS D1.1 FOR SELECTED GROVE WELD PROCEDURE.
2. LARGER OF t_{bf} OR 1/2" (PLUS $1/2t_{bf}$ OR MINUS $1/4t_{bf}$).
3. $3/4t_{bf}$ TO t_{bf} W/ 3/4" MIN (±1/4").
4. 3/8" MIN RADIUS (PLUS NOT LIMITED, MINUS 0).
5. $3t_{bf}$ (±1/2").
6. REFER TO FEMA 353 DOCUMENT, RECOMMENDED SPECIFICATIONS AND QUALITY ASSURANCE GUIDELINES FOR STEEL MOMENT-FRAME CONSTRUCTION FOR SEISMIC APPLICATIONS, FOR FABRICATION DETAILS INCLUDING CUTTING METHODS AND SMOOTHNESS REQUIREMENTS.

6 TYPICAL WELD ACCESS HOLE
SCALE: 3" = 1'-0"

CG ENGINEERING
250 4TH AVE. S., SUITE 200
EDMONDS, WASHINGTON 98020
PHONE (425) 778-8500
FAX (425) 778-5536

GREG GUILLEN
STATE OF WASHINGTON
23381
REGISTERED
PROFESSIONAL ENGINEER
01/18/19

MARK	DATE	DESCRIPTION
	05/11/18	PERMIT SUBMITTAL
	01/18/19	COMMENT RESPONSE

DESIGN:	JGG
DRAWN:	ZOS
CHECK:	GAG
JOB NO:	15227.10
DATE:	05/11/18

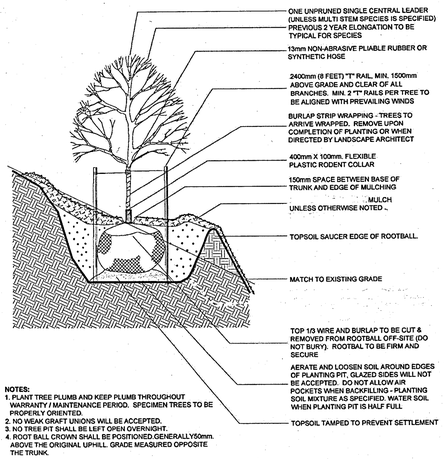
RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

STEEL FRAMING DETAILS

FILE NAME:

SHEET:

S7.2

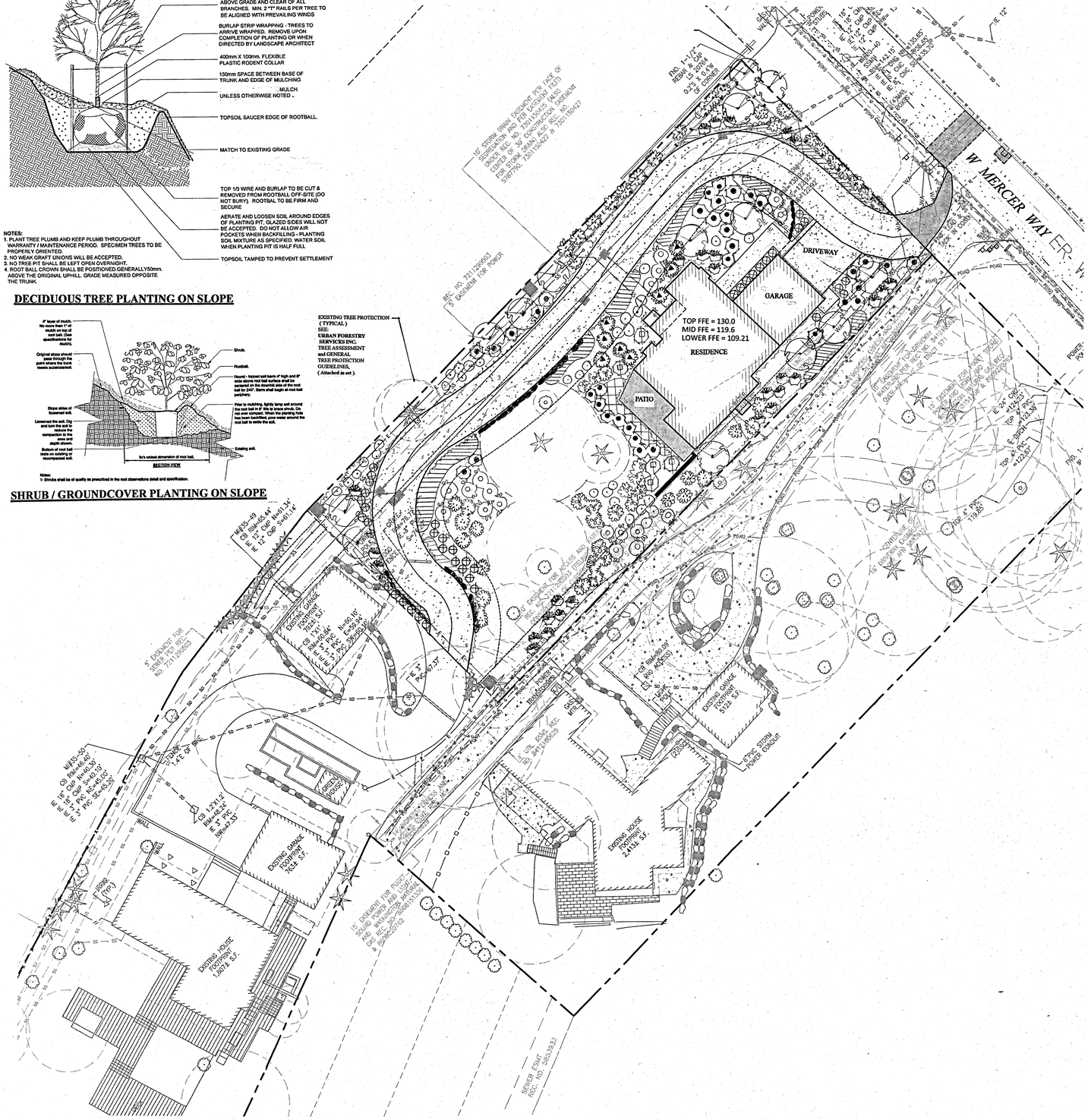


NOTES:
1. PLANT TREE PLUMB AND KEEP PLUMB THROUGHOUT WARRANTY / MAINTENANCE PERIOD. SPECIMEN TREES TO BE PROPERLY ORIENTED.
2. NO WEAK GRAFT UNIONS WILL BE ACCEPTED.
3. NO TREE PIT SHALL BE LEFT OPEN OVERNIGHT.
4. ROOT BALL CROWN SHALL BE POSITIONED GENERALLY 50mm. ABOVE THE ORIGINAL UPHILL GRADE MEASURED OPPOSITE THE TRUNK.

DECIDUOUS TREE PLANTING ON SLOPE

Notes:
1- Shrubs shall be of quality as prescribed in the root observations detail and specification.

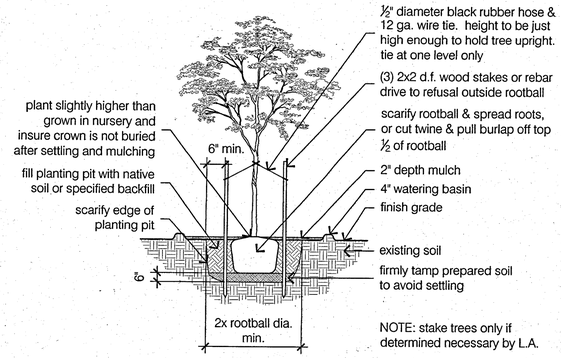
SHRUB / GROUNDCOVER PLANTING ON SLOPE



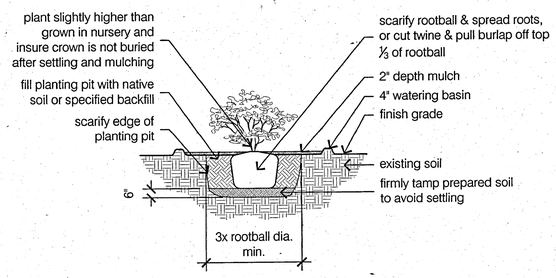
PLANT SCHEDULE

Symbol	Qty	Botanical / Common name	Size / Spac
	14	Acer circinatum / Vine Maple	5 - 7' Ht multi stem
	8	Arbutus unedo 'Compacta' / Dwarf Strawberry Tree	5 G, full As shown
	38	Cornus sericea 'Isanti'/ Isanti Red Osier Dogwood	5 G, full As shown
	5	Physocarpus opufolius 'Diablo'/ Ninebark	5 G, full As shown
	17	Rosa rugosa / Rugosa Rose	5 G, full As shown
	36	Lonicera pileata / Boxleaf Honeysuckle	2 G, full As shown
	28	Mahonia aquifolium / Tall Oregon grape	2 G, full As shown
	18	Holidiscus discolor / Oceanspray	1 G, full As shown
	45	Polystichum munitum / Sword Fern	1 G, full As shown
	35	Vaccinium ovatum / EG Huckleberry	1 G, full As shown
	As Shown	Fragaria chiloensis / Beach strawberry	4", 18"oc, tri space
	As Shown	Gaultheria shallon / Salal	4", 36" oc, tri space

NOTE: Mulch planting beds adjacent to residence with 3" dark bark. Mulch bare soil surfaces (up to moderate slopes) with 3" clean arborist wood chips.



DECIDUOUS TREE PLANTING



SHRUB / GROUNDCOVER PLANTING

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
FRANCINE M. DAY
CERTIFICATE NO. 741
francinemday
LANDSCAPE ARCHITECTURE
206.930.7493
WWW.francinemday.com

PLANTING PLAN and DETAILS
DB: TM-B
Date: 1.14.19, 4.10.19

RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

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LANDSCAPE SPECIFICATIONS and STANDARDS

GENERAL STANDARDS

GUARANTEE AND REPLACEMENT

Contractor shall replace, at no additional cost to Owner, any turf or plant materials damaged as a result of improper maintenance attention or procedures. Replacement material shall be of the same size and variety as the dead or damaged material. Replace plant material within two weeks of identification of damage. Alternatives to size, variety and scheduling of replacement only by written permission of Owner.

Contractor is not responsible for losses, repair or replacement of damaged work or plant material resulting from theft, extreme weather conditions, vandalism, vehicular incidents (other than Contractor's vehicles) or the acts of others over whom they have no reasonable control.

Contractor shall inform Owner on a monthly basis of plant losses not covered by warranty and unrelated to the maintenance activities. Provide Owner with the cause of the plant loss, and provide recommendations for replacement along with pricing for replacement.

CONTRACTOR STAFF TRAINING AND EXPERIENCE

Contractor will provide staff able to perform work at the highest standards of horticultural excellence. Key staff shall have current knowledge of best management practices (BMP's) regarding: safety, hazardous materials spill response, plant health, pruning, integrated pest management, pesticide application, and irrigation maintenance. Owner reserves the right to demand the replacement of Contractor's staff who do not meet the owner's standards for safety, professionalism, or horticultural knowledge.

All work shall be performed under the direct on-site supervision of a qualified landscape professional with a minimum of five years combined horticultural education and experience. Preference will be given to an individual with at least a two year horticultural degree or Certified Landscape Technician (CLT), combined with two years work experience, or greater.

All irrigation maintenance and repairs shall be performed by, or under the direct supervision of, a Certified Irrigation Technician (CIT) or Certified Irrigation Auditor.

All pesticide applications shall be performed by a Contractor (or sub-contractor) licensed and insured as a Washington State Commercial Applicator. In addition, the staff doing the pesticide application shall be licensed as Commercial Operators. License numbers will be provided to the Owner prior to award of contract.

All pruning will be performed by, or under the direct on-site supervision of, staff with documented education and training in proper and naturalistic pruning techniques. Pruning of trees greater than six inches DBH will only be performed by an ISA certified Arborist.

OWNER/CONTRACTOR COMMUNICATION

Contractor to provide a supervisor to act on Owner's behalf regarding all matters pertaining to the performance of the Landscape Service. Contractor must notify Owner when the supervisor will be on vacation or other leave of absence and who will serve as a substitute.Provide Owner with an emergency contact list identifying the names, positions held, and phone numbers of key maintenance personnel. Provide mobile and pager numbers for the landscape maintenance manager and site supervisor.Attend meetings and site inspections of the grounds as requested by Owner.

LANDSCAPE SERVICE SCHEDULING

Establish a schedule and Gantt (or equal to) chart for regular maintenance activities by area and submit to Owner for review. Contractor to review proposed schedules with Owner at the regularly scheduled meetings and adjust as necessary to avoid conflicts.

SCOPE OF WORK

GENERAL PRACTICE GUIDELINES FOR MATERIALS AND EXECUTION

This document is intended as a benchmark of the Owner's minimum standards for maintenance, repair and improvements. However, the Owner respects the Contractor as a professional and as such, will take under consideration, any and all recommendations made by the Contractor.

Contractor shall furnish all labor, equipment, and materials necessary to complete the maintenance of turf and plantings, as specified herein. It is the intent of the Owner that this site be maintained in a resource-efficient, sustainable, and cost-effective manner.

Maintenance shall consist of fertilization, soil building, pruning, mowing, irrigation, IPM, weed/insect/disease control, litter control and any other procedures consistent with good horticultural practice necessary to ensure normal, vigorous, and healthy growth of turf and landscape plantings.

When performing any work requiring subsurface excavation, Contractor shall take care to avoid damage to existing utilities and vegetation. Contractor shall contact Utility Locate

Contractor is encouraged to use non-polluting devices like rakes and brooms when feasible. Owner prefers that blowers and other power equipment are low-decibel, low-fossil fuel consumption, and low-emissions models.

Contractor is encouraged to develop cultural practices which incorporate on-site recycling of organic materials, such as leaves and grass clippings, and the use of recycled materials in its maintenance operations.

MATERIALS AND EXECUTION – INTEGRATED PEST MANAGEMENT AND PESTICIDE APPLICATIONS

INTEGRATED PEST MANAGEMENT (IPM)

Owner strongly encourages environmentally sensitive maintenance practices. The principles of integrated pest management (IPM) shall be employed. The intent is to limit any pesticide (including herbicide) applications through healthy landscape management practices.

IPM is an approach to pest control that utilizes regular monitoring to determine if and when treatments are needed and employs physical, mechanical, cultural, biological, and educational tactics to keep pest numbers low enough to prevent unacceptable damage or annoyance. Additional treatments, such as pesticide applications, are made only when and where monitoring has indicated that the pest will cause unacceptable economic, medical, or aesthetic damage. Treatments are not made according to a predetermined schedule. Treatments are chosen and timed to be most effective and least-hazardous to non-target organisms and the general environment. (adapted from Bio-Integral Resource Center)

Contractor shall consider pesticide applications only as a last resort and only after other methods of control are proven ineffective.

NOXIOUS WEED CONTROL

Noxious Weed Control is mandated by the King County HYPERLINK "http://dnr.metrokc.gov/wlr/lands/weeds/weed_control_board.htm" Noxious Weed Control Board HYPERLINK "http://dnr.metrokc.gov/wlr/lands/weeds/photos/2006Crew.JPG" based on the state weed control law, Chapter 17.10 RCW. Assistance and weed lists (Class A, B, C, Non-designate, and Weeds of concern) are available from the King County Noxious Weed Control Program at HYPERLINK "http://dnr.metrokc.gov/wlr/lands/weeds/" http://dnr.metrokc.gov/wlr/lands/weeds/, or 206-296-0290.

Contractor shall begin control of any King County Class A, B, or C Weeds upon identification. Control will follow non-chemical IPM control techniques outlined in King County's Best Management Practices, Alerts, and other documents posted on the Noxious Weed website. Pesticide applications can only be considered as a last resort when non-chemical methods have proved ineffective. Follow the specifications listed in section 3.3 Pesticide Applications, above.

Non-designate and Weeds of concern shall be controlled with ongoing IPM and healthy landscape management techniques.

MATERIALS AND EXECUTION – TREES, SHRUBS, VINES, GROUNDCOVER MAINTENANCE

TREES, SHRUBS, VINES AND GROUNDCOVER FERTILIZATION

Fertilize plant materials as indicated below.

Trees, shrubs, including rhododendrons, vines and groundcovers: Fertilize in March or April with slow-release, "bridge" or natural-organic fertilizer. Use 1-2-2 nutrient ratio (N-P-K), or similar, per manufacturer's recommended rates (not to exceed 5-10-10).

Perennials: Fertilize in March and again in June with same fertilizer used above per manufacturer's recommended rates.

Ornamental grasses: Fertilize in October with turf fertilizer approved in turf section above. Fertilize per manufacturer's recommended rates.

TREES, SHRUBS, VINES AND GROUNDCOVER WEED, PEST AND DISEASE CONTROL

Control of Weeds: Use cultural methods (mulch, proper pruning, proper irrigation) to encourage plant health and growth and discourage weeds. Keep planter beds and tree wells free of weeds and debris on a rotational basis, throughout the year by hand pulling or other mechanical means.

Ground covers are to be trimmed so they meet but do not grow over walkways or outside any of the planters.

Use of contact herbicides may be considered during the growing season to control noxious and other difficult to control perennial weeds. A maximum of two applications annually are allowed and included in the work. Use health and environmental hazard information to choose most effective and least hazardous product. Use single active ingredient products only, no tank mixes are allowed.

Use of pre-emergent herbicides is not permitted without prior written approval of Owner on an incident by incident basis. Pre-emergent herbicides may only be used on sites with at least two years of plant establishment. Areas considered for pre-emergent use are limited to tree wells and mulch-only beds without groundcover. Standard maintenance practices called for in this contract must be documented in areas where pre-emergent use is being considered before approval for use will be given (hand weeding, edgings, mulch application, proper pruning) Pre-emergent herbicides are not allowed in planted shrub beds or graveled pedestrian walkways.

Control of Insects and Diseases: Apply insecticide or fungicide to trees, shrubs and ground covers only when significant plant damage would result from not addressing the infestation. Calendar-based spraying is not allowed. Base pesticide application decisions on monitoring for damage, specific pest identification, and proper timing. Control of major disease and insect infestations for trees, shrubs and ground covers is not a part of the contract work and is considered an Additional Service. Regularly monitor all plant material and immediately notify Owner of any need for such control. Contractor is responsible for any damage to plant material incurred as a result of failure to immediately notify Owner of correctable disease and/or insect problems, and Contractor must replace any such damaged plant material at no additional cost to Owner.

TREES, SHRUBS, VINES AND GROUNDCOVER PRUNING

Pruning must only be performed by trained personnel in accordance with accepted horticultural practices. Prune to enhance the natural growth and shape of plant materials and intended function of the planting. Plantings are designed to grow together and to the edges of the beds to minimize weed infestation and maximize water conservation. Shearing is only permitted for formal hedges. Prune back branches as needed when interfering with walks, buildings, signage, fire control utilities, site lighting, security/safety visibility, site lighting, and vehicular circulation. Prune dead and broken branches quarterly and more frequently as required.

Street trees shall be pruned to maintain adherence to City or County sight distance requirements, to maintain visibility of street name signs, protect trees from vehicle damage, and maintain pedestrian safety.

Prune clean and just outside the branch collar in accordance with accepted horticultural practices. Pruning must only be performed by trained personnel. Replace plant materials that are disfigured or damaged due to improper pruning at no additional cost to Owner.

Periodically inspect and adjust tree staking and guying to prevent damage to the cambium layer. Remove guys and stakes as soon as trees are established and self-supporting (generally two years or less).

Prune trees as required and appropriate in compliance with ANSI A300 (Part 1), "Tree, Shrub, and Other Woody Plant Maintenance—Standard Practices (Pruning)."

The Additional Services of an ISA-certified arborist are required for pruning on any trees larger than six inches DBH (diameter at breast height as measured at four and one-half feet about the existing grade at the base of the tree) and any branches larger than four inches in diameter. This is considered an additional service.

MATERIALS AND EXECUTION - GENERAL AREA MAINTENANCE

LEAF AND BRANCH REMOVAL

Keep walks, patios, planting beds, roadway gutters and lawn areas free of leaves and branches on a weekly basis throughout the year.

Leaves shall be mulch mowed or left in planting areas throughout winter, spring and summer when leaf fall is not excessive and plant health is not adversely affected. As much as possible, leaves can be blown or raked under the shrubs or groundcover and into the wood chip mulch.

In autumn leaf removal shall occur at each visit as needed to prevent smothering of turf and groundcovers and excessive clumping when mulch mowing. Owner's preference is that whenever safety and plant health are not compromised that leaves remain on-site and are incorporated into mulch under plantings. Remove leaves from site only as needed to maintain a neat appearance and the health of the planting.

Excessive branch and debris cleanup from storm damage is not included in the contract work and is considered an additional service at Owner's request.

LANDSCAPE DEBRIS REMOVAL

Remove biodegradable landscape debris (turf clippings (limited to only those times when mulch mowing is not possible), leaves, branches, annuals, dead plant material, etc.) to yard refuse recycling facility. Acceptable sites include topsoil producing facilities and/or other facilities, which utilize yard waste for landscape purposes. No biodegradable material should be disposed of as garbage, except noxious weed debris.

Remove and properly dispose of moss from curbs, stairs and walkways.

LANDSCAPE TRASH REMOVAL

Remove all trash from landscaping beds, turf areas and parking lot to an approved trash container onsite on a weekly basis. For large amounts of trash, or if there is no approved trash container onsite, Contractor shall haul it away for appropriate disposal.

MULCH REPLACEMENT

Once annually Contractor shall replenish mulch to maintain a depth of no less than two inches (2") in all planting areas. All tree wells to be re-mulched annually. Established beds where plant foliage or groundcover completely covers the soil surface require no additional mulch. Keep mulch at least two to three inches (2 – 3") away from the crown of plants and trees.

Mulch shall be medium or fine Hog Fuel wood chips, clean arborists wood chips, shredded leaves, coffee hulls, compost, etc.

"Red" bark mulch or dust shall not be used.

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
FRANCINE M. DAY
CERTIFICATE NO. 741

francinemday
LANDSCAPE ARCHITECTURE
206.930.7493
WWW.francinemday.com

PLANTING SPECIFICATIONS and STANDARDS
DB: FMD
Date: 1-14-09

RUDOLF RESIDENCE
8253 W MERCER WAY
MERCER ISLAND, WA 98040

L 2.1

IRRIGATION SPECIFICATIONS

1.01 Summary
A. Provide a fully automatic bidder designed irrigation system installed by a qualified, licensed Contractor.

1.02 Quality Assurance
A. Perform work in strict accordance with the applicable plumbing, electrical, and health codes.
B. Obtain and pay for all permits and approvals required by the local jurisdictional authorities for the full operation of the system.
C. The work is subject to Landscape Architect tests and inspections as specified. Furnish written notice to the Landscape Architect 72 hours minimum prior to the required test or inspection.
D. Include a master valve on the incoming mainline at the backflow preventer location. Advise Landscape Architect if mainline pressure is insufficient to permit the additional pressure loss of a master valve.

1.03 System Coverage
A. Provide full coverage* in all planted areas. Exercise professional judgement in selection, location, height, and angle of sprinkler heads. Select and locate heads to avoid erosion, spraying building, and excessively washing walks. Shrub and lawn zones, sprinkler heads with widely varied precipitation rates, and differing sun exposures are to be valved separately. (*Full coverage is defined as head to head coverage with all plants and lawns receiving adequate water).

1.04 Guarantee
A. Guarantee system against defects of installation and material for a period of one (1) year after acceptance of sprinkler system. During guarantee period check, clear, and adjust sprinkler heads and otherwise insure adequate operation of system at maximum three (3) month intervals during the year.

1.05 Submittals
A. Plans - Two (2) sets of irrigation plans showing pipe and head layout, spray pattern, and equipment list.
B. Catalog Cuts - Manufacturer's descriptions of all proposed materials.
C. Make submittals to Landscape Architect for review prior to construction. Approval of plans and materials by Landscape Architect does not change the Contractor's responsibility for providing full coverage in planting areas.

1.06 Substitutions
A. Substitutions to the equipment specified will be permitted only with the express written approval of the Landscape Architect and when the substituted item is equal or better in quality than the item originally specified. The final determination for equal rests with the Landscape Architect.

1.07 As-Built Drawings
A. Maintain a current record of all pipes and equipment placement and record any variations from the original design.
B. Dimension pipe and equipment in variance to plans to two permanent structures sufficient for location after burial.
C. Submit a neat and legible as-built drawing of complete irrigation system upon completion of irrigation system and prior to releases of final payment. Provide reduced scale copy of plan, plastic encased, for attachment inside controller door.

2.00 Materials

2.01 Meter
A. Per local code.

2.02 Galvanized Pipe and Accessories
A. Pipe - Standard weight steel pipe, electrical resistance weld, ASTM Schedule 40.
B. Fittings - Malleable galvanized fittings.
C. Exterior Coatings - Primer and Matte Black Alkyd Oil Enamel for above grade pipe and fittings. 'Fields 125' bituminous coating for pipe and fittings below grade.

2.03 Plastic Pipe and Fittings
A. Pipe - Mainline: Schedule 40 PVC pipe, manufactured from a Type I, Grade I Polyvinyl Chloride (PVC) compound with a Cell Classification of 12454 per ASTM D1784. The pipe shall be manufactured in strict compliance to ASTM D1785 and D2665 (where applicable).
Lateral lines: PVC 1120 or 1220, Class 200 conforming to U.S. Product Standard PS 22-70 and ASTM 2241, marked with manufacturer's name, class of pipe, NSF seal, and date and shift of manufacturing run. Provide uniform, smooth and glossy pipe with no evidence of interior or exterior extrusion marks. Pipe end pre-belled or straight to receive solvent-weld couplings.

2.04 Sprinkler Heads and Nozzles
A. Rainbird, Toro, Weathermatic, or approved equal.

2.05 Risers
A. Plastic bodies - 6" & 12" high pop-up Rainbird 1800 Series, or approved equal.
B. Brass bodies - Only if requested by Owner.

2.06 Automatic Valves
A. 24 volt, normally closed, provide with flow adjustment/shut-off handle and manual bleed cock.
B. Brass, or plastic. Weathermatic 8200CR or 11000CR, or approved equal.

2.07 Master Valve
A. Brass only.

2.08 Valve Boxes
A. General - Black or green plastic with bolt down lock-top capability.
B. Automatic Valves/Pressure Reducing Valve - Carson 1320B-13B or approved equal. Lid marked valve.
C. Backflow Preventer - Carson 1730C-12B or approval equal.
D. Shut-off Valve - Carson 10" diameter or approved equal.
E. Quick Coupling Valve - Carson 6" diameter or approved equal.

2.09 Automatic Controllers
A. 120 volt service with 24 volt output and UL approved, lockable door. Size for minimum of two additional future zones. 14 day capability and option of any 30 minute start of a 24 hour day. Time spread per station 0-60 minutes. Include Master Valve terminal or a pump start terminal for Master Valve operation.

2.10 Wire
A. UL approved UF and UL marked insulation jackets +/- #14 UF direct burial , solid copper, from controller to valves. ASTM B-3. Red or black for hot side, white for common ground, any third color for auxillary wires. Multi-strand wire is acceptable if distance from controller to furthest valve is less than 500 feet. 3M DBY below grade wire splices. Screw-type and taped splices above grade per code.

2.11 Quick Coupling Valve For Air Blowout
A. Rainbird or approved equal with 1" MPT key.

2.12 Shut-Off Valve
A. Champion Angle Valve, Mueller, or approved equal. Stop and Waste valve where allowed by code. Provide 30" long key for valve operation.

2.13 Backflow Preventer
A. Per State of Washington approved list and as approved by local code. Febco #850 double check valve assembly or approved equal. Include resilient seat gate valve on each end of unit and ½" brass, screwed end, 150# WOG drive valve on downstream side.

2.14 Pressure Reducing Valve
A. Watts #223, Wilkens #500, or approved equal. Contractor has the option of utilizing a pressure reducing valve or automatic valves with pressure reducing capability.

2.15 Check Valves
A. KBI King-Check or approved equal. SAMS (seal-a-matic) may be used with an auto-drain and a gravel sump (minimum 1 CF) at the lowest end of each zone.

3.00 Installation

3.01 Examination
A. Prior to starting work carefully inspect the prepartory work of other trades and verify that such work is acceptable for the installation of this work. Report all unacceptable conditions to the Landscape Architect. Do not begin work until unacceptable conditions have been resolved. Beginning work constitutes Contractor acceptance of conditions.

3.02 Meter
A. Verify need with local water purveyor. Determine location, size, and type of pipe in the service from the main.

3.03 Trenching
A. Make trenches for irrigation system. Finish trenches free from rock, debris, or sharp articles. Provide depth to acheive minimum 16" cover for shrub beds, 12" for lawn areas, and 16" cover for mainline. Removed unused trench spoils from site.

3.04 Pipe
A. Cut PVC pipe ends at 90 degrees to the pipe length and clean all cutting prior to cementing. Wipe pipe ends clean with rag lightly wetted with PVC thinner. Apply cement with light coat on inside of fitting and heavier coat on outside of pipe. Insert pipe into fitting and give a quarter turn to seat cement. Wipe excess cement from outside of pipe.

3.05 Sleeving
A. Class 200 PVC, 4" minimum diameter. Schedule 40 under asphalt or crushed rock paving. Verify with Landscape Architect if sleeves are to be installed by others.

3.06 Drip / Spray heads & Risers
A. Set shrub heads with flange flush or slightly below finish grade at a minimum distance of 4 inches from planter edge. Provide double swing joint or flexible swing pipe and spiral barbed fitting (connection at bottom of sprinkler body only) for connection to lateral.
B. Install lawn heads flush with finish to clear mowing equipment. Provide three (3) Marlex street ells and one (1) PVC Schedule 80 nipple, or flex pipe connection to lateral (connection at bottom of sprinkler body only).

3.07 Nozzles
A. Select nozzles to provide full coverage without causing erosion problems, staining of siding, or drift

3.08 Electric Wire
A. Install wire in conduit where required by local code. Bury at sufficient depth to meet local code and in no case less than bottom side of parallel pipe. Bundle control wires and tape at 10' intervals. Tape bundles to adjacent pipe. Install wire in sleeves under all pavement. Splices shall occur at boxes only.

3.09 System Expansion
A. Provide a minimum of two (2) auxillary wires for future valve locations. Run one unconnected spare control wire from the controller though each intermediate valve to terminate at the valve(s) at the ends of the main line. Loop at least 24" of wire at each of the intermediate valve boxes. Mark spare wires at the controllers and in boxes with permanant tag. Coil spare wire in plastic valve box.

3.10 Backfilling Trenches
A. Set pipe to ensure no puncture damage or future settlement. Lay mainline pipe with manufacturer's designations toward top of trench. Compact backfill to no less than 90% density at optimum moisture content. Backfill around sprinkler heads to restrict movement of heads by external force. Repair all trench settlement and finished surface damage due to settling during warranty period.

3.11 Automatic Valves
A. Install in specified valve box. Provide PVC nipple (minimum 4" long) on the inlet side and compression coupling or PVC union on the outlet side. Adjust flow with stem of valve to balance system. Mount valve boxes flush with finish grade unless otherwise indicated on drawings. Install immediately adjacent to walks or curbs (in shrub beds where possible). Provide 6" of pea gravel in bottom of valve box with 6" clear from gravel to underside of valve.

3.12 Master Valve
A. Size to match mainline size.

3.13 Backflow Prevention Unit
A. Install per local applicable code. Verify location with Landscape Architect. Otherwise Contractor is responsible for cost of relocation. Install galvanized ground joint unions on both inlet and outlet sides. Install Double Check Assembly in plastic box with minimum of 6" of gravel at bottom of box. Provide positive and verifiable drainage out of box. If required, install Reduced Pressure Backflow Preventer per code.

3.14 Pressure Reducing Valve
A. Install in plastic valve box with un-marked lid. Set so system does not fog with auto valves wide open.

3.15 Automatic Controller
A. Review exact location with Landscape Architect prior to installation. Connect to 120 volt service. Provide conduit/wire from controller location to valves. Label each station to clearly identify location of each valve.

3.16 Quick Couple Valve
A. Install in a 10" diameter valve box. Ensure valve can be operated from finish grade.

3.17 Shut Off Valve
A. Install in a 10" diameter valve box. If Stop and Waste Valve is allowed by code, provide 1 cubic foot gravel sump beneath valve.

3.18 Check Valves
A. Provide low head check valves on risers of lowest heads to prevent leakage.

3.19 Riser Painting
A. Paint all galvanized pipe and fittings with one coat minimum of specified material. Touch up after assembly.

3.20 System Flushing
A. Flush entire system prior to installation of sprinkler heads/nozzles. After capping all risers, remove cap nearest automatic valve, flush, and recap. Repeat this process until last head on circuit is flushed. If a pressure reducing valve is included in system, open wide for maximum pressure during flushing operation.

3.21 Pressure Test
A. Leave all system joints, connections, etc... exposed until after completion and acceptance of pressure test. Cap and open entire system to full main static pressure (pressure reducing valve wide open) for a period of two (2) hours. If static exceeds 80 psi, set PRV at 80 psifor testing laterals. Test mainlines at 100 psi. Visually check joints and connections for leaks. Repair all leaks, however minor. Contractor has the option of using AWWA pressure test (test with approved pressure pump at 100 psi with no more than 5 psi loss in 15 minutes). Deliver written record of test to Landscape Architect.

3.22 Performance Tests
A. Upon completion of system installation and after flushing and pressure tests are completed, operate system in presence of Landscape Architect. Correct all deficiencies until the system is approved.

3.23 Adjusting
A. Substitute or modify up to 5% of total nozzles to accomodate locations and density of plants and ensure full coverage.

3.24 System Familiarization
A. Upon completion of system installation, flushing, and pressure tests, and acceptance of system by Landscape Architect, operate the system in the presence of the Owner. Provide keys and/or other tools necessary to operate/drain/activate the system and spend adequate time with Owner to ensure operation/maintenance/winterization can continue after departure of Contractor. Submit written verification of compliance to Landscape Architect indicating date and persons involved. Contractor is liable for all damage or losses resulting from failure to comply with provisions of this paragraph.

3.25 System Protection
A. Deactivate and drain the system prior to the onset of frezzing seasonand reactivate at the onset of spring season. Accomplish each at least once during the guarantee period. If installation is completed when system is not in use, winterize after testing. Certify by letter the dates of winterization/activation. Repair damage from failure to comply. Purge system with low pressure and low volume compressed air. Do not allow pipe or compressor to get hot to the touch.

3.26 Final Approval
A. Upon completion of all tests, final approval for system will be contingent upon Contractor providing signed and approved sprinkler/plumbing/health/electrical permits as may be applicable in the area, and as-built drawings of the complete system.

NOTE:
Verify irrigation system will provide sufficient water for plant viability without compromising slope stability.

Verify irrigation system is reviewed and abides by recommendations prepared by URBAN FORESTRY SERVICES, INC. (360) 428-5810

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
FRANCINE M. DAY
CERTIFICATE NO. 741

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IRRIGATION SPECIFICATIONS
DB: FMD
Date: 1.14.19

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