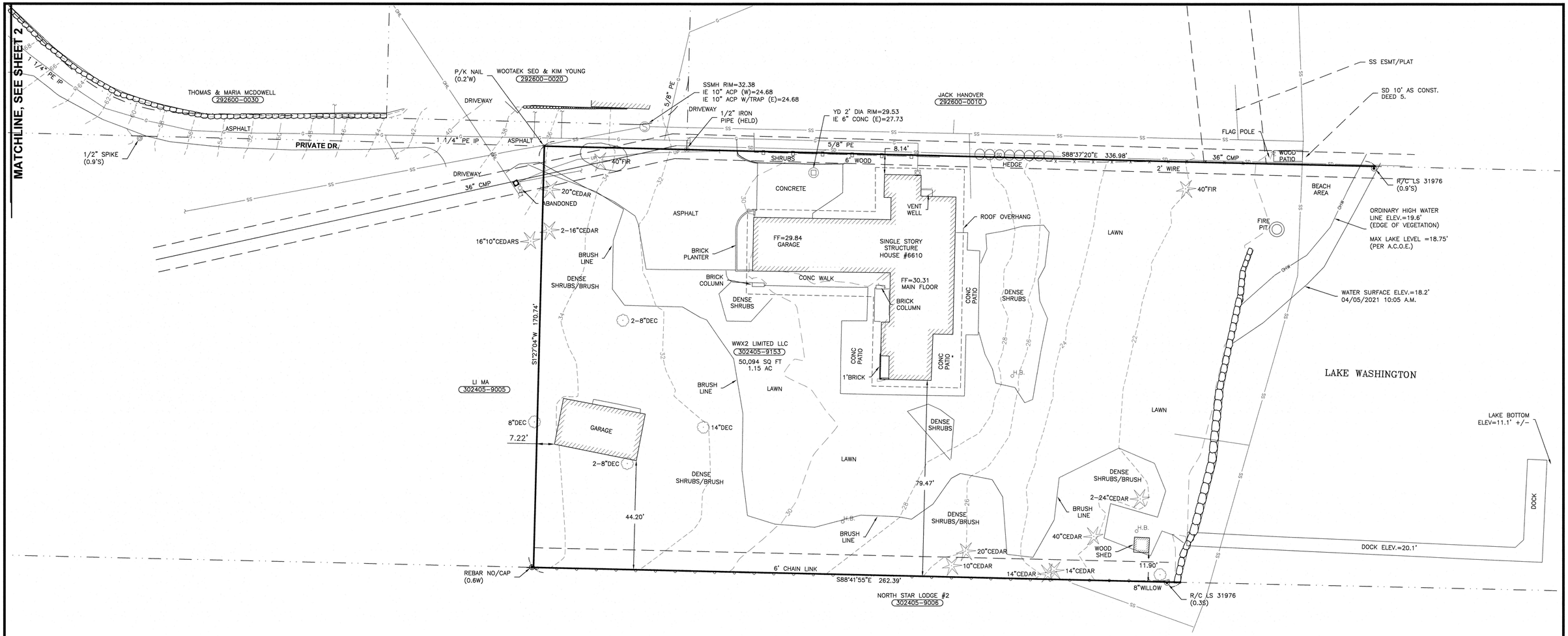



## HORIZONTAL DATUM

HORIZONTAL DATUM: NAD 83/91, WASHINGTON COORDINATE SYSTEM NORTH ZONE.
BASED ON GPS MEASUREMENTS UTILIZING THE VIRTUAL REFERENCE NETWORK

## VERTICAL DATUM

VERTICAL DATUM: NAVD 88 BASED ON GPS MEASUREMENTS UTILIZING THE VIRTUAL REFERENCE NETWORK AND GEOID 2012A MODEL.

ALL DISTANCES SHOWN ARE GROUND DISTANCES UNLESS OTHERWISE NOTED.

THE LOCATION AND DESCRIPTION OF ALL SURVEY MARKERS SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS TAKEN IN APRIL, 2021, UNLESS OTHERWISE INDICATED.

WORK PERFORMED IN CONJUNCTION WITH THIS SURVEY UTILIZED THE FOLLOWING EQUIPMENT AND PROCEDURES: (A) 1" TRIMBLE S7 SERIES ELECTRONIC TOTAL STATION, MAINTAINED TO THE MANUFACTURER'S SPECIFICATIONS PER W.A.C. 332-130-100. (B) FIELD TRAVERSE, EXCEEDING REQUIREMENTS SET FORTH IN W.A.C. 332-130-090. (C) LEASE SQUARE ADJUSTMENT USING StarNet VERSION 9.0 EXCEEDING REQUIREMENTS PER W.A.C. 332-130-080.

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

THIS TOPOGRAPHIC SURVEY DRAWING ACCURATELY PRESENTS SURFACE FEATURES LOCATED DURING THE COURSE OF THIS SURVEY. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY UPON INFORMATION PROVIDED BY OTHERS AND PACE ENGINEERS, INC. DOES NOT ACCEPT RESPONSIBILITY OR ASSUME LIABILITY FOR THEIR ACCURACY OR COMPLETENESS. CONTRACTOR/ENGINEERS SHALL VERIFY EXACT SIZE AND LOCATION PRIOR TO CONSTRUCTION.
CALL FOR LOCATE: UTILITY LOCATION SERVICE: 811

## UTILITY PROVIDERS:

PER ONE CALL DESIGN LOCATE INFORMATION

CITY OF MERCER ISLAND
PSE ELECTRIC AND GAS
COMCAST/XFINITY
CENTUYRY LINK

## REFERENCES

RECORD OF SURVEY VOLUME 385 AT PAGE 281 DATED 06/06/2018

PSE GAS AND POWER PER AS BUILT RECORDS

WATER PER CITY OF MERCER ISLAND GIS

## LEGEND

- WATER VALVE
- HYDRANT
- FDC
- POST INDICATOR VALVE
- WATER BLOW OFF
- WATER METER
- IRR. CONTROL VALVE
- MANHOLES (SS/SD)
- CB
- POWER TRANSFORMER
- POWER/COMM. VAULT
- WATER/UTILITY VAULT
- POWER MANHOLE
- COMM. MANHOLE
- WATER MANHOLE
- POWER METER
- SURFACE JUNCTION BOX
- SUBSURFACE JUNCTION BOX
- POWER/UTILITY POLE
- POWER/UTILITY POLE W/DROP
- ANCHOR POLE
- GUY ANCHOR
- TRAFFIC SIGNAL POLE
- STREET LIGHT
- LUMINAIRE(DOUBLE)
- LUMINAIRE(SINGLE)
- PEDESTRIAN LIGHT POLE
- AREA LIGHT
- GAS METER
- GAS VALVE
- SIGN
- MAILBOX
- NEWS PAPER BOX
- TRASH CAN
- ROCKERY
- SPOT ELEVATION
- SIZE & TYPE (CONIFEROUS TREE)
- SIZE & TYPE (DECIDUOUS TREE)
- PK NAIL W/ WASHER
- REBAR AND CAP (SET)
- REBAR AND CAP (FOUND)
- TACK AND LEAD
- HUB AND TACK
- CASED MONUMENT
- SURFACE MONUMENT
- CENTER LINES
- PROPERTY LINES
- RIGHT-OF-WAY LINES
- SUBDIVISION LINES
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- HISTORICAL LINES
- EASEMENT LINES
- LOT LINES
- DITCH LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- GAS LINE
- UNDERGROUND POWER LINES
- UNDERGROUND COMMUNICATION LINES
- OVERHEAD UTILITY LINES
- HIGH WATER LINE
- WETLAND BOUNDARY LINE
- CHAIN LINK FENCE
- WIRE FENCE
- WOOD FENCE
- EDGE OF VEGETATION/HEDGE LINE

## RECORD LEGAL DESCRIPTION:

THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1588.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF.

TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI GOVERNMENT LOT 1.

TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER WAY APPURTENANT TO THE PROPERTY HEREBY CONVEYED.

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

N

HORIZ. 0 10 20 40
Scale In Feet

PORTION OF: NE1/4, NE1/4, SECTION 30, T.24N., R5E., W.M.

WILLIAM R. HAWKINS STATE OF WASHINGTON 33130 REGISTERED PROFESSIONAL LAND SURVEYOR 4/21/21

FILE NAME: P:\21\21436 KONERU RESIDENCE\CAD\SURVEY\CSD\REFS\V21436-SRV.DWG
LAYOUT TAB: SHEET 1
SAVE TIME: 4/21/2021 2:51 PM PLOT TIME: 4/21/2021 2:51 PM
USER NAME: WILL
XREF FILES: 21436-BNDY.dwg 9433-11-SRV.dwg

| | | | | | |
|---|---|---|---|---|---|
| CALC | NAME | | | | |
| CAD | DLB | | | | |
| PM | WRH | | | | |
| SYM | REVISION | DATE | BY | APP'D | |

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

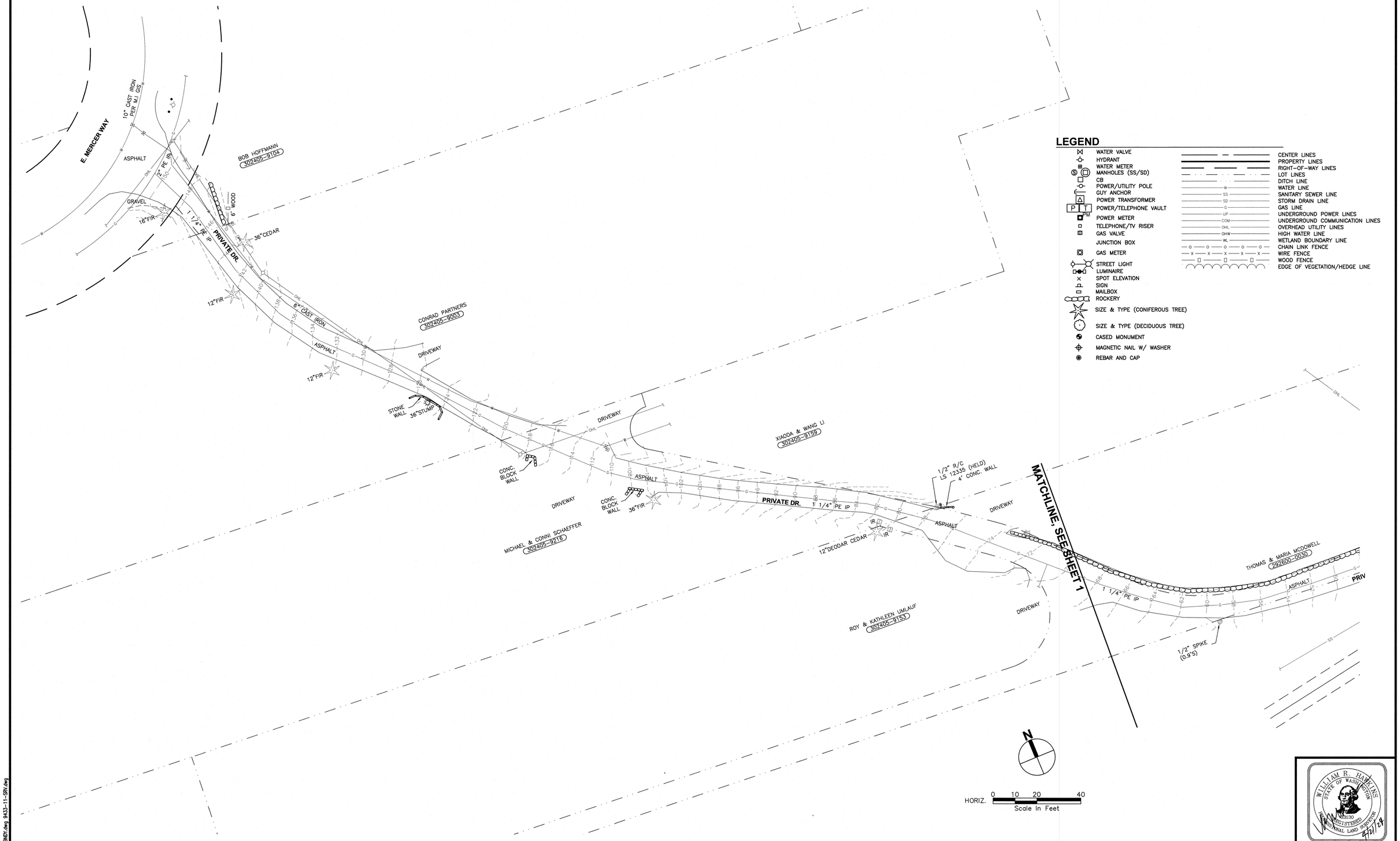
**KONERU RES**
**6610 E. MERCER WAY**
**MERCER ISLAND, WA. 98040**

| | |
|---|---|
| DATE | APRIL 2021 |
| SCALE | 1" = 20' |
| SURVEY TEAM | BL/JC |
| FIELD BOOK | 726 |
| DWG: | V21436-SRV.DWG |

**TOPOGRAPHIC SURVEY**
**FOR**
**DHEERAJ KONERU**

PROJECT NO. **21436**

SHEET 1 OF 2




## LEGEND

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

- CENTER LINES
- PROPERTY LINES
- RIGHT-OF-WAY LINES
- LOT LINES
- DITCH LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- GAS LINE
- UNDERGROUND POWER LINES
- UNDERGROUND COMMUNICATION LINES
- OVERHEAD UTILITY LINES
- HIGH WATER LINE
- WETLAND BOUNDARY LINE
- CHAIN LINK FENCE
- WIRE FENCE
- WOOD FENCE
- EDGE OF VEGETATION/HEDGE LINE

WILLIAM R. HAWKINS
STATE OF WASHINGTON
18130
REGISTERED
PROFESSIONAL LAND SURVEYOR
4/21/21

FILE NAME: P:\P21\21436 KONERU RESIDENCE\CAD\SURVEY\C3D\REFS\V21436-SRV.DWG
LAYOUT TAB: SHEET 2
SAVED TIME: 4/21/2021 2:51 PM PLOT TIME: 4/21/2021 2:51 PM
USER NAME: BEN HANNA
XREF FILES: V21436-BNDY.dwg 9433-11-SRV.dwg

| | |
|---|---|
| CALC | BH |
| CAD | DB |
| PM | BH |

| SYM | REVISION | DATE | BY | APP'D |
|---|---|---|---|---|

PACE
An Engineering Services Company

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

**KONERU RES**
**6610 E. MERCER WAY**
**MERCER ISLAND, WA. 98040**

| | |
|---|---|
| DATE | APRIL 2021 |
| SCALE | 1" = 20' |
| SURVEY TEAM | BL/JC |
| FIELD BOOK | 726 |
| DWG: | V21436-SRV.DWG |

**TOPOGRAPHIC SURVEY**
**FOR**
**DHEERAJ KONERU**

PROJECT NO.
**21436**

SHEET 2 OF 2

# KONERU SINGLE FAMILY RESIDENCE

## 6610 EAST MERCER WAY
## MERCER ISLAND, WA. 98040

### PROJECT CONTACTS

**OWNER/APPLICANT:** DHEERAJ KONERU

7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

**ENGINEER/SURVEY:** PACE ENGINEERS, INC.

11255 KIRKLAND WAY, SUITE 300
KIRKLAND, WA 98033
JOHN ANDERSON, PE
BILL HAWKINS, PLS
PHONE: (425) 827-2014
EMAIL: JOHNA@PACEENGRS.COM
BILLH@PACEENGRS.COM

**ARBORIST:** TREE 133, LLC

12408 17TH AVENUE NE
SEATTLE, WA. 98125
CRAIG BACHMANN, CERTIFIED ARBORIST
PHONE: (206) 745-0473
ARBORIST@TREE133.COM

**GEOTECHNICAL:** GEOTECH CONSULTANTS, INC.

2401 10TH AVENUE E.
SEATTLE, WA 98102
MARC MCGINNIS, PE
PHONE: (425) 747-5618
EMAIL:

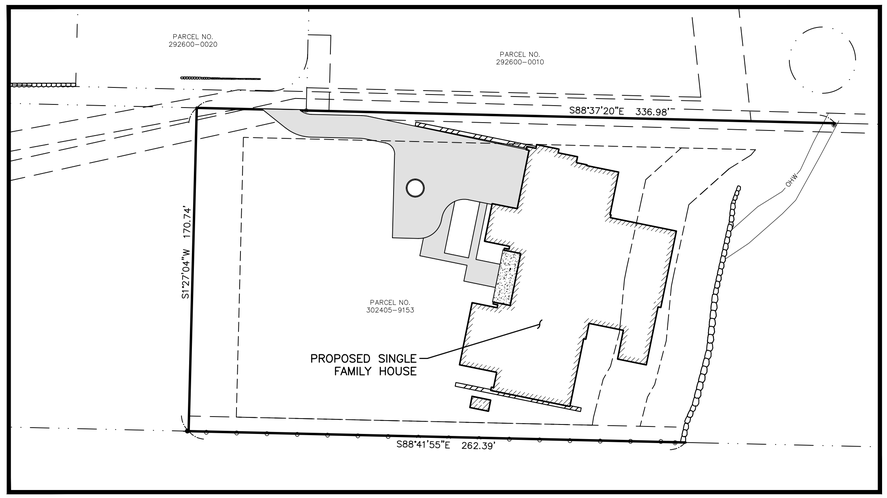
### PROJECT INFORMATION

#### SITE DATA

| | |
|---|---|
| ADDRESS: | 6610 EAST MERCER WAY |
| PARCEL NUMBER: | 3024059153 |
| PARCEL AREA: | 50,094 SF |
| LEGAL DESCRIPTION: | THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1588.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF.<br><br>TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI GOVERNMENT LOT 1.<br><br>TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER WAY APPURTENANT TO THE PROPERTY HEREBY CONVEYED.<br><br>SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON |

#### ZONING SUMMARY

| | |
|---|---|
| EXISTING ZONING: | R-15 |
| MINIMUM LOT SIZE: | 15,000 SQ. FT. |
| MAXIMUM HEIGHT: | 30' ABOVE ABE |
| MAX. LOT COVERAGE: | LOT 1 13,588 SQ. FT. |
| BUILDING SETBACKS | |
| SIDE: | SUM 15' WITH 5' MIN. |
| REAR: | 25 |
| FRONT: | 20 |



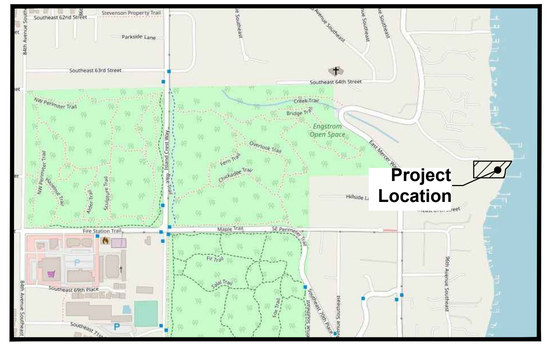

**SITE MAP**
SCALE: 1"=40'

N

### PROJECT INFORMATION

#### DEVELOPMENT SUMMARY

| | | |
|---|---|---|
| PROPOSED NUMBER LOTS: | 1 | |
| NUMBER OF DWELLING UNITS: | 1 | |
| GROSS SITE AREA: | 50,094 | SQ. FT. |
| NET SITE AREA: | 50,094 | SQ. FT. |
| EXISTING IMPERVIOUS AREA: | 9,073 | SQ. FT. |
| PROPOSED IMPERVIOUS AREA: | 13,527 | SQ. FT. |




**VICINITY MAP**
NTS

N

### SHEET INDEX



| SHEET NO. | SHEET TITLE |
|---|---|
| C0.0 | COVER |
| C0.1 | NOTES |
| C1.0 | EXISTING CONDITIONS |
| C2.0 | TESC PLAN |
| C2.1 | TESC DETAILS |
| C3.0 | STORM & GRADING PLAN |
| C4.0 | UTILITY PLAN |
| C4.1 | UTILITY DETAILS |
| L1.0 | TREE RETENTION PLAN |



### CITY OF MERCER ISLAND FILE NUMBER

PRE-SUBMITTAL CONFERENCE NUMBER: PRE21-023

### UTILITY PURVEYORS

| | |
|---|---|
| WATER: | CITY OF MERCER ISLAND |
| SEWER: | CITY OF MERCER ISLAND |
| ELECTRICITY: | PUGET SOUND ENERGY |
| GAS: | PUGET SOUND ENERGY |
| TELEPHONE: | CENTURY LINK |
| CABLE: | CENTURY LINK/XFINITY |
| SCHOOL DISTRICT: | MERCER ISLAND SCHOOL DISTRICT |

### EARTHWORK SUMMARY

| | |
|---|---|
| APPROX. CUT | 464 CY |
| APPROX. FILL | 1251 CY |
| NET | 787 CY FILL |

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

---

DATE | REVISION | SYM


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


JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

COVER SHEET

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| SCALE: | DATE: |
|---|---|
| AS SHOWN | 07/20/21 |
| DESIGNED BY: | CHECKED BY: |
| MA | JA |

PACE PROJECT NO. 21436.00

SHEET C0.0


FILE NAME: P:\21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SFR BUILDING PERMIT\P21436_CVR-SFR.DWG
SAVE TIME: 12/22/2021 5:16:53 PM PLOT TIME: 12/22/2021 5:33 PM
USER NAME: JAY PULLEN
XREF FILES: 21436_BDR.dwg X21436_SITE.dwg X21436-SRV.dwg 9433-11-SRV.dwg X21436_JH.dwg

# CITY OF MERCER ISLAND- STANDARD PLAN NOTES

## TESC - PLAN NOTES

1. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC).
2. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
4. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THE SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY , MORE TESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
6. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED. PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.
7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.
8. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
   APRIL 1 TO OCTOBER 31 – SOIL MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
   NOVEMBER 1 TO MARCH 31 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
9. AT NO TIME SHALL MORE THAN 1' OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
10. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
11. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
12. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".
13. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.
14. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY OF MERCER ISLAND INSPECTOR.
15. A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
16. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 4' HIGH TEMPORARY CONSTRUCTION FENCE (CYCLONE OR PLASTIC MESH) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF HTE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL. A DWELLING IS CONSTRUCTED AND OWNERSHIP TRANSFERRED TO THE FIRST OWNER/OCCUPANT.
17. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.
18. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.
19. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "FILTER FABRIC SOCK" OR EQUIVALENT.
20. THEN WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY OF MERCER ISLAND. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ON-QUARTER DEPTH.
21. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS" 4"-8" ROCK/40%-70% PASSING; 2"-4" ROCK/E0%-40% PASSING; AND 1"-2" ROCK/10%-20% PASSING.
22. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.
23. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.
24. DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.
25. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

## GENERAL NOTES

1. ANY CHANGES TO THE APPROVED PLANS REQUIRE CITY APPROVAL THROUGH A REVISION.
2. APPLICANT IS RESPONSIBLE FOR ANY DAMAGES TO UNDERGROUND UTILITIES CAUSED FROM THIS CONSTRUCTION.
3. CATCH BASIN FILTERS SHOULD BE PROVIDED FOR ALL STORM DRAIN CATCH BASINS/INLETS DOWNSLOPE AND WITHIN 500 FEET OF THE CONSTRUCTION AREA. CATCH BASIN FILTERS SHOULD BE DESIGNED BY THE MANUFACTURER FOR USE AT CONSTRUCTION SITES AND APPROVED BY THE CITY INSPECTOR. CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVENTS. IF THE FILTER BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.
4. CONTRACTOR SHALL VERIFY LOCATIONS AND DEPTHS OF UTILITIES.
5. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL "ONE CALL" AT 1-800-424-5555.
6. DO NOT BACKFILL WITH NATIVE MATERIAL ON PUBLIC RIGHT-OF-WAY. ALL MATERIAL MUST BE IMPORTED.
7. EROSION CONTROL:
   ALL "LAND DISTURBING ACTIVITY" IS SUBJECT TO PROVISIONS OF MERCER ISLAND ORDINANCE 95C-118 "STORM WATER MANAGEMENT." SPECIFIC ITEMS TO BE FOLLOWED AT YOUR SITE:
   A. PROTECT ADJACENT PROPERTIES FROM ANY INCREASED RUNOFF OR SEDIMENTATION DUE TO THE CONSTRUCTION PROJECT THROUGH THE USE OF APPROPRIATE "BEST MANAGEMENT PRACTICES" (BMP) EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SEDIMENT TRAPS, SEDIMENT PONDS, FILTER FABRIC FENCES, VEGETATIVE BUFFER STRIPS OR BIOENGINEERED SWALES.
   B. CONSTRUCTION ACCESS TO THE SITE SHOULD BE LIMITED TO ONE ROUTE. STABILIZE ENTRANCE WITH QUARRY SPALLS TO PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING THE STORM DRAINS.
   C. PREVENT SEDIMENT, CONSTRUCTION DEBRIS, PAINTS, SOLVENTS, ETC., OR OTHER TYPES OF POLLUTION FROM ENTERING PUBLIC STORM DRAINS. KEEP ALL POLLUTION ON YOUR SITE.
   D. ALL EXPOSED SOILS SHALL REMAIN DENUDED FOR NO LONGER THAN SEVEN (7) DAYS AND SHALL BE STABILIZED WITH MULCH, HAY, OR THE APPROPRIATE GROUND COVER. ALL EXPOSED SOILS SHALL BE COVERED IMMEDIATELY DURING ANY RAIN EVENT.
8. OWNER SHALL CONTROL DISCHARGE OF SURFACE DRAINAGE RUNOFF FROM EXISTING AND NEW IMPERVIOUS AREAS IN RESPONSIBLE MANNER. CONSTRUCTION OF NEW GUTTERS AND DOWNSPOUTS, DRY WELLS, LEVEL SPREADERS OR DOWNSTREAM CONVEYANCE PIPE MAY BE NECESSARY TO MINIMIZE DRAINAGE IMPACT TO YOUR NEIGHBORS. CONSTRUCTION OF MINIMUM DRAINAGE IMPROVEMENTS SHOWN OR CALLED FOR ON THIS PLAN DOES NOT IMPLY RELIEF FROM CIVIL LIABILITY FOR YOUR DOWNSTREAM DRAINAGE.
9. POT HOLING THE PUBLIC UTILITIES IS REQUIRED PRIOR TO ANY GRADING ACTIVITIES LESS THAN 6" OVER THE PUBLIC MAINS (WATER, SEWER AND STORM SYSTEMS). IF THERE IS A CONFLICT, THE APPLICANT IS REQUIRED TO SUBMIT A REVISION FOR APPROVAL PRIOR TO AN GRADING ACTIVITIES OVER THE PUBLIC MAINS.
10. REMEMBER: EROSION CONTROL IS YOUR FIRST INSPECTION.
11. ROOF DRAINS MUST BE CONNECTED TO THE STORM DRAIN SYSTEM AND INSPECTED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO ANY BACKFILLING OF PIPE.
12. SILT FENCE: CLEAN AND PROVIDE REGULAR MAINTENANCE OF THE SILT FENCE. THE FENCE IS TO REMAIN VERTICAL AND IS TO FUNCTION PROPERLY THROUGHOUT THE TERM OF THE PROJECT.
13. REFER TO WATER SERVICE PERMIT FOR ACTUAL LOCATION OF NEW WATER METER AND SERVICE LINE DETERMINED BY MERCER ISLAND WATER DEPARTMENT.
14. TV INSPECTION OF THE EXISTING SIDE SEWER TO THE CITY SEWER MAIN IS REQUIRED. IF THE RESULT OF THE TV INSPECTION IS NOT SATISFACTORY, AS DETERMINED BY THE CITY OF MERCER ISLAND INSPECTOR, THE REPLACEMENT OF THE EXISTING SIDE SEWER IS REQUIRED. ALTERNATELY, A PRESSURE TEST OF THE SIDE SEWER, FROM SEWER, FROM SEWER MAIN TO POINT OF CONNECTION, MAY BE SUBSTITUTED FOR THE VIDEO INSPECTION.
15. NEWLY INSTALLED SIDE SEWER REQUIRES A 4 P.S.I. AIR TEST OR PROVIDE 10' OF HYDROSTATIC HEAD TEST.

## STORM DRAINAGE NOTES

1. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
2. BEFORE ANY CONSTRUCTION MAY OCCUR, THE CONTRACTOR SHALL HAVE PLANS WHICH HAVE BEEN SIGNED AND APPROVED BY THE CITY OF KIRKLAND PUBLIC WORKS DEPARTMENT, OBTAINED ALL CITY, COUNTY, STATE, FEDERAL AND OTHER REQUIRED PERMITS, AND HAVE POSTED ALL REQUIRED BONDS.
3. ALL STORM DRAINAGE IMPROVEMENTS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF KIRKLAND PUBLIC WORKS PRE-APPROVED PLANS AND POLICIES AND THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, PREPARED BY WSDOT AND THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA).
4. ANY DEVIATION FROM THE APPROVED PLANS WILL REQUIRE WRITTEN APPROVAL, ALL CHANGES SHALL BE SUBMITTED TO THE CITY.
5. A COPY OF THE APPROVED STORM WATER PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
6. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR SIMILARLY STABILIZED TO THE SATISFACTION OF THE CITY OF KIRKLAND DEPARTMENT OF PUBLIC WORKS FOR THE PREVENTION OF ON-SITE EROSION AFTER THE COMPLETION OF CONSTRUCTION.
7. MINIMUM COVER OVER STORM DRAINAGE PIPES IN ROW OR VEHICULAR PATH SHALL BE 18 INCHES, UNLESS OTHER DESIGN IS APPROVED.
8. STEEL PIPE SHALL HAVE ASPHALT TREATMENT #1 OR BETTER INSIDE AND OUTSIDE.
9. ALL CATCH BASINS SHALL BE TYPE I UNLESS OTHERWISE NOTED. CATCH BASINS WITH A DEPTH OF OVER FIVE FEET (5') TO THE PIPE INVERT SHALL BE A TYPE II CATCH BASIN. TYPE II CATCH BASINS EXCEEDING FIVE FEET (5') IN DEPTH SHALL HAVE A STANDARD LADDER INSTALLED.
10. ALL STORM DRAINAGE MAIN EXTENSIONS WITHIN THE PUBLIC RIGHT-OF-WAY OR IN EASEMENTS MUST BE STAKED FOR LINE AND GRADE PRIOR TO STARTING CONSTRUCTION.
11. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF ONE FOOT (1') AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40%-70% PASSING; 2"-4" ROCK/30%-40% PASSING; 2"-MINUS ROCK/10%-20% PASSING. RECYCLED CONCRETE SHALL NOT BE USED FOR EROSION PROTECTION, INCLUDING FOR CONSTRUCTION ENTRANCE OR TEMPORARY STABILIZATION ELSEWHERE ON SITE.
12. ALL PIPE, MANHOLES, CATCH BASINS, AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH THE CURRENT STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (WSDOT). THIS SHALL INCLUDE NECESSARY LEVELING OF THE TRENCH BOTTOM OR THE TOP OF THE FOUNDATION MATERIAL AS WELL AS PLACEMENT AND COMPACTION OF REQUIRED BEDDING MATERIAL TO UNIFORM GRADE SO THAT THE ENTIRE LENGTH OF THE PIPE WILL BE SUPPORTED ON A UNIFORMLY DENSE, UNYIELDING BASE. IF THE NATIVE MATERIAL IN THE BOTTOM OF THE TRENCH MEETS THE REQUIREMENTS FOR "GRAVEL BACKFILL FOR PIPE BEDDING," THE FIRST LIFT OF PIPE BEDDING MAY BE OMITTED PROVIDED THE MATERIAL IN THE BOTTOM OF THE TRENCH IS LOOSENED, REGRADED, AND COMPACTED TO FORM A DENSE UNYIELDING BASE. ALL PIPE BEDDING SHALL BE APWA CLASS B, TYPE I, OR BETTER. PIPE SHALL NOT BE INSTALLED ON SOD, FROZEN EARTH, LARGE BOULDERS, OR ROCK. PIPE BEDDING FOR FLEXIBLE PIPES SHALL BE PEA GRAVEL TO THE SPRINGLINE OF THE PIPE.
13. CONSTRUCTION OF DEWATERING DISCHARGES SHALL ALWAYS MEET WATER QUALITY GUIDELINES LISTED IN COK POLICY E-1. SPECIFICALLY, DISCHARGES TO THE PUBLIC STORMWATER DRAINAGE SYSTEM MUST BE BELOW 25NTU, AND NOT CONSIDERED A PROHIBITED DISCHARGE (PER KMC 15.52.090). TEMPORARY DISCHARGES TO SANITARY SEWER REQUIRE PRIOR AUTHORIZATION AND PERMIT FROM KING COUNTY INDUSTRIAL WASTE PROGRAM (206-263-3000) AND NOTIFICATION TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR.
14. ISSUANCE OF A BUILDING OR LAND SURFACE MODIFICATION PERMIT BY THE CITY OF KIRKLAND DOES NOT RELIEVE THE OWNER OF THE CONTINUING LEGAL OBLIGATION AND/OR LIABILITY CONNECTED WITH STORM SURFACE WATER DISPOSITION. FURTHER, THE CITY OF KIRKLAND DOES NOT ACCEPT ANY OBLIGATION FOR THE PROPER FUNCTIONING AND MAINTENANCE OF THE SYSTEM DURING OR FOLLOWING CONSTRUCTION EXCEPT AS OUTLINED IN THE CITY OF KIRKLAND PUBLIC WORKS STANDARDS.
15. ALL TRENCH BACKFILL SHALL BE COMPACTED TO 95 PERCENT DENSITY IN ROADWAYS, ROADWAY SHOULDERS, ROADWAY PRISM AND DRIVEWAYS, AND 85 PERCENT DENSITY IN UNPAVED AREAS. ALL PIPE ZONE COMPACTION SHALL BE 95 PERCENT.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, CONFINED SPACE PROTECTION, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACT. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE A TRAFFIC CONTROL PLAN APPROVED BY THE CITY OF KIRKLAND. ALL SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS, TRAFFIC CONTROL, AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL APPLY.
17. NO FINAL CUT OR FILL SLOPE SHALL EXCEED SLOPES OF TWO (2) HORIZONTAL TO ONE (1) VERTICAL WITHOUT STABILIZATION BY ROCKERY OR BY A STRUCTURAL RETAINING WALL.
18. ALL MANHOLE LADDERS SHALL BE FIRMLY ATTACHED AND EXTEND TO WITHIN 1' OF THE BOTTOM OF THE STRUCTURE.
19. APPROXIMATE LOCATIONS OF EXISTING UTILITIES HAVE BEEN OBTAINED FROM AVAILABLE RECORDS AND ARE SHOWN FOR CONVENIENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF EXISTING UTILITY LOCATIONS WHETHER OR NOT THESE UTILITIES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE TO ANY UTILITY. IF CONFLICTS WITH EXISTING UTILITIES ARISE DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE CITY CONSTRUCTION INSPECTOR AND ANY CHANGES REQUIRED SHALL BE APPROVED BY THE DEVELOPMENT ENGINEER PRIOR TO COMMENCEMENT OF RELATED CONSTRUCTION ON THE PROJECT.
20. THE UNDERGROUND UTILITY LOCATION SERVICE SHALL BE CONTACTED FOR FIELD LOCATION OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. THE OWNER OR HIS REPRESENTATIVE SHALL BE CONTACTED IF A UTILITY CONFLICT EXISTS. FOR UTILITY LOCATION IN KING COUNTY, CALL 1-800-424-5555. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT UTILITY LOCATES ARE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.
21. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, WIDTHS, THICKNESSES, AND ELEVATIONS OF ALL EXISTING PAVEMENTS AND STRUCTURES THAT ARE TO INTERFACE WITH NEW WORK. PROVIDE ALL TRIMMING, CUTTING, SAW CUTTING, GRADING, LEVELING, SLOPING, COATING, AND OTHER WORK, INCLUDING MATERIALS AS NECESSARY, TO CAUSE THE INTERFACE WITH EXISTING WORKS TO BE PROPER, ACCEPTABLE TO THE ENGINEER AND THE CITY OF KIRKLAND, COMPLETE IN PLACE AND READY TO USE.
22. ALL INLET, MANHOLE, AND CATCH BASIN FRAMES AND GRATES SHALL NOT BE ADJUSTED TO GRADE UNTIL IMMEDIATELY PRIOR TO FINAL PAVING. ALL CATCH BASIN GRATES SHALL BE SET 0.10' BELOW PAVEMENT LEVEL.
23. OPEN CUT ROAD CROSSINGS FOR UTILITY TRENCHES ON EXISTING TRAVELED ROADWAY SHALL BE BACKFILLED ONLY WITH 5/8" MINUS CRUSHED ROCK AND MECHANICALLY COMPACTED (UNLESS OTHERWISE APPROVED BY THE CITY). FOR STREETS CLASSIFIED AS ARTERIALS OR COLLECTORS, BACKFILL FOR CROSSINGS SHALL BE CDF. CUTS INTO THE EXISTING ASPHALT SHALL BE NEAT LINE CUT WITH SAW OR JACKHAMMER IN A CONTINUOUS LINE. A TEMPORARY COLD MIX PATCH MUST BE PLACED IMMEDIATELY AFTER BACKFILL AND COMPACTION. A PERMANENT HOT MIX PATCH SHALL BE PLACED WITHIN 30 DAYS AND SHALL BE A MINIMUM OF 1" THICKER THAN THE ORIGINAL ASPHALT WITH A MINIMUM THICKNESS OF 2". SEE STANDARD D.02.
24. ALL DAMAGES INCURRED TO PUBLIC AND/OR PRIVATE PROPERTY BY THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION SHALL BE PROMPTLY REPAIRED TO THE SATISFACTION OF THE CITY CONSTRUCTION INSPECTOR BEFORE PROJECT APPROVAL AND/OR THE RELEASE OF THE PROJECT'S PERFORMANCE BOND.
25. GROUT ALL SEAMS AND OPENINGS IN ALL INLETS, CATCH BASINS, AND MANHOLES. JETSET GROUT IS NOT ALLOWED.
26. WHEN WIDENING AN EXISTING ROADWAY WHERE AN EXISTING TYPE I CATCH BASIN WILL REMAIN IN THE TRAVEL LANE, THE EXISTING FRAME AND COVER SHALL BE REPLACED WITH A ROUND, LOCKING FRAME AND COVER.
27. FOR OTHER THAN SINGLE-FAMILY DWELLINGS, ALL EXPOSED OR READILY EXPOSED INDOOR STORM DRAINAGE PIPING/PLUMBING SHALL BE LABELED WITH THE WORDS "STORM DRAIN" WITH MINIMUM 2 INCH HIGH LETTERS.
28. RECYCLED CONCRETE SHALL NOT BE USED AROUND STORMWATER FACILITIES.

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

---

FILE NAME: P:\P21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SFR BUILDING PERMIT\P21436_CVR-SFR.DWG
SAVE TIME: 12/22/2021 5:18:53 PM PLOT TIME: 12/22/2021 5:53 PM
USER NAME: JAY PULLEN
XREF FILES: P21436_BDR.dwg P21436_SITE.dwg P21436-SRV.dwg 9433-11-SRV.dwg X21436_IA.dwg

| DATE | REVISION | SYM |
|---|---|---|


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


DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

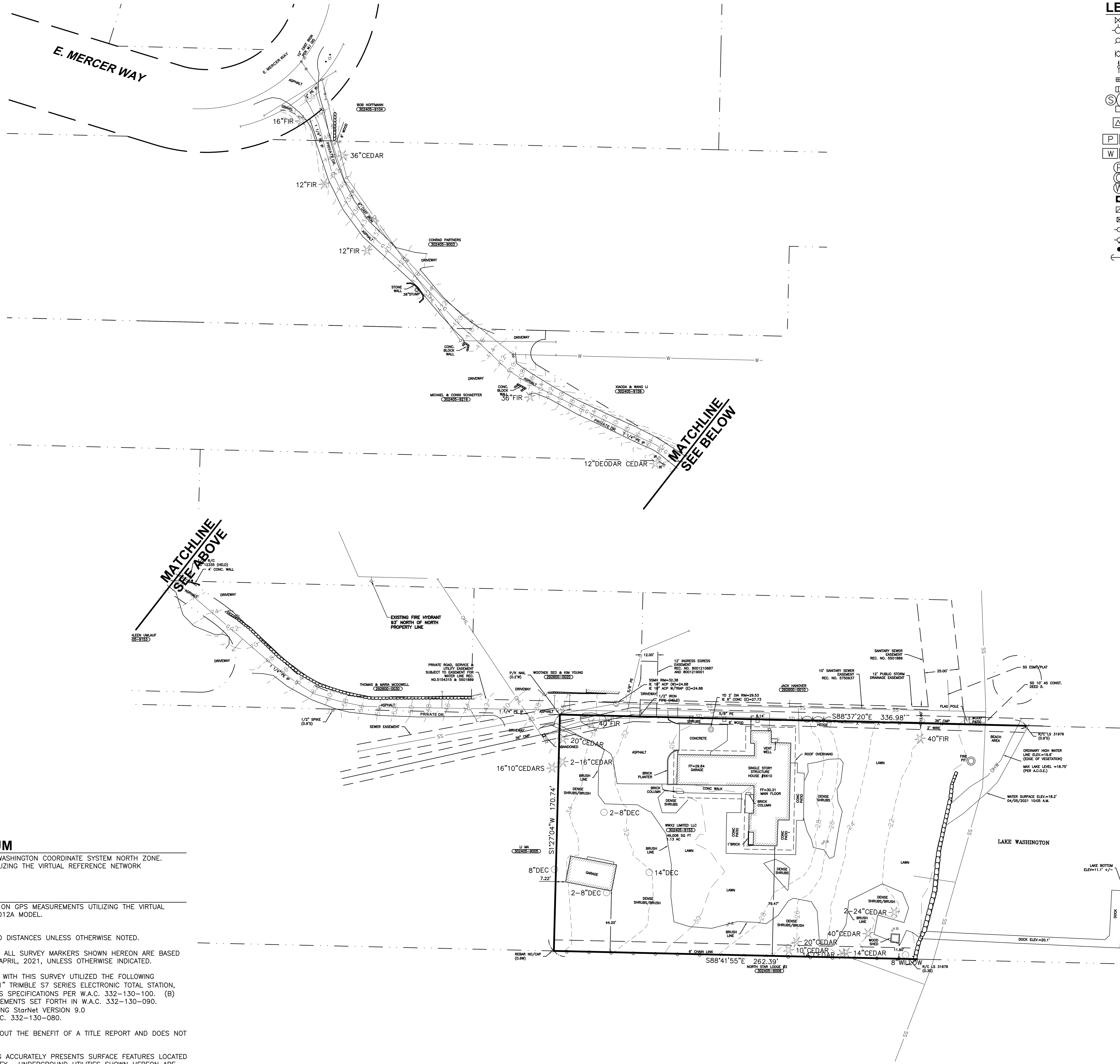
##########

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

| SCALE: | DATE: |
|---|---|
| ######## | ######## |
| DESIGNED BY: MA | CHECKED BY: JA |

PACE PROJECT NO. ----

SHEET ####




## LEGEND

WATER VALVE
HYDRANT
POST INDICATOR VALVE
WATER BLOW OFF
WATER METER
IRR. CONTROL VALVE
MANHOLES (SS/SD)
POWER TRANSFORMER
POWER/COMM. VAULT
WATER/UTILITY VAULT
POWER MANHOLE
COMM. MANHOLE
WATER MANHOLE
POWER METER
SURFACE JUNCTION BOX
SUBSURFACE JUNCTION BOX
POWER/UTILITY POLE
POWER/UTILITY POLE W/DROP
ANCHOR POLE
GUY ANCHOR
TRAFFIC SIGNAL POLE
STREET LIGHT
LUMINAIRE(DOUBLE)
LUMINAIRE(SINGLE)
PEDESTRIAN LIGHT POLE
AREA LIGHT
GAS METER
GAS VALVE
MAILBOX
NEWS PAPER BOX
TRASH CAN
ROCKERY
SPOT ELEVATION
SIZE & TYPE (CONIFEROUS TREE)
SIZE & TYPE (DECIDUOUS TREE)
PK NAIL W/ WASHER
REBAR AND CAP (SET)
REBAR AND CAP (FOUND)
TACK AND LEAD
HUB AND TACK
CASED MONUMENT
SURFACE MONUMENT
CENTER LINES
PROPERTY LINES
RIGHT-OF-WAY LINES
SUBDIVISION LINES
QUARTER SECTION LINE
SIXTEENTH SECTION LINE
HISTORICAL LINES
EASEMENT LINES
LOT LINES
DITCH LINE
WATER LINE
SANITARY SEWER LINE
STORM DRAIN LINE
GAS LINE
UNDERGROUND POWER LINES
UNDERGROUND COMMUNICATION LINES
OVERHEAD UTILITY LINES
HIGH WATER LINE
WETLAND BOUNDARY LINE
CHAIN LINK FENCE
WIRE FENCE
WOOD FENCE
EDGE OF VEGETATION/HEDGE LINE

N

HORIZ. 0 20 40 80
Scale In Feet

## HORIZONTAL DATUM

HORIZONTAL DATUM: NAD 83/91, WASHINGTON COORDINATE SYSTEM NORTH ZONE. BASED ON GPS MEASUREMENTS UTILIZING THE VIRTUAL REFERENCE NETWORK

## VERTICAL DATUM

VERTICAL DATUM: NAVD 88 BASED ON GPS MEASUREMENTS UTILIZING THE VIRTUAL REFERENCE NETWORK AND GEOID 2012A MODEL.

ALL DISTANCES SHOWN ARE GROUND DISTANCES UNLESS OTHERWISE NOTED.

THE LOCATION AND DESCRIPTION OF ALL SURVEY MARKERS SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS TAKEN IN APRIL, 2021, UNLESS OTHERWISE INDICATED.

WORK PERFORMED IN CONJUNCTION WITH THIS SURVEY UTILIZED THE FOLLOWING EQUIPMENT AND PROCEDURES: (A) 1" TRIMBLE S7 SERIES ELECTRONIC TOTAL STATION, MAINTAINED TO THE MANUFACTURER'S SPECIFICATIONS PER W.A.C. 332-130-100. (B) FIELD TRAVERSE, EXCEEDING REQUIREMENTS SET FORTH IN W.A.C. 332-130-090. (C) LEASE SQUARE ADJUSTMENT USING StarNet VERSION 9.0 EXCEEDING REQUIREMENTS PER W.A.C. 332-130-080.

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

THIS TOPOGRAPHIC SURVEY DRAWING ACCURATELY PRESENTS SURFACE FEATURES LOCATED DURING THE COURSE OF THIS SURVEY. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED SOLELY UPON INFORMATION PROVIDED BY OTHERS AND PACE ENGINEERS, INC. DOES NOT ACCEPT RESPONSIBILITY OR ASSUME LIABILITY FOR THEIR ACCURACY OR COMPLETENESS. CONTRACTOR/ENGINEERS SHALL VERIFY EXACT SIZE AND LOCATION PRIOR TO CONSTRUCTION.
CALL FOR LOCATE: UTILITY LOCATION SERVICE: 811

## RECORD LEGAL DESCRIPTION:

THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1588.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF.

TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI GOVERNMENT LOT 1.

TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER WAY APPURTENANT TO THE PROPERTY HEREBY CONVEYED.

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

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

----

FILE NAME: P:\P21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SFR BUILDING PERMIT\P21436_EC-SFR.DWG
SAVE TIME: 12/20/2021 6:31:14 PM PLOT TIME: 12/22/2021 5:36 PM
USER NAME: JAY PULLEN
XREF FILES: X21436_BDR.dwg X21436_DEMO.dwg 9433-11-SRV.dwg V21436-SRV.dwg

| SYM | REVISION | DATE |
|---|---|---|

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

WILLIAM R. HAWKINS
STATE OF WASHINGTON
33130
REGISTERED
PROFESSIONAL LAND SURVEYOR

**DHEERAJ KONERU**
**7002 93RD AVENUE SE**
**MERCER ISLAND, WA 98040**

**KONERU SHORT PLAT**
**6610 EAST MERCER WAY**
**MERCER ISLAND, WA 98040**

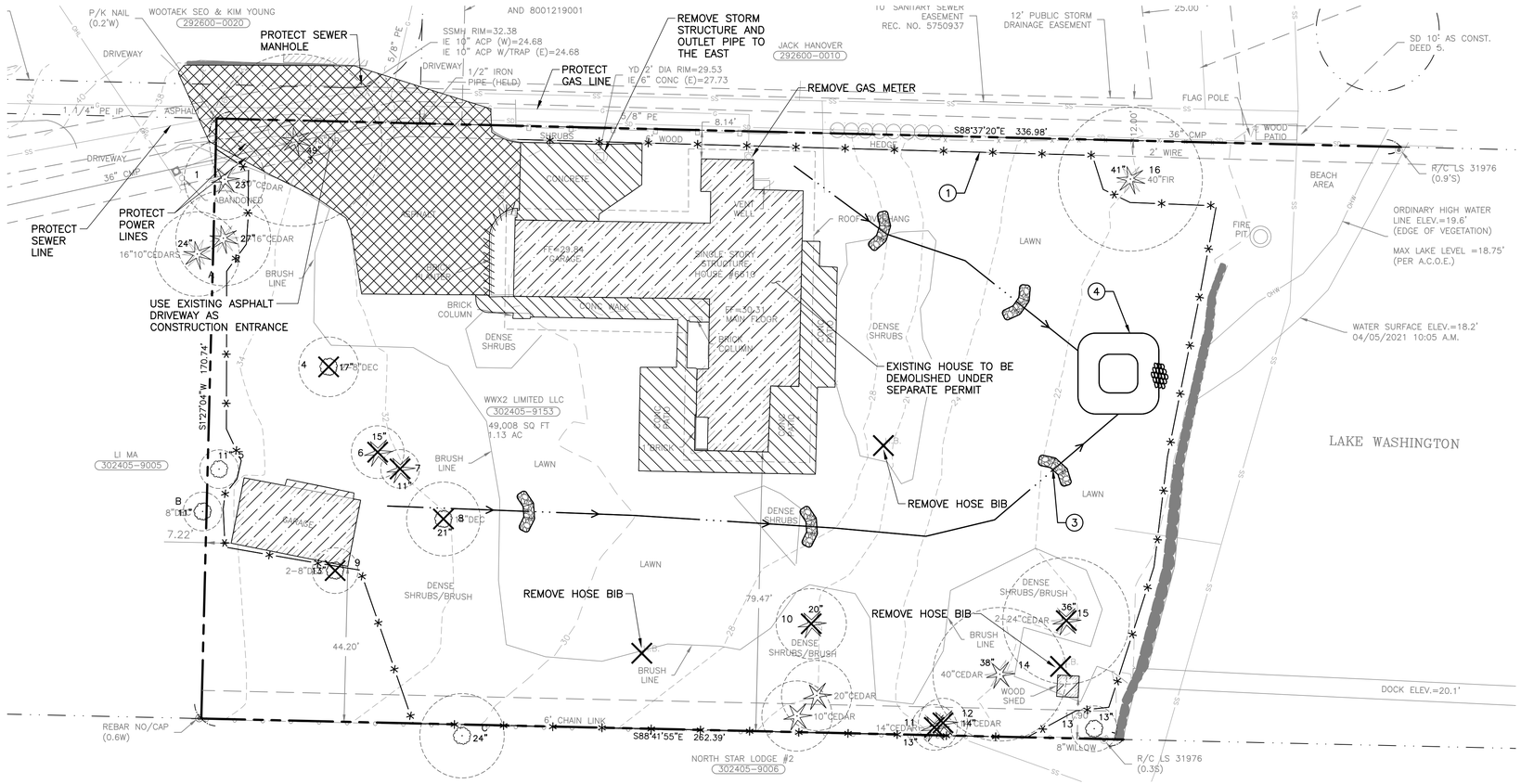
**EXISTING CONDITIONS**

**VERIFY SCALE**
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| SCALE: 1"=20' | DATE: 07/20/21 |
|---|---|
| DESIGNED BY: MA | CHECKED BY: JA |

PACE PROJECT NO. 21436.00

SHEET **C0.2**




## LEGEND:

- INLET PROTECTION
- SILT FENCE
- TREE PROTECTION FENCE PER CITY OF KIRKLAND DETAIL ON SEE SHEET C1.1
- PNA PROTECTION BOUNDARY
- INTERCEPTOR SWALE
- DEMOLISH FEATURE
- STRUCTURE TO BE DEMOLISHED
- PAVEMENT TO BE REMOVED
- CONCRETE TO BE REMOVED
- OBJECT TO BE REMOVED
- CHECK DAM PER CITY OF MERCER ISLAND DETAIL X.XX ON SHEET C1.1
- TEMPORARY SEDIMENT TRAP

## GENERAL NOTES:

1. PRIOR TO ORDERING MATERIALS AND CONSTRUCTION, THE CONTRACTOR SHALL REVIEW THE PROJECT PLANS AND SITE CONDITIONS AND IDENTIFY IF ANY CONFLICTS EXIST. THE CONTRACTOR SHALL CALL "ONE-CALL" AND IDENTIFY AND ABOVE OR BELOW GRADE FEATURES ARE IN CONFLICT WITH THE PLANS. IF CONFLICTS EXIST CONTACT PACE ENGINEERS (425) 827-2014 WITH THE HORIZONTAL AND VERTICAL LOCATION OF THE CONFLICTS.
2. ALL WORK SHALL BE PERFORMED PER THE MOST CURRENT VERSION OF THE CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS AS PROVIDED IN THIS PLAN SET.
3. SITE INPSECTIONS SHALL BE CONDUCTED BY A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) WHO SHALL BE PRESENT ON-SITE OR ON-CALL AT ALL TIMES.

PROJECT CESCL:_____

PHONE: _____

## EROSION CONTROL NOTES:

1. INSTALL SILT FENCE AT CLEARING LIMITS PER DETAIL X.XX ON SHEET C2.1.
2. INSTALL TREE PROTECTION FENCING PER DETAIL ON SHEET C2.1.
3. INSTALL INTERCEPTOR SWALE WITH CHECK DAMS PER DETAIL ON SHEET C2.1.
4. SEDIMENT TRAP PER DETAIL ON SHEET 2.1.

## CONSTRUCTION SEQUENCE

1. INSTALL FILTER FABRIC FENCES WHERE SHOWN ON THE PLAN.
2. INSTALL PROTECTION FENCING AROUND TREES WHERE SHOWN ON THE PLAN.
3. COORDINATE AND ATTEND PRE-CONSTRUCTION MEETING WITH CITY INSPECTOR.
4. INSTALL ROCK FOR CONSTRUCTION ACCESS.
5. DEMOLISH EXISTING HOUSE, GARAGE AND SHED WITHIN THE PROPERTY.
6. ROUGH GRADE SITE TO ESTABLISH BUILDING PAD AND DRIVEWAY.
7. INSTALL SEWER, STORM, WATER SERVICE LINES. FROM MAIN TO BUILDING SITE
8. INSTALL BUILDING FOUNDATION.
9. FINISH GRADE LOT AND INSTALL LANDSCAPE PLANTING.
10. INSTALL FINAL PAVEMENT LIFT FOR DRIVEWAY.
11. REMOVE TESC MEASURES UPON APPROVAL OF CITY OF MERCER ISLAND INSPECTOR.

N

HORIZ. 0 10 20 40 Scale In Feet

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

---

| DATE | REVISION | SYM |
|---|---|---|
| | | |

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

JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
NOT FOR CONSTRUCTION

**DHEERAJ KONERU**
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

**KONERU BUILDING PERMIT**
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

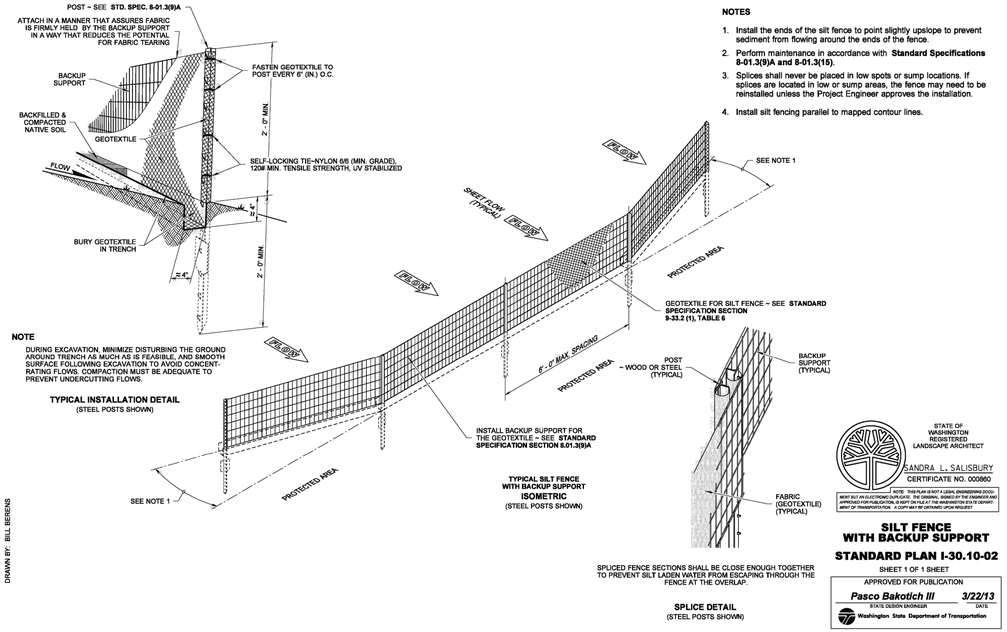
##########

**VERIFY SCALE**
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| SCALE: | DATE: |
|---|---|
| 1"=20' | 07/20/21 |
| DESIGNED BY: MA | CHECKED BY: JA |
| PACE PROJECT NO. 21436.00 | |

SHEET **C2.0**

FILE NAME: P:\21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SFR BUILDING PERMIT\21436_TESC-SFR.DWG
SAVE TIME: 12/22/2021 2:23:31 PM
USER NAME: JAY PILLEN
USER FILES: X21436_BDR.dwg 9433-11-SRV.dwg X21436-SRV.dwg X21436_TREE.dwg X21436_TESC.dwg
PLOT TIME: 12/22/2021 3:35:35 PM




**NOTES**

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

STATE OF WASHINGTON
REGISTERED LANDSCAPE ARCHITECT
SANDRA L. SALISBURY
CERTIFICATE NO. 000860

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC SUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

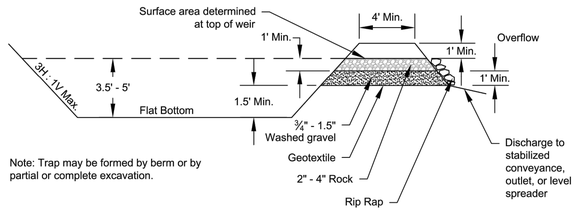
**SILT FENCE WITH BACKUP SUPPORT**

**STANDARD PLAN I-30.10-02**

SHEET 1 OF 1 SHEET

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

DRAWN BY: BILL BERENS




Note: Trap may be formed by berm or by partial or complete excavation.

NOT TO SCALE

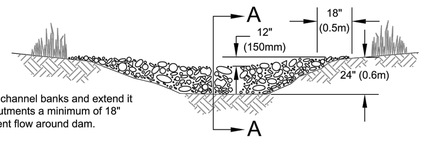
DEPARTMENT OF ECOLOGY
State of Washington

## Cross Section of Sediment Trap

Revised June 2016

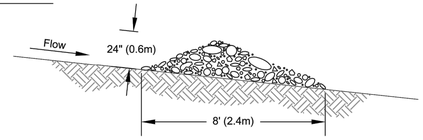
Please see *http://www.ecy.wa.gov/copyright.html* for copyright notice including permissions, limitation of liability, and disclaimer.

## View Looking Upstream

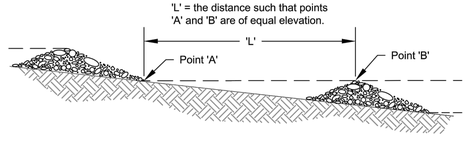



Note:
Key stone into channel banks and extend it beyond the abutments a minimum of 18" (0.5m) to prevent flow around dam.

## Section A-A




## Spacing Between Check Dams




NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

## Rock Check Dam

Revised June 2016

Please see *http://www.ecy.wa.gov/copyright.html* for copyright notice including permissions, limitation of liability, and disclaimer.

**CALL BEFORE YOU DIG 811**
UNDERGROUND SERVICE (USA)

---

| DATE | REVISION | SYM |
|---|---|---|

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

**DHEERAJ KONERU**
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

**KONERU BUILDING PERMIT**
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

**TESC DETAILS**

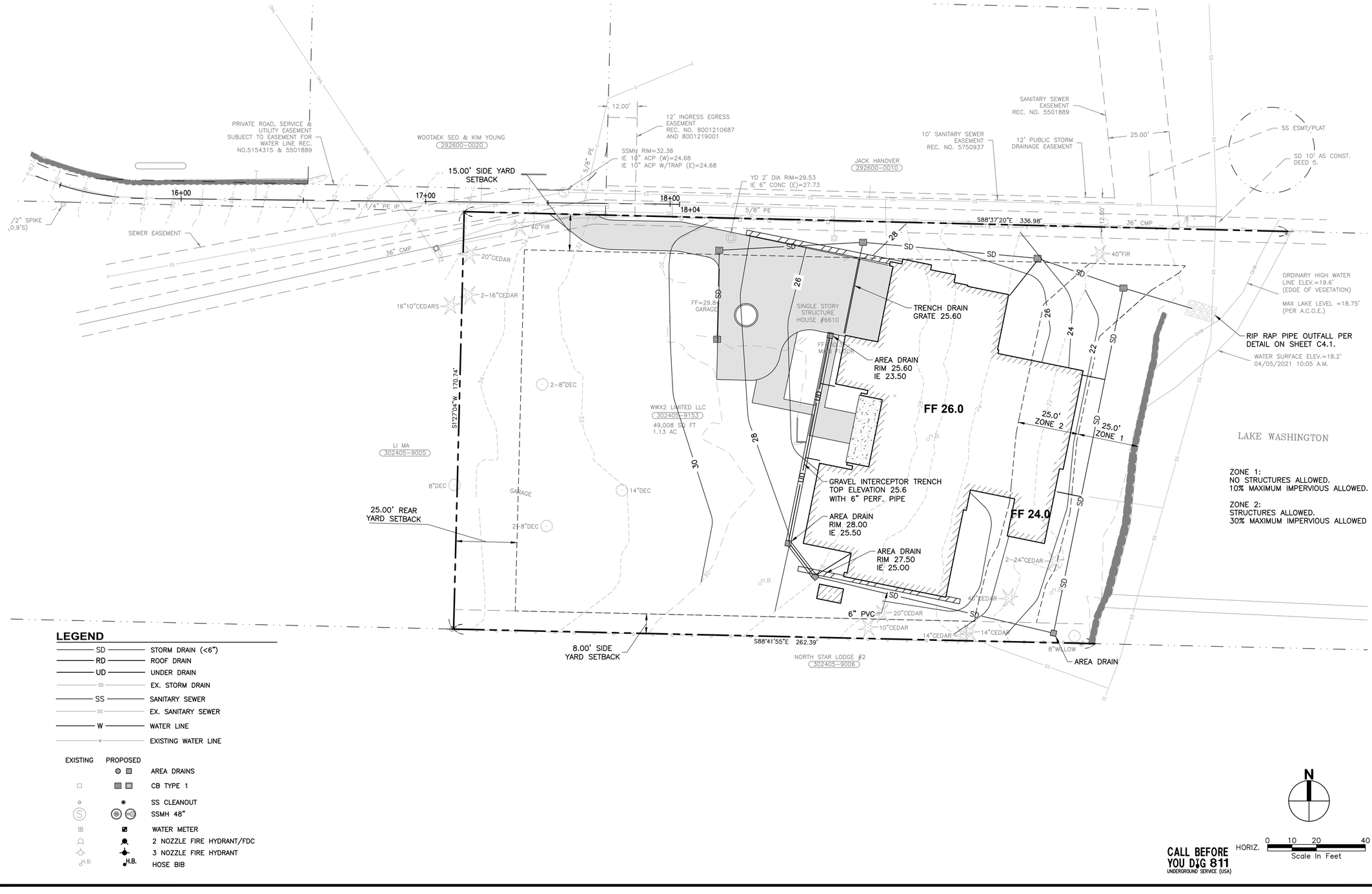
**VERIFY SCALE**
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| SCALE: | DATE: |
|---|---|
| DESIGNED BY: MA | CHECKED BY: JA |

PACE PROJECT NO.

SHEET **C2.1**

FILE NAME: P:\21\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\SFR BUILDING PERMIT\P21436_TESC-SFR.DWG
SAVE TIME: 12/22/2021 2:23:31 PM PLOT TIME: 12/22/2021 2:25:31 PM
USER NAME: JAY PULLEN
XREF FILES: X21436_BDR.dwg 9433-11-SRV.dwg X21436-SRV.dwg X21436_THREE.dwg X21436_TESC.dwg




## LEGEND

| | |
|---|---|
| SD | STORM DRAIN (<6") |
| RD | ROOF DRAIN |
| UD | UNDER DRAIN |
| SD | EX. STORM DRAIN |
| SS | SANITARY SEWER |
| SS | EX. SANITARY SEWER |
| W | WATER LINE |
| W | EXISTING WATER LINE |

| EXISTING | PROPOSED | |
|---|---|---|
| | | AREA DRAINS |
| □ | | CB TYPE 1 |
| | | SS CLEANOUT |
| | | SSMH 48" |
| | | WATER METER |
| | | 2 NOZZLE FIRE HYDRANT/FDC |
| | | 3 NOZZLE FIRE HYDRANT |
| H.B. | H.B. | HOSE BIB |

N

HORIZ. 0 10 20 40
Scale In Feet

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

| SYM | REVISION | DATE |
|---|---|---|

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

JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

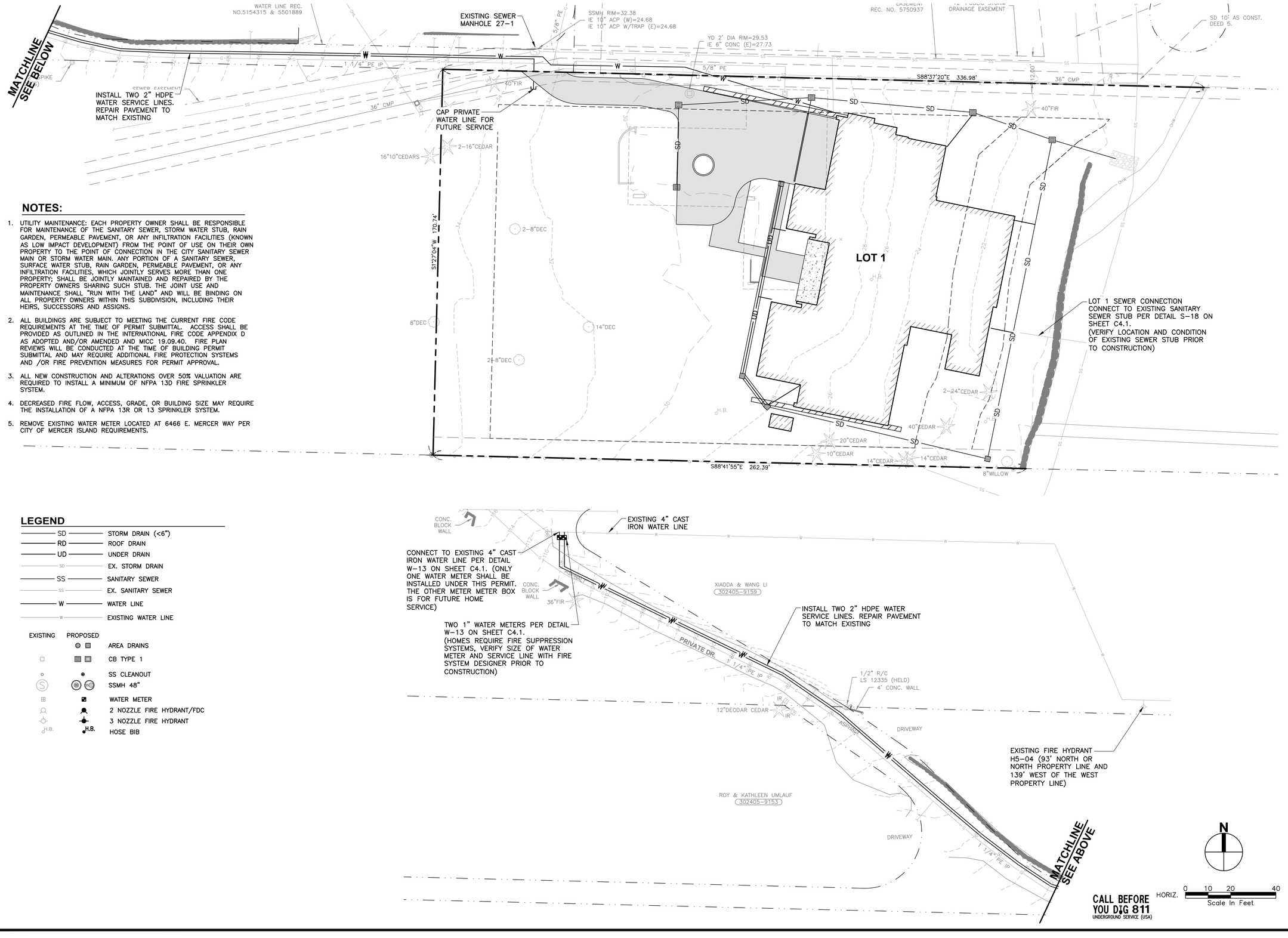
GRADING PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| SCALE: | DATE: |
|---|---|
| 1"=20' | 07/20/21 |
| DESIGNED BY: MA | CHECKED BY: JA |
| PACE PROJECT NO. 21436.00 | |

SHEET C2.0

FILE NAME: P:\21\21436 KONERU RESIDENCE\CAD\ENGINEERING SHEETS\SFR BUILDING PERMIT\P21436_GRUT-SFR.DWG
SAVE TIME: 12/22/2021 5:34:21 PM PILOT TIME: 12/22/2021 5:38 PM
USER NAME: JAY PILLEN
XREF FILES: X21436_BDR.dwg 9433-11-SRV.dwg X21436-SRV.dwg X21436_SITE.dwg D21436_CDR.dwg X21436_SD.dwg X21436_FC.dwg X21436_WM.dwg




## NOTES:

1. UTILITY MAINTENANCE: EACH PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE SANITARY SEWER, STORM WATER STUB, RAIN GARDEN, PERMEABLE PAVEMENT, OR ANY INFILTRATION FACILITIES (KNOWN AS LOW IMPACT DEVELOPMENT) FROM THE POINT OF USE ON THEIR OWN PROPERTY TO THE POINT OF CONNECTION IN THE CITY SANITARY SEWER MAIN OR STORM WATER MAIN. ANY PORTION OF A SANITARY SEWER, SURFACE WATER STUB, RAIN GARDEN, PERMEABLE PAVEMENT, OR ANY INFILTRATION FACILITIES, WHICH JOINTLY SERVES MORE THAN ONE PROPERTY; SHALL BE JOINTLY MAINTAINED AND REPAIRED BY THE PROPERTY OWNERS SHARING SUCH STUB. THE JOINT USE AND MAINTENANCE SHALL "RUN WITH THE LAND" AND WILL BE BINDING ON ALL PROPERTY OWNERS WITHIN THIS SUBDIVISION, INCLUDING THEIR HEIRS, SUCCESSORS AND ASSIGNS.
2. ALL BUILDINGS ARE SUBJECT TO MEETING THE CURRENT FIRE CODE REQUIREMENTS AT THE TIME OF PERMIT SUBMITTAL. ACCESS SHALL BE PROVIDED AS OUTLINED IN THE INTERNATIONAL FIRE CODE APPENDIX D AS ADOPTED AND/OR AMENDED AND MICC 19.09.40. FIRE PLAN REVIEWS WILL BE CONDUCTED AT THE TIME OF BUILDING PERMIT SUBMITTAL AND MAY REQUIRE ADDITIONAL FIRE PROTECTION SYSTEMS AND /OR FIRE PREVENTION MEASURES FOR PERMIT APPROVAL.
3. ALL NEW CONSTRUCTION AND ALTERATIONS OVER 50% VALUATION ARE REQUIRED TO INSTALL A MINIMUM OF NFPA 13D FIRE SPRINKLER SYSTEM.
4. DECREASED FIRE FLOW, ACCESS, GRADE, OR BUILDING SIZE MAY REQUIRE THE INSTALLATION OF A NFPA 13R OR 13 SPRINKLER SYSTEM.
5. REMOVE EXISTING WATER METER LOCATED AT 6466 E. MERCER WAY PER CITY OF MERCER ISLAND REQUIREMENTS.

## LEGEND

| | |
|---|---|
| SD | STORM DRAIN (<6") |
| RD | ROOF DRAIN |
| UD | UNDER DRAIN |
| SD | EX. STORM DRAIN |
| SS | SANITARY SEWER |
| SS | EX. SANITARY SEWER |
| W | WATER LINE |
| W | EXISTING WATER LINE |

| EXISTING | PROPOSED | |
|---|---|---|
| | | AREA DRAINS |
| | | CB TYPE 1 |
| | | SS CLEANOUT |
| | | SSMH 48" |
| | | WATER METER |
| | | 2 NOZZLE FIRE HYDRANT/FDC |
| | | 3 NOZZLE FIRE HYDRANT |
| H.B. | H.B. | HOSE BIB |

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

| DATE | REVISION | SYM |
|---|---|---|
| | | |

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

JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

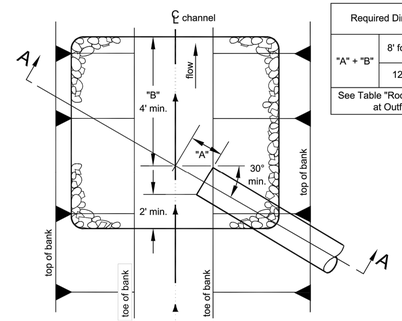
COMPOSITE UTILITY PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| SCALE: | DATE: |
|---|---|
| 1"=20' | 07/20/21 |
| DESIGNED BY: MA | CHECKED BY: JA |
| PACE PROJECT NO. 21436.00 | |

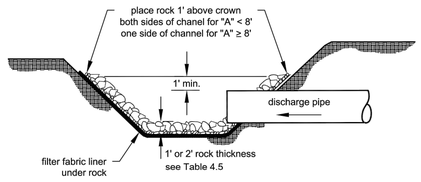
SHEET C3.0

FILE NAME: P:\PCE\21436 KONERU RESIDENCE\CAD\ENGINEERING\SHEETS\GR BUILDING PERMIT\P21436_UT-SFR.DWG
SAVE TIME: 12/22/2021 5:32:08 PM PLOT TIME: 12/22/2021 5:33:53 PM
USER NAME: JAY PULLEN
XREF FILES: X21436_BGR.dwg 9433-11-SFR.dwg X21436-SFR.dwg X21436_SITE.dwg X21436_SD.dwg X21436_JVA.dwg




Plan

| Required Dimensions | |
|---|---|
| "A" + "B" | 8' for rock lining |
| | 12' for rip rap |
| See Table "Rock Protection at Outfalls" | |




Section A-A

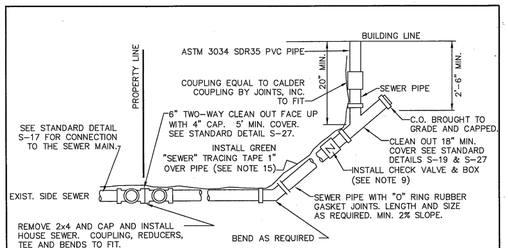
NOT TO SCALE

DEPARTMENT OF ECOLOGY
State of Washington

# Pipe/Culvert Outfall Discharge Protection

Revised June 2017

Please see *http://www.ecy.wa.gov/copyright.html* for copyright notice including permissions, limitation of liability, and disclaimer.




**BUILDING CONNECTION**

**NOTES**

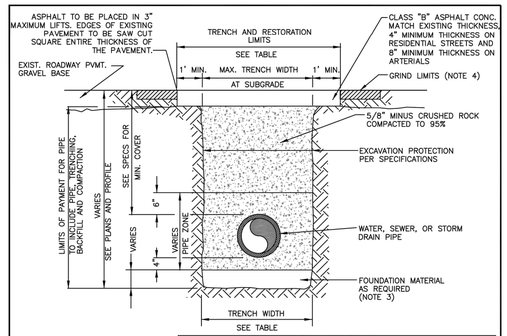
1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM 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

| 6-5-2009 | NO SCALE | S-18 |
|---|---|---|

REV DATE | APPROVED




WIDTH TRENCH

| PIPE SIZE | PIPE ZONE MAX. TRENCH WIDTH | MAX. TRENCH WIDTH AT SUBGRADE | MAX. RESTORATION WIDTH AT SURFACE |
|---|---|---|---|
| WATER SERVICES | 2'-0" | 2'-0" | 4'-0" |
| 4" OR 6" | 2'-2" | 3'-0" | 5'-0" |
| 8" | 2'-4" | 4'-0" | 6'-0" |
| 10" | 2'-6" | 4'-0" | 6'-0" |
| 12" | 2'-8" | 4'-6" | 6'-6" |
| 16" | 3'-0" | 5'-0" | 7'-0" |

**NOTES**

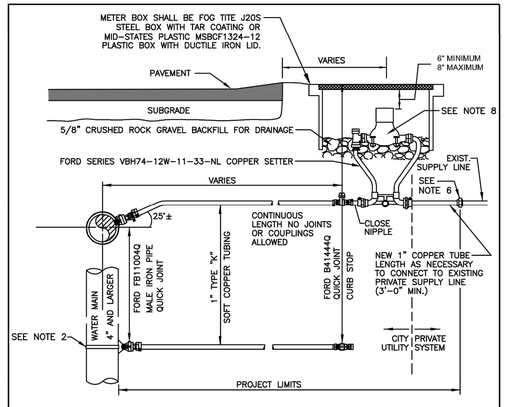
1. CALL IN LOCATES TWO BUSINESS DAYS BEFORE YOU DIG. (1-800-424-5555)
2. IN RIGHT-OF-WAY USE 100% 5/8 MINUS CRUSHED ROCK FOR BEDDING, PIPE ZONE AND BACKFILL
3. FOUNDATION MATERIAL SHALL BE 1 ¼" MINUS CRUSHED ROCK OR OTHER AGGREGATE AS APPROVED BY CITY ENGINEER.
4. GRIND AND OVERLAY LIMITS SHALL EXTEND A MINIMUM OF 10' PAST THE END OF TRENCH AREAS.
5. SEAL ALL FINAL PATCHING AND PAVING SEAMS WITH LIQUID ASPHALT. SQUEEGEE OR MOP THE SEALER. COVER WITH DRY SAND.

CITY OF MERCER ISLAND
**STANDARD DETAILS**
WATER

TRENCH SECTION

| 3-29-2021 | NO SCALE | W-3 |
|---|---|---|

REV DATE | APPROVED




**NOTES**

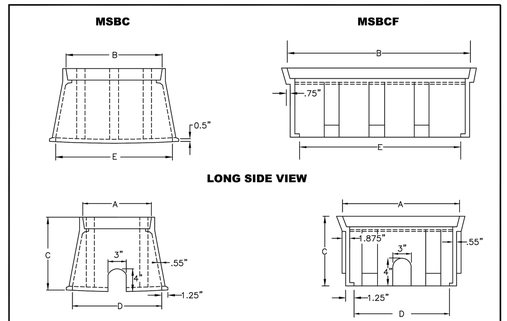
1. WATER SERVICES SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT DATED 01/04/2014.
2. ON EXISTING WATER MAINS USE NYLON COATED D.I. SADDLE WITH STAINLESS STEEL DOUBLE STRAPS, ROMAC 202NS, OR APPROVED EQUAL.
3. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18" MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24", ALL HORIZONALLY STAGGERED.
4. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
5. UPON CITY ENGINEER'S APPROVAL, METER BOXES ARE ALLOWED TO BE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK.
6. WHEN CONNECTING TO EXISTING PRIVATE SUPPLY LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DB SERIES WITH C21 SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING PRIVATE SUPPLY LINE DIAMETER.
7. 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.
8. WATER METER SUPPLIED BY CITY.
9. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
10. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
**STANDARD DETAILS**
WATER

1" WATER METER INSTALLATION

| 02-05-2021 | NO SCALE | W-13 |
|---|---|---|

REV DATE | APPROVED




| WATER SERVICE SIZE | PART NO. | A | B | C | D | E |
|---|---|---|---|---|---|---|
| 1" | MSBCF1324-12 | 13.75" | 23.1875" | 12" | 12.125" | 24.5" |
| 2" | MSBC1730-18 | 17.625" | 30.5" | 18" | 22.875" | 35" |

**NOTES:**

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

CITY OF MERCER ISLAND
**STANDARD DETAILS**
WATER

1" & 2" PLASTIC WATER METER BOX

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

REV DATE | APPROVED

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

---

| SYM | REVISION | DATE |
|---|---|---|

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

DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

UTILITY DETAILS

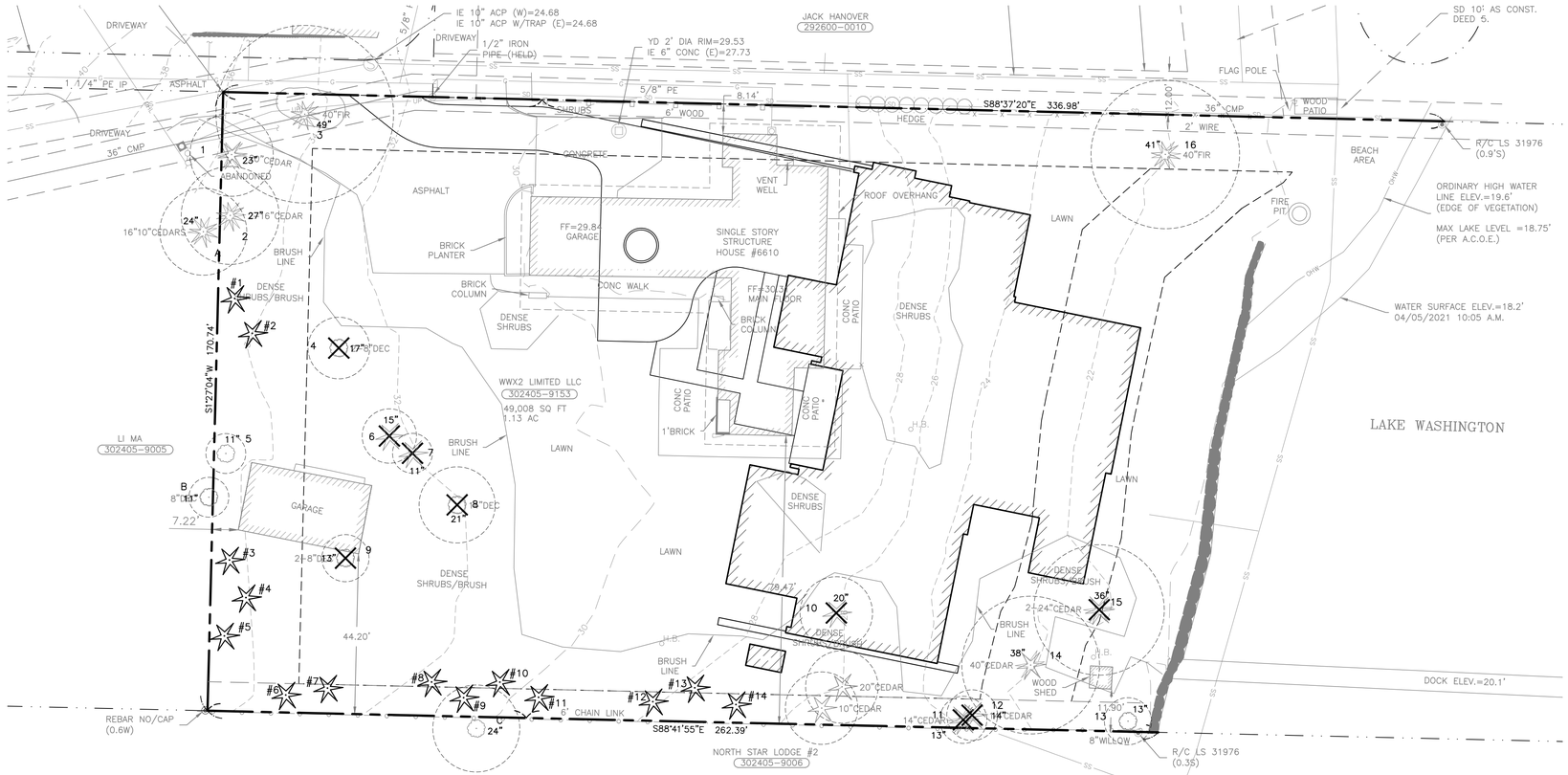
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| SCALE: | DATE: |
|---|---|
| DESIGNED BY: MA | CHECKED BY: JA |

PACE PROJECT NO.

SHEET C4.1

FILE NAME: P:\21436 KONERU RESIDENCE\CAD\ENGINEERING SHEETS\GFR BUILDING PERMIT\P21436_UT-STR.DWG
SAVE TIME: 12/22/2021 5:32:08 PM PLOT TIME: 12/22/2021 5:53:8 PM
USER NAME: JAY PULLEN
XREF FILES: X21436_BDR.dwg X433-11-STR.dwg X21436-STR.dwg X21436_SITE.dwg X21436_SD.dwg X21436_VA.dwg




## LEGEND

- 888 — VIABLE TREE TO REMAIN
- 889 — VIABLE TREE TO BE REMOVED DUE TO PROJECT OR NOT–SUITABLE TO MAINTAIN
- #X — PROPOSED REPLACEMENT TREE
- CONIFEROUS
- DECIDUOUS TREE
- DRIP LINE PER TABLE
- —*— TREE PROTECTION
- A–C — TREES LOCATED OFF SITE

## TREE INVENTORY

**Inventory Findings**

Per the scope of work, Tree133 completed an inventory of trees within and overhanging the site and identified the following:

| Tree # | *Species* | Common Name | dsh (in) | Exceptional | Suitable to Retain | Condition |
|---|---|---|---|---|---|---|
| 1 | *Thuja plicata* | Western red cedar | 23.4 | No | Yes | Generally good condition, asymmetric canopy, utility pruning on west side, impermeable asphalt driveway within dripline |
| 2 | *Thuja plicata* | Western red cedar | 27.1 | No | Yes | Codominant structure beginning at 5 feet, asymmetric canopy, foliage appears chlorotic with heavy cone crop, long-term viability uncertain |
| 3 | *Pseudotsuga menziesii* | Douglas-fir | 48.5 | Yes | Yes* | Canopy appears in good condition, previously raised to 30+ feet, majority of dripline area covered by impermeable asphalt, large roots lifting/cracking asphalt surface<br>* Driveway on both sides of trunk, large/heavy vehicles during construction expected to negatively impact root zone immediately adjacent to tree |
| 4 | *Magnolia x soulangeana* | Saucer magnolia | 16.7 | No | Yes | Generally good condition, multi-stem structure, severe phototropic asymmetry |
| 5 | *Robinia pseudoacacia* | Black locust | 11 | No | Yes | Generally good condition, some visible deadwood, rooted on/near property line, dsh estimated due to blackberry brambles |
| 6 | *Chamaecyparis pisifera* | Sawara cypress | 14.5 | No | No | Tree girdled in multiple locations, bark stripped to 6 feet, not expected to survive |
| 7 | *Chamaecyparis pisifera* | Sawara cypress | 11.0 | No | No | Tree girdled, multiple 1/2-inch holes drilled, bark stripped to 6 feet, not expected to survive |
| 8 | *Prunus cerasifera* | Flowering plum | 20.7 | No* | No | Tree girdled in multiple locations, not expected to survive<br>* Measured dsh is less than 1/2-inch below MICC Exceptional threshold |
| 9 | *Robinia pseudoacacia* | Black locust | 12.7 | No | Yes | Generally good condition, rooted adjacent to old garage structure, anticipate asymmetric root zone |
| 10 | *Thuja plicata* | Western red cedar | 20.2 | No | No | Bark stripped to 8 feet, multiple 1/2-inch holes drilled, not expected to survive |
| 11 | *Thuja plicata* | Western red cedar | 12.7 | No | Yes | Generally good condition, growing in close proximity to tree 12 |
| 12 | *Thuja plicata* | Western red cedar | 13.6 | No | Yes | Generally good condition, growing in close proximity to tree 11 |
| 13 | *Acer negundo* | Box elder | 13.0 | No | Yes | Heavy phototropic lean toward lake and existing dock, no visible indication of instability |
| 14 | *Thuja plicata* | Western red cedar | 37.5 | Yes | Yes | Generally good condition, codominant structure beginning at 4 feet, significant ivy growth on trunk |
| 15 | *Thuja plicata* | Western red cedar | 36.1 | Yes | No | Tree dead, bark stripped to 3-4 feet, multiple 1/2-inch holes drilled |
| 16 | *Pseudotsuga menziesii* | Douglas-fir | 40.8 | Yes | Yes | Good condition, may have previously lost top |
| A | *Thuja plicata* | Western red cedar | 24 | No | Yes | Overhangs from neighboring property (west), generally good condition, multi-stem structure, dsh estimated due to property boundary |
| B | *Robinia pseudoacacia* | Black locust | 11 | No | Yes | Overhangs from neighboring property (west), codominant structure beginning at 6 feet, generally good condition, dsh estimated due to blackberry brambles |
| C | *Acer negundo* | Box elder | 24 | No | Yes | Overhangs from neighboring property (south), generally good condition, dsh estimated due to property boundary |

**Summary**

This inventory identified 19 total trees, with 16 within the site boundaries and 3 overhanging from neighboring properties. Within the site boundaries site, five (5) trees were identified as being dead, girdled, de-barked and/or drilled with the apparent intent of causing tree mortality. While some of these trees currently retain green foliage, visual inspection suggests none of these trees are expected to survive. It appears this intentional damage occurred within the past two (2) years.

The site also includes numerous large English laurel *(Prunus laurocerasus)*, Rhododendron and Camellia, some with stems exceeding 10 inches diameter. Due to these species typically being characterized as shrubs, they are not included in this inventory.

This inventory identified four (4) Exceptional trees and a total of five (5) large trees greater than 24 inches diameter. One of the exceptional trees (#15) is now dead, likely due to intentional damage.

Mercer Island City Code (MICC) requires retention of at least 30% of regulated trees during/after construction. This inventory identified 11 trees that are suitable for retention. Trees with severe visible damage – as described above – are not included in this figure. At the 30% retention level per MICC, at least four (4) of the trees in good condition are required to be retained.

## TREE REPLACEMENT

| DIAMETER | NUMBER OF REPLACEMENT TREES REQUIRED |
|---|---|
| 10" TO 24" | 8 |
| GREATER THAN 36" | 6 |

SEE ARBORIST REPORT FOR ADDITIONAL DETAILS.

N

CALL BEFORE YOU DIG 811
UNDERGROUND SERVICE (USA)

HORIZ. 0 10 20 40
Scale In Feet

---

DATE | REVISION | SYM

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

JOHN E. ANDERSON
STATE OF WASHINGTON
26878
REGISTERED
PROFESSIONAL ENGINEER

DHEERAJ KONERU
7002 93RD AVENUE SE
MERCER ISLAND, WA 98040

KONERU
BUILDING PERMIT
6610 EAST MERCER WAY
MERCER ISLAND, WA 98040

TREE RETENTION PLAN

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

| SCALE: | DATE: |
|---|---|
| 1"=20' | 07/20/21 |
| DESIGNED BY: MA | CHECKED BY: JA |
| PACE PROJECT NO. 21436.00 | |

SHEET L1.0

FILE NAME: P:\P21\21436_KONERU_RESIDENCE\CAD\ENGINEERING\SHEETS\ER BUILDING PERMIT\P21436_TREE-SFR.DWG
SAVE TIME: 12/21/2021 4:06:53 PM PLOT TIME: 12/22/2021 9:53:37 AM
USER NAME: JAY FULLEN
XREF FILES: X21436_BDR.dwg 9433-11-SRV.dwg Y21436-SRV.dwg Y21436_TREE.dwg X21436-SRV.dwg X21436_SITE.dwg

## PLANT SCHEDULE

### TREES

| SYMBOL | BOTANICAL NAME/ COMMON NAME | SIZE | QTY. | REMARKS |
|---|---|---|---|---|
| | PINUS CONTORTA<br>SHORE PINE | 4'-5'<br>SP. | | |

### SHRUBS

| | | | |
|---|---|---|---|
| CORNUS SERICEA<br>REDTWIG DOGWOOD | 1 GAL. | | |
| GAULTHERIA SHALLON<br>SALAL | 1 GAL. | | |
| SALIX SCOULERIANA<br>SCOULER'S WILLOW | 1 GAL. | | |

### PERENNIALS AND GROUNDCOVERS

| | | | |
|---|---|---|---|
| ARCTOSTAPHYLLOS UVA-URSI<br>KINNIKINNICK | 4" POT | | SPACING @ 18" OC |
| BLECHNUM SPICANT<br>DEER FERN | 1 GAL. | | |
| CAREX OBNUPTA<br>SLOUGH SEDGE | 4" POT | | |
| CAREX ROSTRATA<br>BEAKED SEDGE | 4" POT | | |
| POLYSTICHUM MUNITUM<br>SWORD FERN | 1 GAL. | | |
| SCIRPUS ACUTUS<br>HARDSTEM BULLRUSH | 4" POT | | SPACING @ 18" OC |

## AREA CALCULATIONS

TOTAL AREA BETWEEN OHWM AND 20' SETBACK = 3,833 S.F.
3,833 X .751 = 2,878.58 S.F. REQUIRED NATIVE VEGETATION

.

TOTAL PROPOSED NATIVE VEGETATION (76.47%) 2,931.26 S.F.

4' 8' 16' 32'
SCALE: 1/8" = 1' - 0"

Koneru
21.14

Darwin Webb
LANDSCAPE ARCHITECTS P.S.
485 Rainier Blvd N.#103B
Issaquah, WA 98027
p. 425.391.6946
f. 425.391.1292
www.darwinwebb.com

# KONERU RESIDENCE
6610 E Mercer Way
Mercier Island, WA 98040

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

DARWIN D. WEBB
CERTIFICATE NO. 564

ISSUES:

| NO.: | DATE: | DESCRIPTION: |
|---|---|---|
| 1 | 12.17.21 | REVIEW |

PROJECT #: 21.14

DRAWN: RB
CHECKED: DW

TITLE: PRELIMINARY SHORELINE PLANTING PLAN

SHEET: L3.0

# GENERAL NOTES & 2018 WSEC REQUIREMENTS + 2018 IRC REQUIREMENTS

# 6610 EAST MERCER WAY, MERCER ISLAND, WA 98040

# KONERU [residence]

1. ALL WORK SHALL CONFORM TO APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO THE 2015 INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, THE CURRENT WASHINGTON STATE ENERGY CODE, THE WASHINGTON STATE BUILDING CODE, CHAPTER 51-20 AND 51-21 WAC, THE AMERICANS WITH DISABILITIES ACT, AND ALL RULES, REGULATIONS AND ORDINANCES OF THE GOVERNING AUTHORITY.
2. ENGINEERED DESIGN IN ACCORDANCE WITH THE IBC IS PERMITTED.
3. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND SITE CONDITIONS, AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS PRIOR TO PROCEEDING WITH THE WORK.
4. DO NOT SCALE THE DRAWINGS FOR CRITICAL DIMENSIONS. DIMENSIONS ARE SHOWN TO FACE OF STUDS, POSTS AND CONCRETE UNLESS INDICATED OTHERWISE.
5. THE PROJECT SHALL BE SCHEDULED AND INSTALLATION OF ELEMENTS COORDINATED AS NECESSARY BY THE CONTRACTOR TO PERMIT WORK BETWEEN DIFFERENT TRADES TO PROCEED WITHOUT UPSETTING PROPER CONSTRUCTION SEQUENCES OR DELAYING THE PROJECT SCHEDULE.
6. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING OF ALL STRUCTURAL MEMBERS DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL VERIFY ALL DOOR AND WINDOW ROUGH-OPENING DIMENSIONS WITH THE DOOR AND WINDOW MANUFACTURERS.
8. PLUMBING, ELECTRICAL AND MECHANICAL CONTRACTORS SHALL VERIFY ALL REQUIREMENTS FOR THIS PROJECT AND COMPLY WITH ALL LOCAL CODES, SUBMIT PLANS FOR APPROVAL AND OBTAIN PERMIT BEFORE STARTING WORK.
9. SHOWN ONLY ONCE. TYPICAL DETAILS ARE NOT REFERENCED AT ALL LOCATIONS; THE INTENT IS THAT THEY APPLY THROUGHOUT THE PROJECT UNLESS OTHERWISE NOTED.
10. ALL REQUIRED SHOP DRAWINGS AND SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
11. ALL SHOP DRAWING DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR.
12. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIMSELF OR OTHER TRADES.
13. INSPECTIONS ARE TO BE PER IRC SECTION R109.
14. ADDRESS MUST BE POSTED AND VISIBLE AT CONSTRUCTION SITE PER IRC SEC R319: 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.

## IRC M1505 (WA AMENDMENTS)

### IRC M1505.4: WHOLE-HOUSE VENTILATION SYSTEM

**WAC 51.51.1505 M1505.4:** WHOLE HOUSE MECHANICAL VENTILATION SYSTEM. EACH DWELLING UNIT SHALL BE EQUIPPED WITH A VENTILATION SYSTEM. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH SECTIONS M1504.1 THROUGH 1505.4.4

**IRC M1505.4.1:** SYSTEM DESIGN. THE WHOLE HOUSE VENTILATION SYSTEM SHALL CONSIST OF ONE OR MORE SUPPLY FANS, ONE OR MORE EXHAUST FANS, OR AN ERV/HRV WITH INTEGRAL FANS, ASSOCIATED DUCTS AND CONTROLS. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM WITH SUPPLY AND EXHAUST FANS PER SECTIONS M1505.4.1.2, M1505.4.1.3, M1505.4.1.4 AND M1505.4.1.5. LOCAL EXHAUST FANS ARE PERMITTED TO SERVE AS PART OF THE WHOLE HOUSE VENTILATION SYSTEM WHEN PROVIDED WITH THE PROPER CONTROLS PER SECTION M1505.4.2. THE SYSTEMS SHALL BE DESIGNED AND INSTALLED TO EXHAUST AND/OR SUPPLY THE MINIMUM OUTDOOR AIRFLOW RATES PER SECTION M1505.4.3 AS MODIFIED BY WHOLE HOUSE VENTILATION SYSTEM COEFFICIENTS IN SECTION M1505.4.3.1 WHERE APPLICABLE. THE WHOLE HOUSE VENTILATION SYSTEM SHALL OPERATE CONTINUOUSLY AT THE MINIMUM VENTILATION RATE DETERMINED PER SECTION M1505.4.2 UNLESS CONFIGURED WITH INTERMITTENT OFF CONTROLS PER SECTION M1505.4.3.2.

**WAC 51-51-1505 AMENDMENT M1505.4.1.1:** WHOLE HOUSE SYSTEM COMPONENT REQUIREMENTS. WHOLE HOUSE VENTILATION SUPPLY AND EXHAUST FANS SPECIFIED IN THIS SECTION SHALL HAVE A MINIMUM EFFICACY AS PRESCRIBED IN THE WAS STATE ENERGY CODE. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHOLE HOUSE VENTILATION FANS SHALL BE RATED FOR SOUND AT NO LESS THAN THE MINIMUM AIRFLOW RATE REQUIRED BY SECTION M1505.4.31. VENTILATION FANS SHALL BE RATED FOR SOUND AT A MAXIMUM OF 1.0 SONE. THIS SOUND RATING SHALL BE AT A MINIMUM OF 0.1 IN w.c. (25 Pa) STATIC PRESSURE IN ACCORDANCE WITH HVI PROCEDURES SPECIFIED IN SECTIONS M1505.4.1.2 AND M105.4.1.3.
EXCEPTION: HVAC AIR HANDLERS, ERV/HRV UNITS, AND REMOTE MOUNTED FANS NEED NOT MEET THE SOUND REQUIREMENTS. TO BE CONSIDERED FOR THIS EXCEPTION, A REMOTE MOUNTED FAN MUST BE MOUNTED OUTSIDE THE HABITABLE SPACES, BATHROOMS, TOILETS, AND HALLWAYS, AND THERE MUST BE AT LEAST 4 FT. OF DUCTWORK BETWEEN THE FAN AND THE INTAKE GRILLE.
THE WHOLE HOUSE SUPPLY FAN SHALL PROVIDE DUCTED OUTDOOR VENTILATION AIR TO EACH HABITABLE SPACE WITHIN THE RESIDENTIAL UNIT.
EXCEPTION: INTERIOR JOINING SPACES PROVIDED WITH A 30 CFM WHOLE HOUSE TRANSFER RAN OR A PERMANENT OPENING WITH AN AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE INTERIOR ADJOINING SPACE BUT NOT LESS THAN 25 SQUARE FEET DO NOT REQUIRE DUCTED OUTDOOR VENTILATION AIR TO BE SUPPLIED DIRECTLY TO THE SPACE. WHOLE HOUSE TRANSFER FANS SHALL MEET THE SONE RATING OF SECTION M1505.4.1.1 AND SHALL HAVE WHOLE HOSE VENTILATION CONTROLS THAT COMPLY WITH SECTION M1505.4.2

**WAC 51-51-1505 M1505.4.1.2:** EXHAUST FANS. EXHAUST FANS REQUIRED SHALL BE DUCTED DIRECTLY TO THE OUTSIDE. EXHAUST AIR OUTLETS SHALL BE DESIGNED TO LIMIT THE PRESSURE DIFFERENCE TO THE OUTSIDE AND EQUIPPED WITH BACKDRAFT DAMPERS OR MOTORIZED DAMPERS IN ACCORDANCE WITH THE WA STATE ENERGY CODE. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916 AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). EXHAUST FANS REQUIRED IN THIS SECTION MAY BE USED TO PROVIDE LOCAL VENTILATION. BATHROOM EXHAUST FANS THAT ARE DESIGNED FOR INTERMITTENT EXHAUST AIRFLOW RATES HIGHER THAN THE CONTINUOUS EXHAUST AIRFLOW RATES IN TABLE M1505.4.3(3) SHALL BE PROVIDED WITH OCCUPANCY SENSORS OR HUMIDITY SENSORS TO AUTOMATICALLY OVERRIDE THE FAN TO THE HIGH SPEED AIRFLOW RATE. THE EXHAUST FANS SHALL BE TESTED AND THE TESTING RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.6.

**WAC 51.51.1505 M1505.4.1.3:** SUPPLY FANS. SUPPLY FANS USED IN MEETING THE REQUIREMENTS OF THIS SECTION SHALL SUPPLY OUTDOOR AIR FROM INTAKE OPENINGS IN ACCORDANCE WITH IMC SECTIONS 401.4 AND 401.5. WHEN DESIGNED FOR INTERMITTENT OFF OPERATION, SUPPLY SYSTEMS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS IN ACCORDANCE WITH THE WA STATE ENERGY CODE. SUPPLY FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW ANSD SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS TESTING AND RATING PROCEDURE, HVI 916, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE, AS APPLICABLE). WHERE OUTDOOR AIR IS PROVIDED BY SUPPLY FAN SYSTEMS THE OUTDOOR AIR SHALL BE FILTERED. THE FILTER SHALL BE ACCESSIBLE FOR REGULAR MAINTENANCE AND REPLACEMENT. THE FILTER SHALL HAVE A MINIMUM EFFICIENCY RATING VALUE (MERVo OF AT LEAST 8.

WAC 51.51.1505 M1505.4.1.4: BALANCED WHOLE HOUSE VENTILATION SYSTEM. A BALANCED WHOLE HOUSE VENTILATING SYSTEM SHALL INCLUDE BOTH SUPPLY AND EXHAUST FANS. THE SUPPLY AND EXHAUST FANS SHALL HAVE AIRFLOW THAT IS WITHIN 10 PERCENT OF EACH OTHER. THE TESTED AND BALANCED TOTAL MECHANICAL EXHAUST AIRFLOW RATE IS WITHIN 10 PERCENT OR 5cfm, WHICHEVER IS GREATER, OF THE TOTAL MECHANICAL SUPPLY AIRFLOW RATE. THE FLOW RATE TEST RESULTS SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7. THE EXHAUST FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.2. THE SUPPLY FAN SHALL MEET THE REQUIREMENTS OF SECTION M1505.4.1.3. BALANCED VENTILATION SYSTEMS WITH BOTH SUPPLY AND EXHAUST AIRFLOW RATES ABOVE THE RESIDENTIAL DWELLING OR SLEEPING UNIT MINIMUM VENTILATION RATE ARE EXEMPT FROM THE BALANCED AIRFLOW CALCULATION.

**WAC 51.51.1505 M1505.4.1.5:** FURNACE INTEGRATED SUPPLY. SYSTEMS USING SPACE HEATING AND/OR COOLING AIR HANDLER FANS FOR OUTDOOR AIR SUPPLY DISTRIBUTION ARE NOT PERMITTED.
EXCEPTION: AIR HANDLER FANS SHALL HAVE MULTI-SPEED OR VARIABLE SPEED SUPPLY AIRFLOW CONTROL CAPABILITY WITH A LOW SPEED OPERATION NOT GREATER THAN 25 PERCENT OF THE RATED SUPPLY AIRFLOW CAPACITY DURING VENTILATION ONLY OPERATION. OUTDOOR AIR INTAKE OPENINGS MUST MEET THE PROVISIONS OF SECTIONS R303.2 AND R303.6 AND MUST INCLUDE A MOTORIZED DAMPER THAT IS ACTIVATED BY THE WHOLE HOUSE VENTILATION SYSTEM CONTROLLER. THE MOTORIZED DAMPER MUST BE CONTROLLED TO MAINTAIN THE OUTDOOR AIRFLOW INTAKE AIRFLOW WITHIN 10 PERCENT OF THE WHOLE HOUSE MECHANICAL EXHAUST AIRFLOW RATE. THE FLOW RATE FOR THE OUTDOOR AIR INTAKE MUST BE TESTED AND VERIFIED AT THE MINIMUM VENTILATION FAN SPEED AND THE MAXIMUM HEATING OR COOLING FAN SPEED. THE RESULTS OF THE TEST SHALL BE SUBMITTED AND POSTED IN ACCORDANCE WITH SECTION M1505.4.1.7.

**WAC 51.51.1505 M1505.4.1.6:** TESTING. WHOLE HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY SECTIONS M1505.4.3 AND M1505.4.4. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURER'S INSTRUCTIONS, OR BY USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FAN'S INLET TERMINALS, OUTLET TERMINALS, OR GRILLES OR IN THE CONNECTED VENTILATION DUCTS. WHERE REQUIRED BY THE BUILDING OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL AND BE POSTED IN THE DWELLING UNIT PER SECTION M1505.4.1.7.

**WAC 51.51.1505 M1505.4.1.7:** CERTIFICATE. A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE MECHANICAL CONTRACTOR, TEST AND BALANCE CONTRACTOR OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING. WHEN LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL, OR OTHER REQUIRED LABELS THE CERTIFICATE SHALL LIST THE FLOW RATE DETERMINED FROM THE DELIVERED AIRFLOW OF THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AS INSTALLED AND THE TYPE OF MECHANICAL WHOLE HOUSE VENTILATION SYSTEM USED TO COMPLY WITH SECTION M1505.4.3.1.

**WAC 51.51.1505 M1505.4.2:** SYSTEM CONTROLS. THE WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT COMPLY WITH THE FOLLOWING:
1. THE WHOLE HOUSE VENTILATION SYSTEM SHALL BE CONTROLLED WITH MANUAL SWITCHES, TIMERS OR OTHER MEANS THAT PROVIDE FOR AUTOMATIC OPERATION OF THE VENTILATION SYSTEM THAT ARE READILY ACCESSIBLE BY THE OCCUPANT;
2. WHOLE HOUSE MECHANICAL VENTILATION SYSTEM SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OFF OF THE SYSTEM BY THE OCCUPANT DURING PERIODS OF POOR OUTDOOR AIR QUALITY. CONTROLS SHALL INCLUDE PERMANENT TEXT OR A SYMBOL INDICATING THEIR FUNCTION. RECOMMENDED CONTROL PERMANENT LABELING TO INCLUDE TEXT SIMILAR TO THE FOLLOWING: "LEAVE ON UNLESS OUTDOOR AIR QUALITY IS VERY POOR." MANUAL CONTROLS SHALL BE READILY ACCESSIBLE BY THE OCCUPANT;
3. WHOLE HOUSE VENTILATION SYSTEMS SHALL BE CONFIGURED TO OPERATE CONTINUOUSLY EXCEPT WHERE INTERMITTENT OFF CONTROLS AND SIZING ARE PROVIDED PER SECTION M1505.4.3.2.

**WAC 51.51.1505 M1505.4.3:** MECHANICAL VENTILATION RATE. THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM SHALL PROVIDE OUTDOOR AIR AT A CONTINUOUS RATE AS DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(1) OR EQUATION 15-1
EQUATION 15-1 VENTILATION RATE IN CUBIC FEET PER MINUTE = (0.01 X TOTAL SQ. FT.) + [7.5 X (NUMBER OF BEDROOMS +1)] BUT NOT LESS THAN 30 CFM FOR EACH DWELLING UNIT.

### IRC TABLE 1505.4.3(1)

WHOLE-HOUSE MECHANICAL VENTILATION AIRFLOW RATE

| DWELLING UNIT FLOOR AREA (Square feet) | NUMBER OF BEDROOMS 0-1 | 2-3 | 4-5 | 6-7 | >7 |
|---|---|---|---|---|---|
| | AIRFLOW IN CFM | | | | |
| < 500 | 30 | 45 | 60 | 75 | 90 |
| 1,501-3,000 | 45 | 60 | 75 | 90 | 105 |
| 3,001-4,500 | 60 | 75 | 90 | 105 | 120 |
| 4,501-6,000 | 75 | 90 | 105 | 120 | 135 |
| 6,001-7,500 | 90 | 105 | 120 | 135 | 150 |
| > 7,500 | 105 | 120 | 135 | 150 | 165 |

M1505.4.3.1 VENTILATION QUALITY ADJUSTMENT. THE MIN. WHOLE HOUSE VENTILATION RATE FROM SECTION 1505.4.3 SHALL BE ADJUSTED BY THE SYSTEM COEFFICIENT IN TABLE M1505.4.3(2) BASED ON THE SYSTEM TYPE NOT MEETING THE DEFINITION OF A *BALANCED WHOLE HOUSE VENTILATION* SYSTEM AND/OR NOT MEETING THE DEFINITION OF *DISTRIBUTED WHOLE HOSE VENTILATION* SYSTEM.

### IRC TABLE 1505.4.3(2)

SYSTEM COEFFICIENT (Csystem)

| SYSTEM TYPE | DISTRIBUTED | NOT DIST. |
|---|---|---|
| BALANCED | 1.0 | 1.25 |
| NOT BALANCED | 1.25 | 1.5 |

M1505.4.3.2 INTERMITTENT OFF OPERATION. WHOLE-HOUSE MECHANICAL VENTILATION SYSTEMS SHALL BE PROVIDED WITH ADVANCED CONTROLS THAT ARE CONFIGURED TO OPERATE THE SYSTEM WITH INTERMITTENT OFF OPERATION SHALL OPERATE FOR AT LEAST A TWO HOURS IN EACH FOUR-HOUR SEGMENT. THE WHOLE HOUSE VENTILATION AIRFLOW RATE DETERMINED IN ACCORDANCE WITH SECTION M1505.4.3 AS CORRECTED BY SECTION M1505.4.3.1 IS ,MULTIPLIED BY THE FACTOR DETERMINED IN ACCORDANCE WITH TABLE M1505.4.3(3).

### IRC TABLE 1505.4.3(3)

INTERMITTENT OFF WHOLE HOUSE MECHANICAL VENTILATION RATE FACTORS

| RUN TIME % EA 4hr SEGMENT | 50% | 66% | 75% | 100% |
|---|---|---|---|---|
| FACTOR | 2 | 1.5 | 1.3 | 1.0 |

M1505.4.4 LOCAL EXHAUST RATES. LOCAL EXHAUST SYSTEMS SHALL BE DESIGNED TO HAVE THE CAPACITY TO EXHAUST THE MIN. AIRLOW RATE DETERMINED IN ACCORDANCE WITH TABLE M1505.4.4(1). IF THE LOCAL EXHAUST FAN IS INCLUDED IN THE WHOLE HOUSE VENTILATION SYSTEM, IN ACCORDANCE WITH SECTION 1505.4.1 THEN THE EXHAUST FAN SHALL BE CONTROLLED TO OPERATE AS SPECIFIED IN SECTION M1505.4.2
M1505.4.4.1 LOCAL EXHAUST. BATHROOMS, TOILET ROOMS, AND KITCHENS SHALL INCLUDE A LOCAL EXHAUST SYSTEM. SUCH LOCAL EXHAUST SYSTEMS SHALL HAVE THE CAPACITY TO EXHAUST THE MIN. AIRFLOW RATE IN ACCORDANCE WITH TABLE M1505.4.4(1). FANS REQUIRED BY THIS SECTION SHALL BE PROVIDED WITH CONTROLS THAT ENABLE MANUAL OVERRIDE OR AUTOMATIC OCCUPANCY SENSOR, HUMIDITY SENSOR OR POLLUTANT SENSOR CONTROLS. AN "ON/OFF" SWITCH SHALL MEET THIS REQUIREMENT FOR MANUAL CONTROLS. MANUAL FAN CONTROLS SHALL BE READILY ACCESSIBLE IN THE ROOM SERVED BY THE FAN.

### IRC TABLE 1505.4.4(1)

MIN. LOCAL EXHAUST RATES

| AREAS TO BE EXHAUSTED | INTERMITTENT | CONTINUOUS |
|---|---|---|
| KITCHEN | 100 cfm | 30 cfm |
| BATHROOMS - TOILET ROOMS | 50 cfm | 20 cfm |

M1505.4.4 LOCAL EXHAUST FANS. EXHAUST FANS SHALL MEET THE FOLLOWING CRITERIA:
1. EXHAUST FANS SHALL BE TESTED AND RATED IN ACCORDANCE WITH THE AIRFLOW AND SOUND RATING PROCEDURES OF THE HOME VENTILATING INSTITUTE (HVI 915, HVI LOUDNESS AND RATING PROCEDURE, HVI AIRFLOW TEST PROCEDURE, AND HVI 920, HVI PRODUCT PERFORMANCE CERTIFICATION PROCEDURE).
EXCEPTION: WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED FOR LOCAL EXHAUST FOR A KITCHEN, THE DEVICE IS NOT REQUIRED TO BE RATED PER THESE STANDARDS.
2. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BU TABLE M1505.4.4(1). THE AIRFLOWS REQUIRED REFER TO THE DELIVERED AIRFLOW OF THE SYSTEM AS INSTALLED AND TESTED USING A FLOW HOOD, FLOW GRID, OR OTHER AIRFLOW MEASUREMENT DEVICE. LOCAL EXHAUST SYSTEMS SHALL BE TESTED, BALANCED AND VERIFIED TO PROVIDE A FLOW RATE NOT LESS THAN THE MINIMUM REQUIRED BY THIS SECTION.
3. DESIGN AND INSTALLATION OF THE SYSTEM OR EQUIPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. FAN AIRFLOW RATING AND DUCT SYSTEM SHALL BE DESIGNED AND INSTALLED TO DELIVER AT LEAST THE EXHAUST AIRFLOW REQUIRED BY TABLE M1505.4.4(1).
EXCEPTIONS: 1. AN EXHAUST AIRFLOW RATING AT A PRESSURE OF 0.25 IN. w.g. MAY BE USED, PROVIDED THE DUCT SIZING MEETS THE PRESCRIPTIVE REQUIREMENTS OF TABLE M1505.4.4(2).
2. WHERE A RANGE HOOD OR DOWN DRAFT EXHAUST FAN IS USED TO SATISFY THE LOCAL VENTILATION REQUIREMENTS FOR KITCHENS, THE RANGE HOOD OR DOWN DRAFT EXHAUST SHALL NOT BE LESS THAN 100 cfm AT 0.10 IN. w.g.

### IRC TABLE 1505.4.4(2)

PRESCRIPTIVE EXHAUST DUCT SIZING

| FAN TESTED cfm @ 0.25 (Square feet) | MIN. FLEX DIA. (IN.) | MAX. LENGTH (FT.) | MIN. SMOOTH DIA. (IN.) | MAX. LENGTH (FT.) | MAX. ELBOWS |
|---|---|---|---|---|---|
| 50 | 4 | 25 | 4 | 70 | 3 |
| 50 | 5 | 90 | 5 | 100 | 3 |
| 50 | 6 | NO LIMIT | 6 | NO LIMIT | 3 |
| 80 | 4 | NA | 4 | 20 | 3 |
| 80 | 5 | 15 | 5 | 100 | 3 |
| 80 | 6 | 90 | 6 | NO LIMIT | 3 |
| 100 | 5 | NA | 5 | 50 | 3 |
| 100 | 6 | 45 | 6 | NO LIMIT | 3 |
| 125 | 6 | 15 | 6 | NO LIMIT | 3 |
| 125 | 7 | 70 | 7 | NO LIMIT | 3 |

## BUILDING THERMAL ENVELOPE

### COMPLIANCE & CERTIFICATE POSTED

THE BUILDING THERMAL ENVELOPE SHALL MEET THE PRESCRIPTIVE REQUIREMENTS OF SECTION R401 THROUGH R404 OF THE WSEC. IN ADDITION, *DWELLING UNITS* AND *SLEEPING UNITS* IN A RESIDENTIAL BUILDING SHALL COMPLY WITH SECTION R406 OF THE WSEC.

R401.3 CERTIFICATE. A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM, OR AN APPROVED LOCATION INSIDE THE BUILDING. THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, *BELOW-GRADE WALL,* ADN/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES; U-FACTORS FOR FENESTRATION AND THE SOLAR HEAT GAIN COEFFICIENT (SHGC) OF FENESTRATION; THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING; AND THE RESULTS FROM THE WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FLOW RATE TEST. WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPES OF EFFICIENCIES OF HEATING, COOLING WHOLE-HOUSE MECHANICAL VENTILATION, AND SERVICE WATER HEATING APPLIANCES. WHERE A GAS-FIRED UNVENTED ROOM HEATER, ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE, THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER", "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE *LISTED* FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS.
THE *CODE OFFICIAL* MAY REQUIRE THAT DOCUMENTATION FOR ANY REQUIRED TEST RESULTS INCLUDE AN ELECTRONIC RECORD OF THE TIME, DATE, AND LOCATION OF THE TEST. A DATE-STAMPED SMART PHONE PHOTO OR AIR LEAKAGE TESTING SOFTWARE MAY BE USED TO SATISFY THIS REQUIREMENT.

### FENESTRATION

AN AREA-WEIGHTED AVERAGE OF FENESTRATION PRODUCTS SHALL BE PERMITTED TO SATISFY THE U-FACTOR REQUIREMENTS.

UP TO 15 SQUARE FEET OF GLAZED FENESTRATION PER DWELLING UNIT SHALL BE PERMITTED TO BE EXEMPT FROM U-FACTOR.

ONE SIDE-HINGED OPAQUE DOOR ASSEMBLY UP TO 24 SQUARE FEET IN AREA IS EXEMPTED FROM THE U-FACTOR REQUIREMENT.

### INSULATION

A. CEILINGS (ATTIC)= R-49 (VAULTED)= R-38
1. OPEN-BLOWN OR POURED LOOSE FILL INSULATION MAY BE USED IN ATTIC SPACES WHERE THE SLOPE OF THE CEILING IS NOT MORE THAN 3 IN 12 AND THERE IS AT LEAST 30 INCHES OF CLEAR DISTANCE FROM THE TOP OF THE BOTTOM CHORD OF THE TRUSS OR CEILING JOIST TO THE UNDERSIDE OF THE SHEATHING AT THE ROOF RIDGE.

B. WOOD FRAMED WALLS = R-21 INT.
1. ALL EXTERIOR WALL CAVITIES, INCLUDING CAVITIES ISOLATED DURING FRAMING, MUST BE FILLED WITH UNCOMPRESSED INSULATION.
2. RIGID BOARD INSULATION IS TO BE PLACED BEHIND ALL RECESSED FIXTURES IN EXTERIOR WALLS.
3. FACED BATTS ARE LAPPED AND ARE TO BE STAPLED TO FACE OF STUDS.
4. INSULATE BEHIND TUB/ SHOWER PARTITIONS AND CORNERS.

C. FLOORS = R-30
1. FLOOR INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING.
2. INSULATION SUPPORTS SHALL BE INSTALLED SO SPACING IS NO MORE THAN 24-INCHES ON CENTER.
3. FOUNDATION VENTS SHALL BE PLACED SO THAT THE TOP OF THE VENT IS BELOW THE LOWER SURFACE OF THE FLOOR INSULATION.

D. SLAB-ON-GRADE = R-10
1. 24" MINIMUM PERIMETER RIGID INSULATION UNDER CONCRETE SLAB IN HEATED SPACES. THE INSULATION SHALL EXTEND DOWNWARD FROM THE TOP OF THE SLAB FOR A MINIMUM DISTANCE AS SHOWN IN THE TABLE OR TO THE TOP OF THE FOOTING, WHICHEVER IS LESS, OR DOWNWARD TO AT LEAST THE BOTTOM OF THE SLAB AND THEN HORIZONTALLY TO THE INTERIOR OR EXTERIOR FOR THE TOTAL DISTANCE SHOWN IN THE TABLE.
2. A TWO-INCH BY TWO-INCH (MAXIMUM) PRESSURE TREATED NAILER MAY BE PLACED AT THE FINISHED FLOOR ELEVATION FOR ATTACHMENT OF INTERIOR FINISH MATERIALS.

E. 4X HEADERS = R-10
F. DUCTS = DUCTS SHALL BE INSULATED TO A MINIMUM OF R-8.
EXCEPTION: DUCTS OR PORTIONS THEREOF LOCATED COMPLETELY INSIDE THE BUILDING THERMAL ENVELOPE.

G. PIPING = MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 105°F OR BELOW 55°F SHALL BE INSULATED TO A MINIMUM OF R-6.
1. PIPING INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT CAUSED BY SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. ADHESIVE TAPE SHALL NOT BE PERMITTED.

INSULATION FOR HOT WATER PIPE SHALL HAVE A MINIMUM THERMAL RESISTANCE (R-VALUE) OF R-4.

H. ELECTRIC WATER HEATERS = ALL ELECTRIC WATER HEATERS IN UNHEATED SPACES OR ON CONCRETE FLOORS SHALL BE PLACED ON AN INCOMPRESSIBLE, INSULATED SURFACE WITH A MINIMUM THERMAL RESISTANCE OF R-10, AND A MIN. COMPRESSIVE STRENGTH OF 40 psi OR ENGINEERED TO SUPPORT THE APPLIANCE.

### MOISTURE CONTROL

VAPOR RETARDERS

| | |
|---|---|
| SLABS: | 10 MIL POLYETHYLENE SHEETS |
| FLOORS: | 3/4" CDX PLYWOOD OR 3/4" O.S.B. |
| WALLS: | KRAFT FACED FIBERGLASS BATTS |
| CEILING: | PVA PAINT |

1. ATTIC ACCESS AND DOORS ARE TO BE BAFFLED, WEATHER-STRIPPED AND INSULATED.
2. EXTERIOR DOORS AND WINDOWS ARE TO BE CAULKED AND WEATHER-STRIPPED.
3. RECESSED LIGHT FIXTURES TO LIMIT AIR LEAKAGE PER WSEC 402.4.4.
4. ALL PLUMBING, ELECTRICAL AND HVAC PENETRATIONS IN FLOORS, WALLS AND CEILING ARE TO BE CAULKED AND SEALED.
5. ELECTRICAL OUTLET AND LIGHT SWITCH BOXES ON EXTERIOR WALLS MUST BE SEALED AT THE BACK OF THE RECEPTACLE WITH A FACE PLATE GASKET.
6. SILL PLATE TO BE CAULKED OR GLUED TO SUB-FLOOR.
7. CAULK/SEAL RIM JOISTS BETWEEN STORIES.
8. FIRE-STOP ALL PENETRATIONS AS REQUIRED BY THE CODE & BUILDING DEPARTMENT.

### AIR LEAKAGE AND TESTING

THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS R402.4.1 THROUGH R402.4.4.

THE BUILDING OR DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING 5 AIR CHANGES PER HOUR. TESTING SHALL BE CONDUCTED WITH A BLOWER DOOR AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). FOR THIS TEST ONLY, THE VOLUME OF THE HOME SHALL BE THE CONDITIONED FLOOR AREA IN FT² MULTIPLIED BY 8.5 FEET. WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE.

WINDOWS, SKYLIGHTS AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION RATE OF NO MORE THAN 0.3 CFM PER SQUARE FOOT, AND SWINGING DOORS NO MORE THAN 0.5 CFM PER SQUARE FOOT, WHEN TESTED ACCORDING TO NFRC 400 OR AAMA/WDMA/CSA 101/I.S.2/A440 BY AN ACCREDITED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER.
EXCEPTIONS:
1. FIELD-FABRICATED FENESTRATION PRODUCTS (WINDOWS, SKYLIGHTS AND DOORS).
2. CUSTOM EXTERIOR FENESTRATION PRODUCTS MANUFACTURED BY A SMALL BUSINESS PROVIDED THEY MEET THE APPLICABLE PROVISIONS OF CHAPTER 24 OF THE INTERNATIONAL BUILDING CODE. ONCE VISUAL INSPECTION HAS CONFIRMED THE PRESENCE OF A GASKET, OPERABLE WINDOWS AND DOORS MANUFACTURED BY SMALL BUSINESS SHALL BE PERMITTED TO BE SEALED OFF AT THE FRAME PRIOR TO THE TEST.

RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE TYPE IC-RATED AND CERTIFIED UNDER ASTM E283 AS HAVING AN AIR LEAKAGE RATE NOT MORE THAN 2.0 CFM WHEN TESTED AT A 1.57 PSF PRESSURE DIFFERENTIAL AND SHALL HAVE A LABEL ATTACHED SHOWING COMPLIANCE WITH THIS TEST METHOD. ALL RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.

## ELECTRIC POWER & LIGHTING

### LIGHTING EQUIPMENT

R404.1 A MINIMUM OF 90 PERCENT OF PERMANENTLY INSTALLED LAMPS IN LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS.
R404.1.1 FUEL GAS LIGHTING SYSTEMS SHALL NOT HAVE CONTINUOUSLY BURNING PILOT LIGHTS.

## WA STATE ENERGY CREDITS

### ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS

EACH DWELLING UNIT IN ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES SHALL COMPLY WITH SUFFICIENT OPTIONS FROM TABLE R406.2 SO AS TO ACHIEVE THE REQUIRED MINIMUM NUMBER OF CREDITS:

### 2018 WSEC TABLE R402.1.1

| CLIMATE ZONE 5 AND MARINE 4 | R-VALUE | EQUIV U-FACTORS |
|---|---|---|
| FENESTRATION U-FACTOR | N/A | 0.28* |
| CEILING (ATTIC) R-VALUE | 49 | 0.026 |
| CEILING (VAULT) R-VALUE | 38 | 0.026 |
| WOOD FRAMED WALL R-VALUE | 21 int. | 0.056 |
| FLOOR R-VALUE | 38* | 0.026* |
| BELOW GRADE WALL R-VALUE | 21 int. + TB | 0.029 |
| SLAB R-VALUE | 10, entire slab* | N/A |
| * INDICATES INCREASED VALUE DUE TO REQUIRED ENERGY CREDITS | | |

### 2018 WSEC CREDITS SELECTED

| ADDITIONAL ENERGY EFFICIENCY REQUIREMENTS PER WSEC R406: LARGE DWELLING UNIT (>/= 5,000 SF): 7.0 CREDITS REQUIRED | | |
|---|---|---|
| SYSTEM | FUEL NORMALIZATION CREDIT TABLE R406.2 | CREDIT |
| 2 | HEAT PUMP. EQUIPMENT LISTED IN TABLE C403.3.2(1) or C403.3.2(2). | 1.0 |
| OPTION | EFFICIENT BUILDING ENVELOPE OPTIONS | |
| 1.3 | PRESCRIPTIVE COMPLIANCE IS BASED ON TABLE 402.1.1 WITH THE FOLLOWING MODIFICATIONS: VERTICAL FENESTRATION U = 0.28; SLAB ON GRADE R-10 PERIMETER AND UNDER ENTIRE SLAB | 0.5 |
| | HIGH EFFICIENCY HVAC EQUIPMENT OPTIONS | |
| 3.5 | AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0 | 1.5 |
| | EFFICIENT WATER HEATING OPTIONS | |
| 5.5 | WATER HEATING SYSTEM: ENERGY STAR RATED GAS OR P WATER HEATER WITH MIN. UEF OF 0.91 OR SOLAR WATER HEATING SUPPLEMENTING A MIN. STD. WATER HEATER. | 1.0 |
| | RENEWABLE ELECTRIC ENERGY (3 CREDITS MAX.) | |
| 6.1 | SUPPLY MIN 3600 kWh OF ELECTRICAL GENERATION ANNUALLY BY ON-SITE SOLAR EQUIPMENT. SOLAR DESIGN TO MEET NATIONAL RENEWABLE ENERGY LABORATORY CALC. PVWATTs | 3.0 |
| FOR FULL TEXT AND INFORMATION, SEE WSEC, SECTION R406 | TOTAL | 7.0 |

### PROJECT CONTACTS

OWNER: DHEERAJ KONERU
7002 93RD AVE. SE
MERCER ISLAND, WA 98040

ARCHITECT: McCULLOUGH ARCHITECTS
2910 1ST AVE S
SEATTLE, WA 98178
PROJECT MANAGER: DEVLIN ROSE
devlin@mcculougharchitects.com
P: 206.443.1182

SURVEYOR & CIVIL ENGINEERING: PACE
11255 KIRKLAND WAY, STE 300
KIRKLAND, WA 98033
PROJECT ENGINEER: B.L./J.C.
www.paceengrs.com
P: 425.827.2014

STRUCTURAL ENGINEER: MALSAM TSANG
122 S JACKSON ST, SUITE 210
SEATTLE, WA 98104
PROJECT ENGINEER: MARC MALSAM
marc@malsam-tsang.com
P: 206.789.6038

GENERAL CONTRACTOR: JMK HOMES LLC
PO BOX 317
RONALD, WA 98940
PROJECT MANAGER: JED MURPHEY
jed@jmkhomes.net
P: 206.714.4539

LANDSCAPE ARCHITECT: DARWIN WEBB LA
485 RAINIER BOULEVARD N, #103B
ISSAQUAH, WA 98027
PROJECT MANAGER: DARWIN WEBB
darw@darwinwebb.com
P: 425.391.6946

GEOTECHNICAL ENGINEER: GEOTECH CONSULTANTS INC
2401 10TH AVE E
SEATTLE, WA 98102
PROJECT MANAGER: MARC McGINNIS
marcm@geotechnw.com
P: 425.260.1116

ARBORIST: TREE133 LLC
PROJECT MANAGER: CRAIG BACHMANN
craig@tree133.com
P: 206.475.1924

## PROJECT INFO

### BUILDING AREA

| | |
|---|---|
| MAIN FLOOR HEATED | 5,469 SF |
| UPPER FLOOR HEATED | 4,497 SF |
| TOTAL LIVING | 9,966 SF |
| GARAGE | 945 SF |

### PROJECT DESCRIPTION

DEMO EXISTING SFR HOME, CONSTRUCT NEW SFR AND SITE IMPROVEMENTS

| | |
|---|---|
| RELATED PERMITS: | SUB21-008TYPE III - SHORT PLAT |
| PROJECT ADDRESS: | 6610 EAST MERCER WAY |
| PARCEL NO.: | 3024059153 |
| LOT SIZE: | 50,094 SF (1.15 AC) |
| ZONE: | R-15 |
| SETBACKS: | |
| SHORELINE / REAR | ZONE 1 - 25'-0", NO STRUCTURES ALLOWED & 10% MAX IMPERVIOUS<br>ZONE 2 - 25'-0", STRUCTURES ALLOWED & 30% MAX COVERAGE<br>50'-0" TOTAL |
| FRONT | 20'-0" |
| SIDE | 29'-0", 17% LOT WIDTH (170'-9") |
| BUILDING HEIGHT: | 30'-0" ABOVE AVERAGE BUILDING ELEVATION |
| LOT COVERAGE: | 40% @ LOT SLOPE LESS THAN 15%<br>20,0387.60 SF ALLOWED - 13,527 SF PROPOSED |
| GROSS FLOOR AREA: | 12,000 SF or 40% OF THE LOT AREA, WHICHEVER IS LESS<br>10,911 SF PROPOSED |
| TREE RETENTION: | SEE ARBORIST REPORT AND CIVIL PLANS |
| SEISMIC DESIGN: | CATEGORY 'D2' |
| WIND DESIGN: | 110 MPH & EXPOSURE 'D' |
| FIRE SUPPRESSION: | NFPA 13R FIRE SPRINKLER SYSTEM ( >5,000 SF)<br>NFPA 72 FIRE ALARM SYSTEM |
| CONSTRUCTION: | TYP VB |

### LEGAL DESCRIPTION

THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1588.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGELES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF.

TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SADI GOVERNMENT LOT 1.

TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER WAY APPURTENANT TO THE PROPERTY HEREBY CONVEYED.

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

### DRAWING INDEX


SURVEY
1 OF 2 BOUNDARY AND TOPOGRAPHIC SURVEY
2 OF 2 BOUNDARY AND TOPOGRAPHIC SURVEY

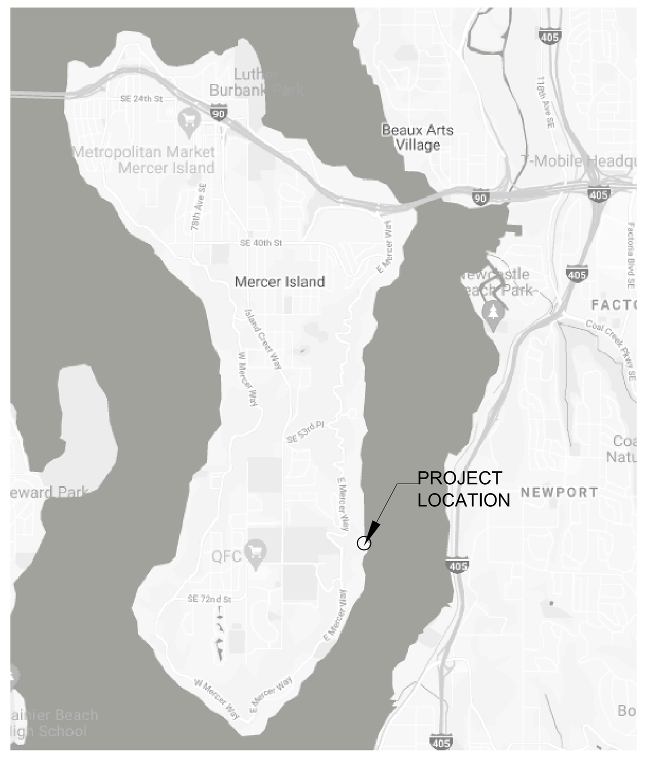
CIVIL
C0.0 COVER
C0.1 NOTES
C1.0 EXISTING CONDITIONS
C2.0 TESC PLAN
C2.1 TESC DETAIL
C3.0 STORM & GRADING PLAN
C4.0 UTILITY PLAN
C4.1 UTILITY DETAILS
L1.0 TREE RETENTION PLAN

LANDSCAPE
L3.0 SHORELINE PLANTING PLAN

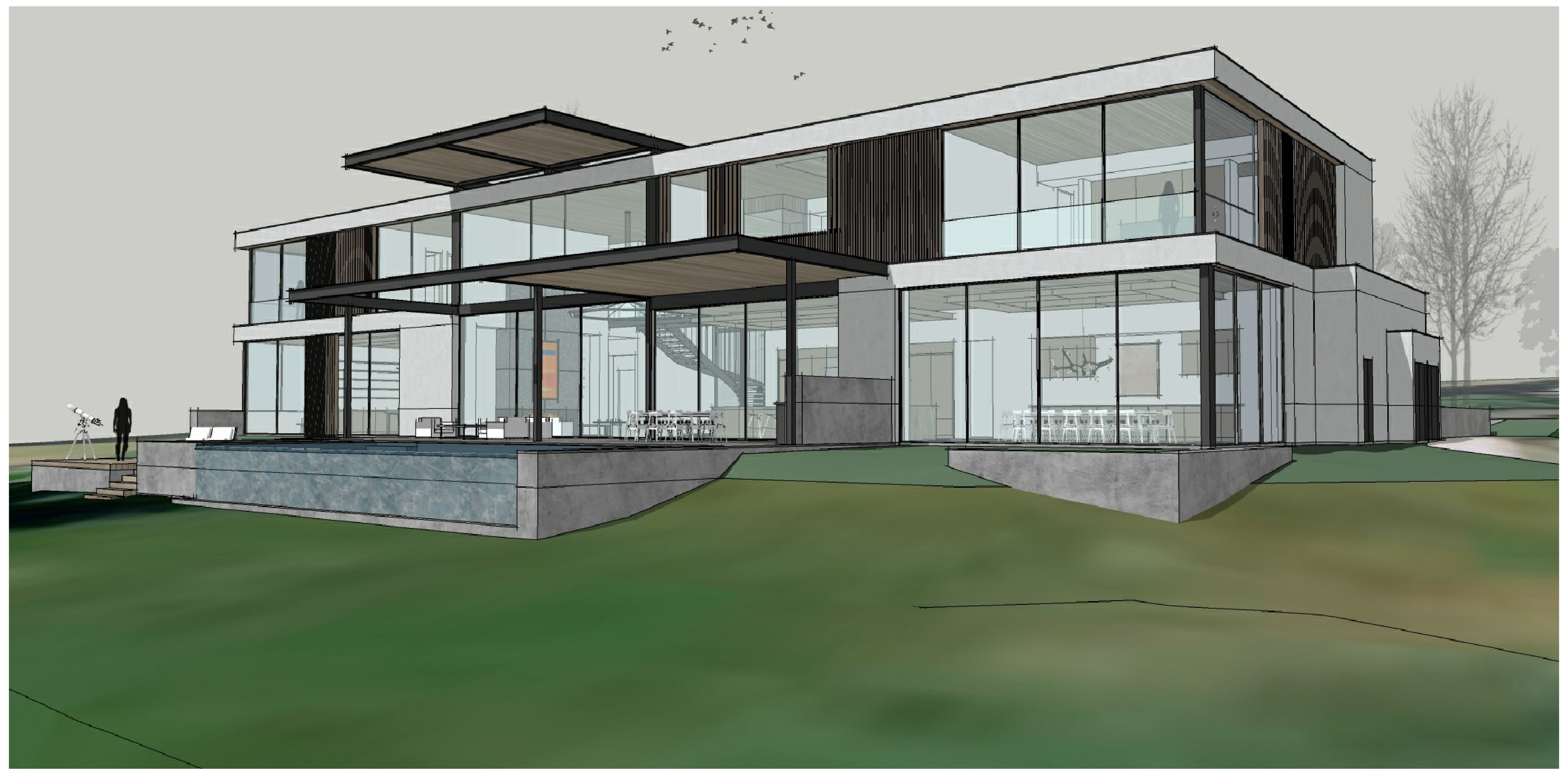
ARCHITECTURE
A0 COVER SHEET & GENERAL NOTES
A1 ARCH SITE PLAN
A2 FOUNDATION PLAN
A3 MAIN FLOOR PLAN
A4 UPPER FLOOR FRAMING PLAN
A5 UPPER FLOOR PLAN
A6 LOWER ROOF FRAMING PLAN
A7 CLERESTORY PLAN
A8 UPPER ROOF FRAMING PLAN
A9 ROOF DRAINAGE PLAN
A10 EXTERIOR ELEVATIONS
A11 EXTERIOR ELEVATIONS
A12 BUILDING SECTIONS
A13 BUILDING SECTIONS
A15 ARCHITECTURAL DETAILS
A16 STAIR SECTIONS & DETAILS
A17 ARCHITECTURAL DETAILS

STRUCTURAL
S1.0 GENERAL STRUCTURAL NOTES
S3.0 TYPICAL CONCRETE DETAILS
S3.1 CONCRETE DETAILS
S4.0 TYPICAL WOOD FRAMING DETAILS
S4.1 WOOD FRAMING DETAILS
S4.2 WOOD FRAMING DETAILS
S5.0 STEEL FRAMING DETAILS
S5.1 STEEL FRAMING DETAILS


### VICINITY MAP NTS



NORTHWEST PERSPECTIVE



NORTHEAST PERSPECTIVE


5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

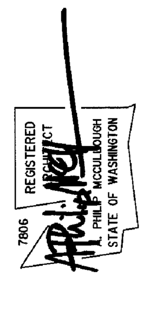
McCULLOUGH ARCHITECTS



UNPUBLISHED WORK 2016 © McCullough Architects


| Revisions | Comment |
|---|---|
| 2021.11.17 | Updated Plans to Structural |
| 2021.12.13 | Structural Backcheck 01 |
| 2021.12.15 | Structural Backcheck 02 |
| 2021.12.22 | Structural Backcheck 03 |

| | |
|---|---|
| Date: | 2021.10.13 |
| Job No: | 21-041 |
| Project No: | |
| Drawn: | DJR |
| Approved: | APM |

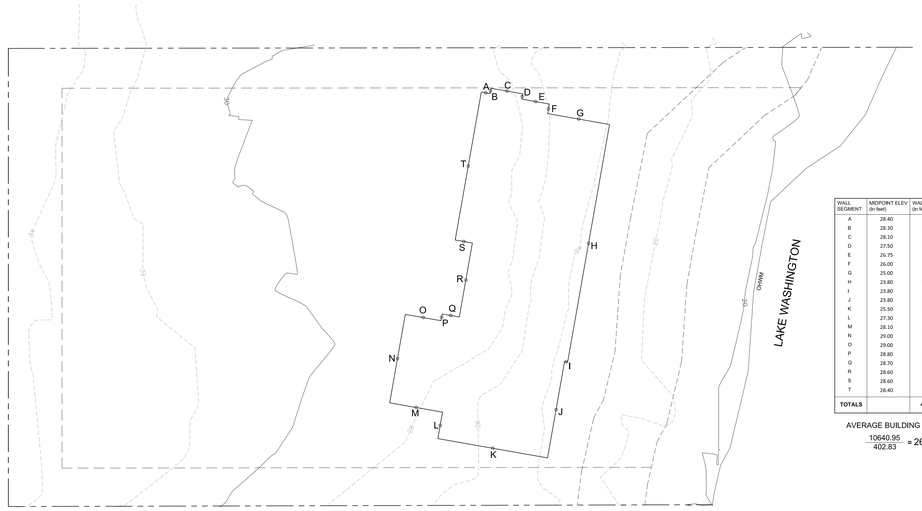



KONERU RESIDENCE
6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Arch Site Plan

A1



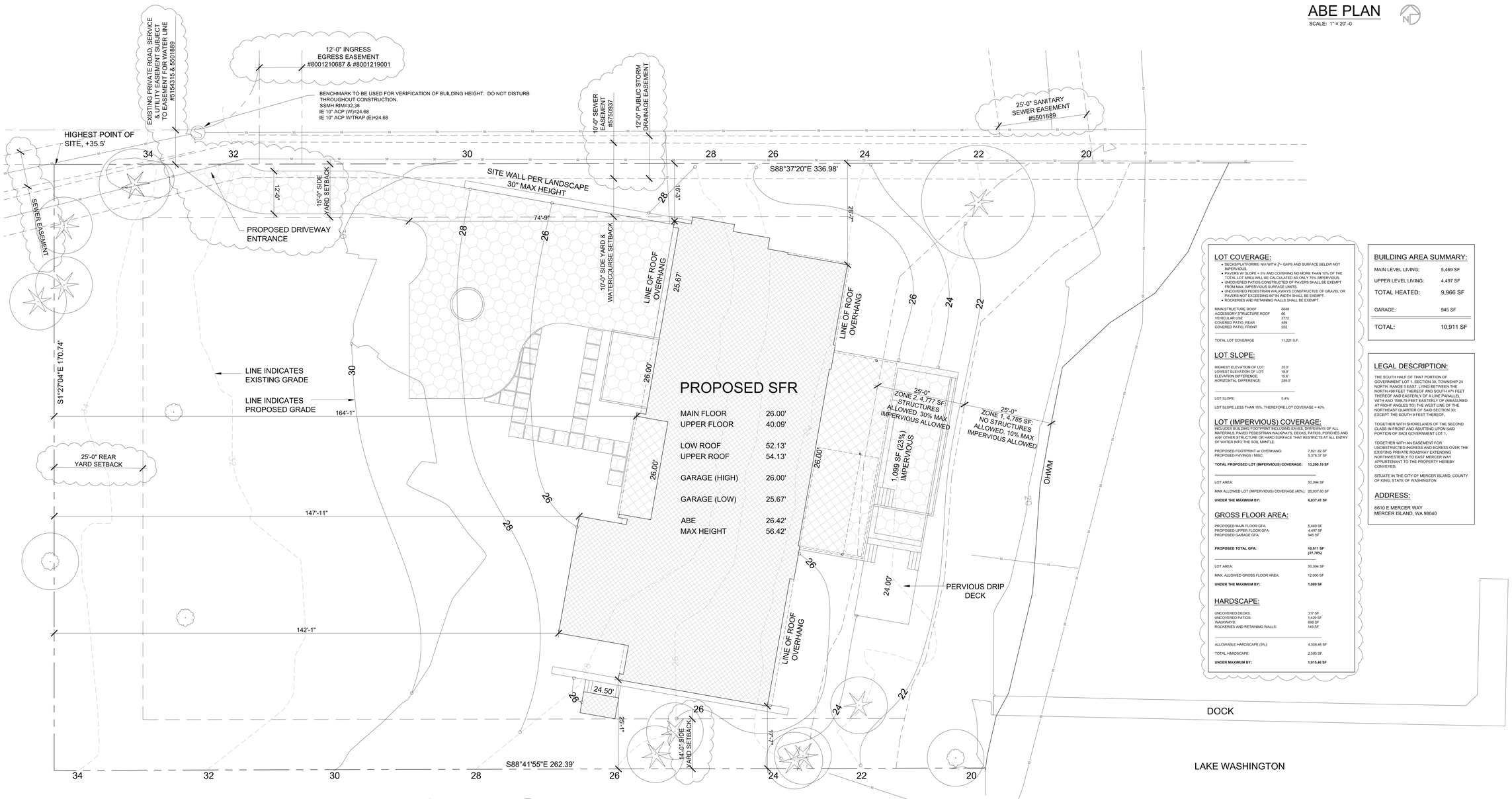

| WALL SEGMENT | MIDPOINT ELEV (in feet) | WALL LENGTH (in feet) | TOTALS (in feet) |
|---|---|---|---|
| A | 28.40 | 3.33 | 94.57 |
| B | 28.30 | 2.00 | 56.60 |
| C | 28.10 | 12.00 | 337.20 |
| D | 27.50 | 2.00 | 55.00 |
| E | 26.75 | 10.42 | 278.65 |
| F | 26.00 | 3.63 | 94.25 |
| G | 25.00 | 23.42 | 585.42 |
| H | 23.80 | 89.92 | 2140.02 |
| I | 23.80 | 1.67 | 39.65 |
| J | 23.80 | 36.46 | 867.71 |
| K | 25.50 | 41.50 | 1058.25 |
| L | 27.30 | 10.00 | 273.00 |
| M | 28.10 | 20.00 | 562.00 |
| N | 29.00 | 33.46 | 970.29 |
| O | 29.00 | 13.50 | 391.50 |
| P | 28.80 | 2.54 | 73.20 |
| Q | 28.70 | 6.50 | 186.55 |
| R | 28.60 | 28.00 | 800.80 |
| S | 28.60 | 6.50 | 185.90 |
| T | 28.40 | 56.00 | 1590.40 |
| **TOTALS** | | **402.83** | **10640.95** |

AVERAGE BUILDING ELEVATION (ABE)

$\frac{10640.95}{402.83}$ = 26.42' (ABE)

## ABE PLAN

SCALE: 1" = 20' -0




## SITE PLAN

SCALE: 1" = 10'-0"

### LOT COVERAGE:

- DECKS/PLATFORMS: N/A WITH ¼" = GAPS AND SURFACE BELOW NOT IMPERVIOUS.
- PAVERS W/ SLOPE < 5% AND COVERING NO MORE THAN 10% OF THE TOTAL LOT AREA WILL BE CALCULATED AS ONLY 75% IMPERVIOUS.
- UNCOVERED PATIOS CONSTRUCTED OF PAVERS SHALL BE EXEMPT FROM MAX. IMPERVIOUS SURFACE LIMITS.
- UNCOVERED PEDESTRIAN WALKWAYS CONSTRUCTED OF GRAVEL OR PAVERS NOT EXCEEDING 60" IN WIDTH SHALL BE EXEMPT.
- ROCKERIES AND RETAINING WALLS SHALL BE EXEMPT.

| | |
|---|---|
| MAIN STRUCTURE ROOF | 6648 |
| ACCESSORY STRUCTURE ROOF | 60 |
| VEHICULAR USE | 3772 |
| COVERED PATIO, REAR | 469 |
| COVERED PATIO, FRONT | 252 |
| TOTAL LOT COVERAGE | 11,221 S.F. |

### LOT SLOPE:

| | |
|---|---|
| HIGHEST ELEVATION OF LOT: | 35.5' |
| LOWEST ELEVATION OF LOT: | 19.9' |
| ELEVATION DIFFERENCE: | 15.6' |
| HORIZONTAL DIFFERENCE: | 289.5' |
| LOT SLOPE: | 5.4% |

LOT SLOPE LESS THAN 15%, THEREFORE LOT COVERAGE + 40%

### LOT (IMPERVIOUS) COVERAGE:

INCLUDES BUILDING FOOTPRINT INCLUDING EAVES, DRIVEWAYS OF ALL MATERIALS, PAVED PEDESTRIAN WALKWAYS, DECKS, PATIOS, PORCHES AND ANY OTHER STRUCTURE OR HARD SURFACE THAT RESTRICTS AT ALL ENTRY OF WATER INTO THE SOIL MANTLE.

| | |
|---|---|
| PROPOSED FOOTPRINT w/ OVERHANG: | 7,821.82 SF |
| PROPOSED PAVINGS / MISC: | 5,378.37 SF |
| **TOTAL PROPOSED LOT (IMPERVIOUS) COVERAGE:** | **13,200.19 SF** |
| LOT AREA: | 50,094 SF |
| MAX ALLOWED LOT (IMPERVIOUS) COVERAGE (40%) | 20,037.60 SF |
| **UNDER THE MAXIMUM BY:** | **6,837.41 SF** |

### GROSS FLOOR AREA:

| | |
|---|---|
| PROPOSED MAIN FLOOR GFA: | 5,469 SF |
| PROPOSED UPPER FLOOR GFA: | 4,497 SF |
| PROPOSED GARAGE GFA: | 945 SF |
| **PROPOSED TOTAL GFA:** | **10,911 SF** ***(21.78%)*** |
| LOT AREA: | 50,094 SF |
| MAX. ALLOWED GROSS FLOOR AREA: | 12,000 SF |
| **UNDER THE MAXIMUM BY:** | **1,089 SF** |

### HARDSCAPE:

| | |
|---|---|
| UNCOVERED DECKS: | 317 SF |
| UNCOVERED PATIOS: | 1,429 SF |
| WALKWAYS: | 698 SF |
| ROCKERIES AND RETAINING WALLS: | 149 SF |
| ALLOWABLE HARDSCAPE (5%): | 4,508.46 SF |
| TOTAL HARDSCAPE: | 2,593 SF |
| **UNDER MAXIMUM BY:** | **1,915.46 SF** |

### BUILDING AREA SUMMARY:

| | |
|---|---|
| MAIN LEVEL LIVING: | 5,469 SF |
| UPPER LEVEL LIVING: | 4,497 SF |
| TOTAL HEATED: | 9,966 SF |
| GARAGE: | 945 SF |
| TOTAL: | 10,911 SF |

### LEGAL DESCRIPTION:

THE SOUTH HALF OF THAT PORTION OF GOVERNMENT LOT 1, SECTION 30, TOWNSHIP 24 NORTH, RANGE 5 EAST, LYING BETWEEN THE NORTH 498 FEET THEREOF AND SOUTH 471 FEET THEREOF AND EASTERLY OF A LINE PARALLEL WITH AND 1568.78 FEET EASTERLY OF (MEASURED AT RIGHT ANGLES TO) THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 30; EXCEPT THE SOUTH 9 FEET THEREOF.

TOGETHER WITH SHORELANDS OF THE SECOND CLASS IN FRONT AND ABUTTING UPON SAID PORTION OF SAID GOVERNMENT LOT 1.

TOGETHER WITH AN EASEMENT FOR UNOBSTRUCTED INGRESS AND EGRESS OVER THE EXISTING PRIVATE ROADWAY EXTENDING NORTHWESTERLY TO EAST MERCER WAY APPURTENANT TO THE PROPERTY HEREBY CONVEYED.

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

### ADDRESS:

6610 E MERCER WAY
MERCER ISLAND, WA 98040

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
**2021.12.16**
**2022.02.07**

Comment
**Revised Site Plan - Whole Lot Calc**
**Intake Commentary Response**

Date: **2021.10.13**
Job No: **21-041**
Project No:
Drawn: **DJR**
Approved: **APM**

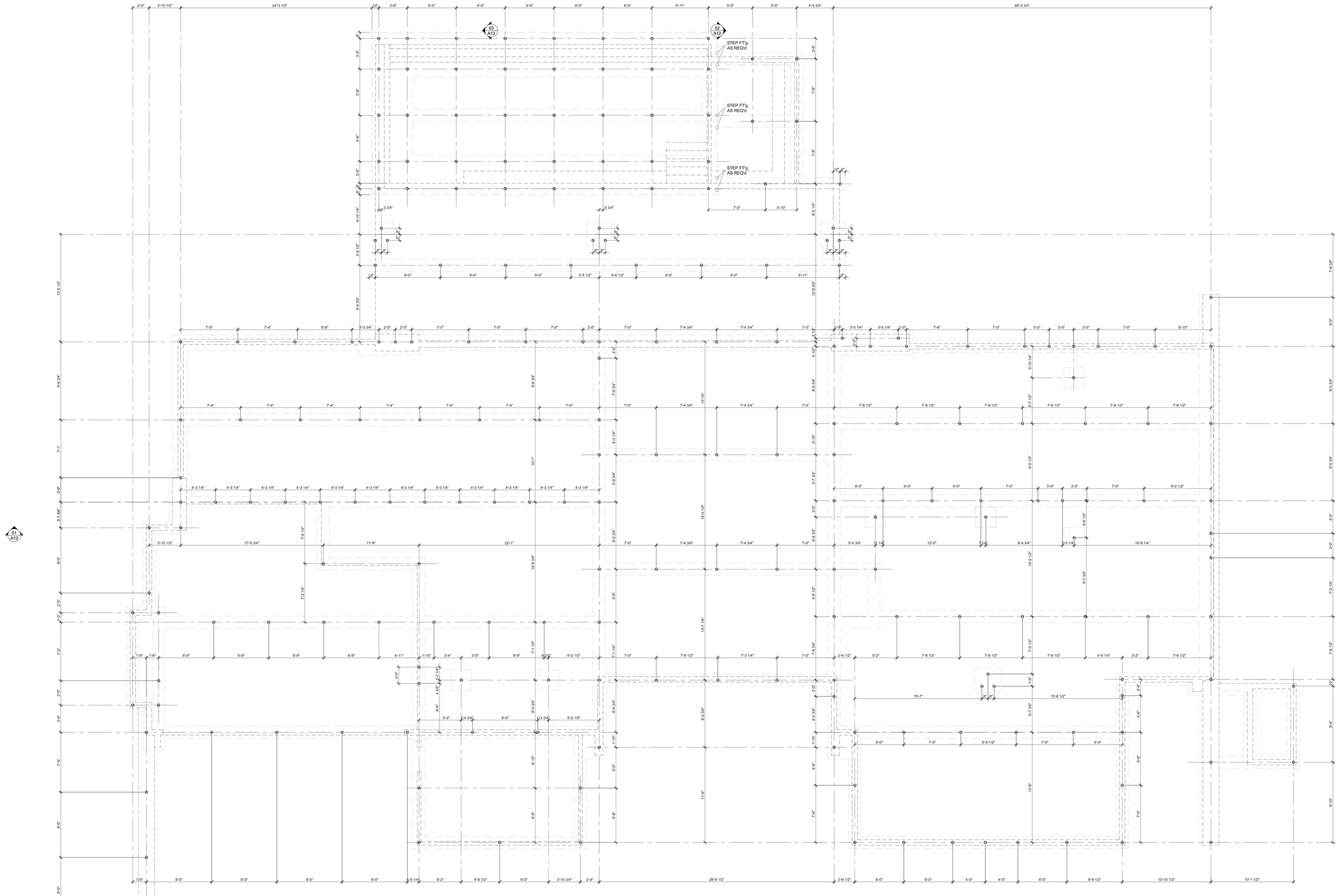
# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

STRUCTURAL DESIGN SET

Arch Site Plan

**A1**




# PIN PILE PLAN

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

03 A13

PILE DRIVING SCHEDULE (A)(:

| HAMMER WEIGHT (LBS) | 4" PILE REFUSAL CRITERIA (B) |
|---|---|
| 1,100 | 10 |
| 2,000 | 4 |

A. SCHEDULE OF DRIVING CRITERIA FOR 4" PIPE w/ A 10 TON ALLOWABLE AXIAL COMPRESSION LOAD PER SOILS ENGINEER
B. SECONDS PER INCH OF PENETRATION

LEGEND:

(4) 4" Ø STANDARD WEIGHT GALVANIZED PIPE PILE (10-TON CAPACITY) REFER TO 2/S3.1 FOR EMBEDMENT INTO FOOTING

02 A12

GENERAL NOTES:

1. ALL DIMENSION LINES ARE TO FACE OF CENTERLINE OF PIN PILE OR CONCRETE, U.N.O.
2. REFER TO STRUCTURAL FOUNDATION DETAILS FOR LOCATION / SPACING OF ANCHOR BOLTS

PILE SPECIFICATIONS:

1. 4" DIAMETER STANDARD WEIGHT GALVANIZED PIPE PILES SHALL BE DRIVEN TO REFUSAL WITH A MINIMUM 1,100-LB HYDRAULIC HAMMER AS DEFINED BY THE GEOTECHNICAL ENGINEER. THE DRIVING CRITERIA WILL BE DETERMINED BASED ON THE ACTUAL HAMMER SIZE SELECTED BY THE CONTRACTOR AND THE STATIC LOAD TEST PROGRAM.
2. PIPE PILES SHALL BE INSTALLED IN STRICT CONFORMANCE TO THE SOILS ENGINEER'S REQUIREMENTS INCLUDING THE APPROPRIATE ANALYSIS/EVALUATION AND TESTING REQUIREMENTS.
3. GEOTECHNICAL SPECIAL INSPECTOR SHALL BE CONTINUOUSLY PRESENT DURING PIPE PILE INSTALLATION AND TESTING.
4. THE GEOTECHNICAL ENGINEER OF RECORD OR THEIR REPRESENTATIVE SHALL PROVIDE FULL TIME OBSERVATION OF PILE INSTALLATION.
5. STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE A OR B, Fy = 35 KSI. PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED SLEEVE COUPLERS.
6. PIPE PILES NEED TO BE PLACED WITHIN 3" OF SPECIFIED LOCATION. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILES.

PIN PILE PLAN NOTES:

1. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO SOILS REPORT FOR ADDITIONAL PILE INSTALLATION REQUIREMENTS.
3. CONTRACTOR TO VERIFY ALL ELEVATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS, SURVEY DRAWINGS, AND EXISTING SITE CONDITIONS.
4. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

2 1 0 5 10

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
**2021.11.17** Comment
**2021.12.13** **Updated Plans to Structural**
**2021.12.15** **Structural Backcheck 01**
**2021.12.22** **Structural Backcheck 02**
**Structural Backcheck 03**

Date: **2021.10.13**
Job No: **21-041**
Project No:
Drawn: **DJR**
Approved: **APM**

7864 REGISTERED ARCHITECT STATE OF WASHINGTON

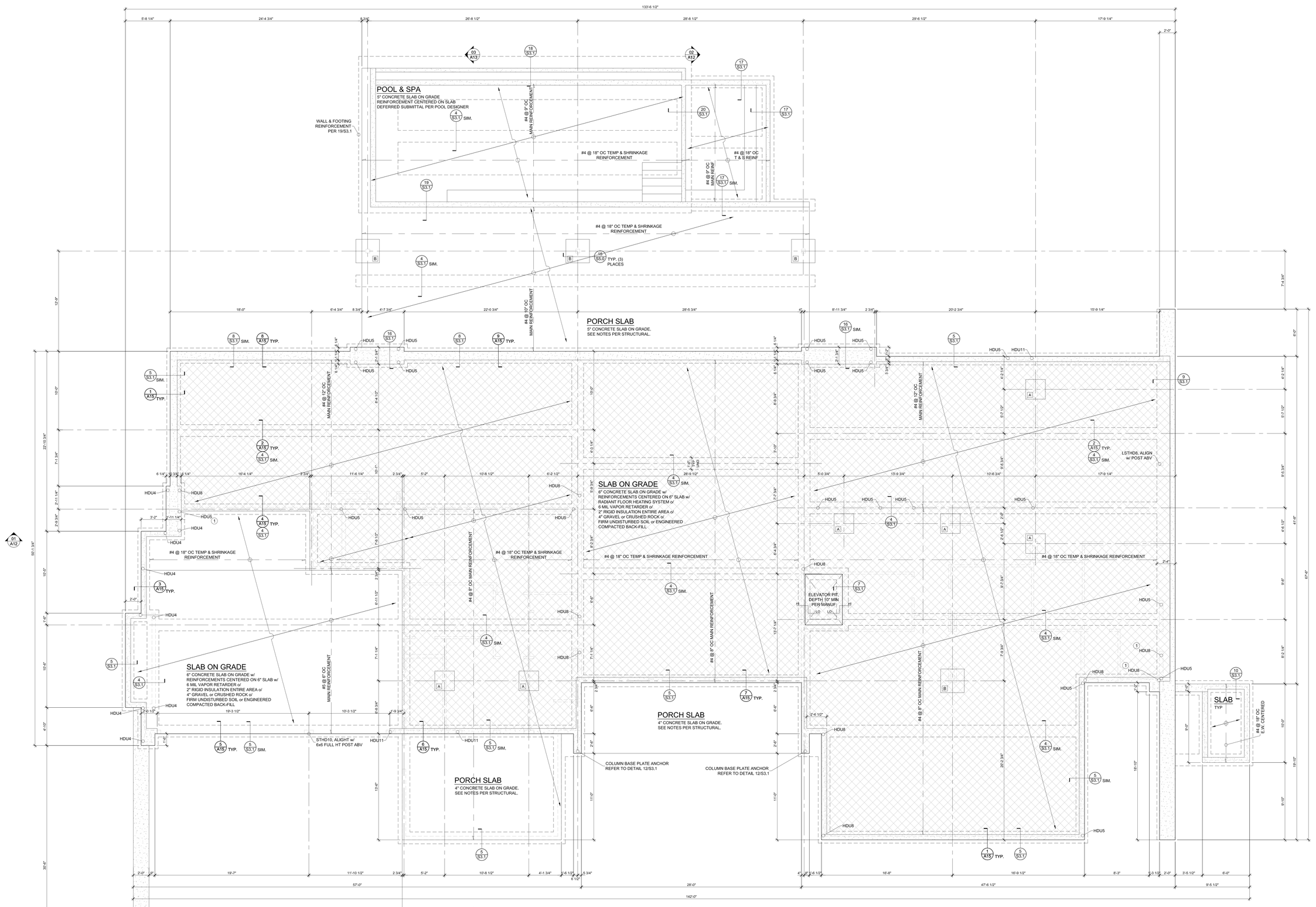
# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Pin Pile Plan

**A2**




## FOOTING SCHEDULE:

| MARK | SIZE | REINFORCING |
|---|---|---|
| A | 2'-6" SQ x 12"d | (4) #4 EW BOTTOM |
| B | 4'-0" SQ x 12"d | (5) #4 EW BOTTOM |

## FOOTNOTES:

(1) ALIGN HOLDOWN w/ STRAPS or HDU HOLDOWN ABOVE

## GENERAL NOTES:

1. 8" MIN. CLEARANCE BETWEEN EXTERIOR GRADE & UNPROTECTED WOOD.
2. THE UNDER-FLOOR GRADE SHALL BE CLEANED OF ALL ORGANIC MATERIAL, AND CONSTRUCTION MATERIAL BEFORE THE BUILDING IS OCCUPIED.
3. ALL DIMENSION LINES ARE TO FACE OF FRAMING OR CONCRETE, U.N.O.
4. PROVIDE MIN. 6 MIL VAPOR BARRIER @ SLAB ON GRADE.
5. PROVIDE RIGID INSULATION PER COVER SHEET@ SLAB OF CONDITIONED SPACES WHERE LOCATED PER PLAN.
6. FOUNDATION DETAILS ON SHEET S3.1 FOR LOCATION / SPACING OF ANCHOR BOLTS
7. INSTALL ALL HOLDOWNS AND HARDWARE PRIOR TO BACKFILLING.

## FOUNDATION PLAN NOTES:

1. BOTTOM OF ALL NEW FOOTINGS SHALL BE 24" MINIMUM BELOW LOWEST ADJACENT GRADE, UNO.
2. STRUCTURAL SLAB ON GRADE SHALL BE 6" MINIMUM THICKNESS REINFORCED PER PLAN, UNO. PROVIDE RIGID INSULATION AT INTERIOR SPACES PER ARCH AND VAPOR BARRIER BELOW SLAB PER ARCHITECTURAL DRAWINGS OVER 4" MINIMUM FREE DRAINING GRAVEL OVER FIRM NATIVE SOILS OR STRUCTURAL FILL PER SOILS ENGINEER.
3. REFER TO SHEET S3.0 FOR TYPICAL FOUNDATION AND CONCRETE DETAILS.
4. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
5. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

# STRUCTURAL SOG REINFORCING PLAN

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

2 1 0 5 10

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
2021.11.17 Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

7984 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON

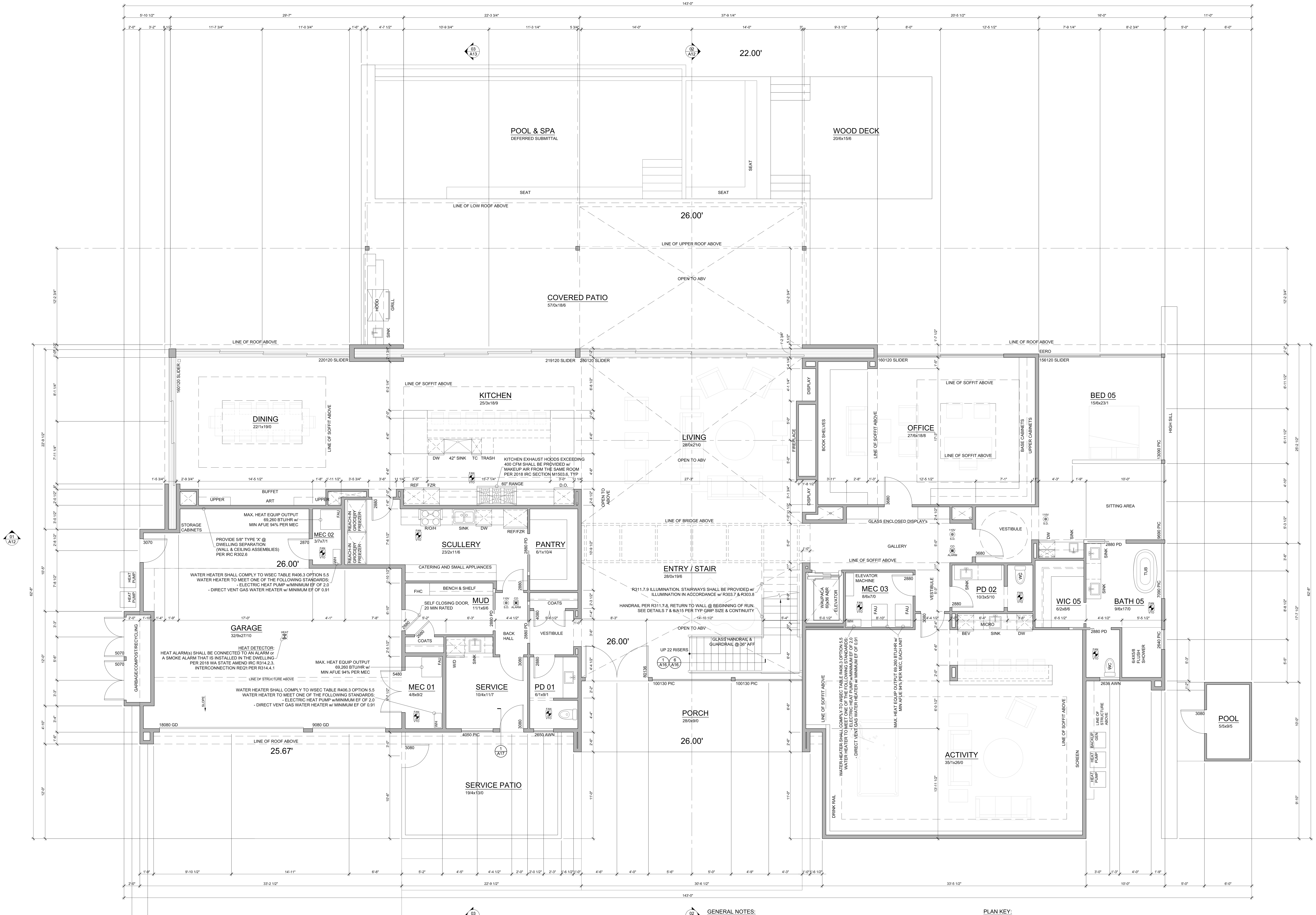
# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Structural SOG Reinforcing Plan

# A4




# MAIN FLOOR PLAN

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

5,469 SF // 9,966 SF TOTAL CONDITIONED // 945 GARAGE

## GENERAL NOTES:

1. SEE ELEVATIONS, SECTIONS AND ROOF PLAN FOR PLATE HEIGHTS.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2828= 2'-8"w x 2'-8"h)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" O.C., INTERIOR WALLS TO BE 2x4 STUDS AT 16" O.C., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER IRC SEC. R302.11.
8. SAFETY GLAZING PER IRC SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC R302.7.
11. PROVIDE (1) LAYER OF 1/2" GWB AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE X GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
12. PER IRC SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4". MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
13. PROVIDE HANDRAILS PER IRC SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
14. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
15. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH. 51-51 WAC R1004.1.1.
16. 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.

## PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET. PER I.R.C. 313.4 INTERCONNECTED w/ EMERGENCY BATTERY BACKUP
- CO ALARM — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- FAN VTO — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET.
- HEAT — INDICATES HEAT ALARM

306.1 ACCESS. APPLIANCES, CONTROLS DEVICES, HEAT EXCHANGERS AND HVAC SYSTEM COMPONENTS THAT UTILIZE ENERGY SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT w/o DISABLING THE FUNCTION OF A FIRE-RESISTANCE-RATED ASSEMBLY OR REMOVING PERMANENT CONSTRUCTION, OTHER APPLIANCES, VENTING SYSTEMS or ANY OTHER PIPING OR DUCTS NOT CONNECTED TO THE APPLIANCE BEING INSPECTED, SERVICED, REPAIRED or REPLACED. A LEVEL WORKING SPACE NOT LESS THAN 30 INCHES DEEP AND 30 INCHES WIDE (762 MM BY 762 MM) SHALL BE PROVIDED IN FRONT OF THE CONTROL SIDE TO SERVICE AN APPLIANCE.

2 1 0 5 10

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle. WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

| Revisions | Comment |
|---|---|
| 2021.11.17 | Updated Plans to Structural |
| 2021.12.13 | Structural Backcheck 01 |
| 2021.12.15 | Structural Backcheck 02 |
| 2021.12.22 | Structural Backcheck 03 |

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

REGISTERED ARCHITECT 7806 J. PHILIP MCCULLOUGH STATE OF WASHINGTON

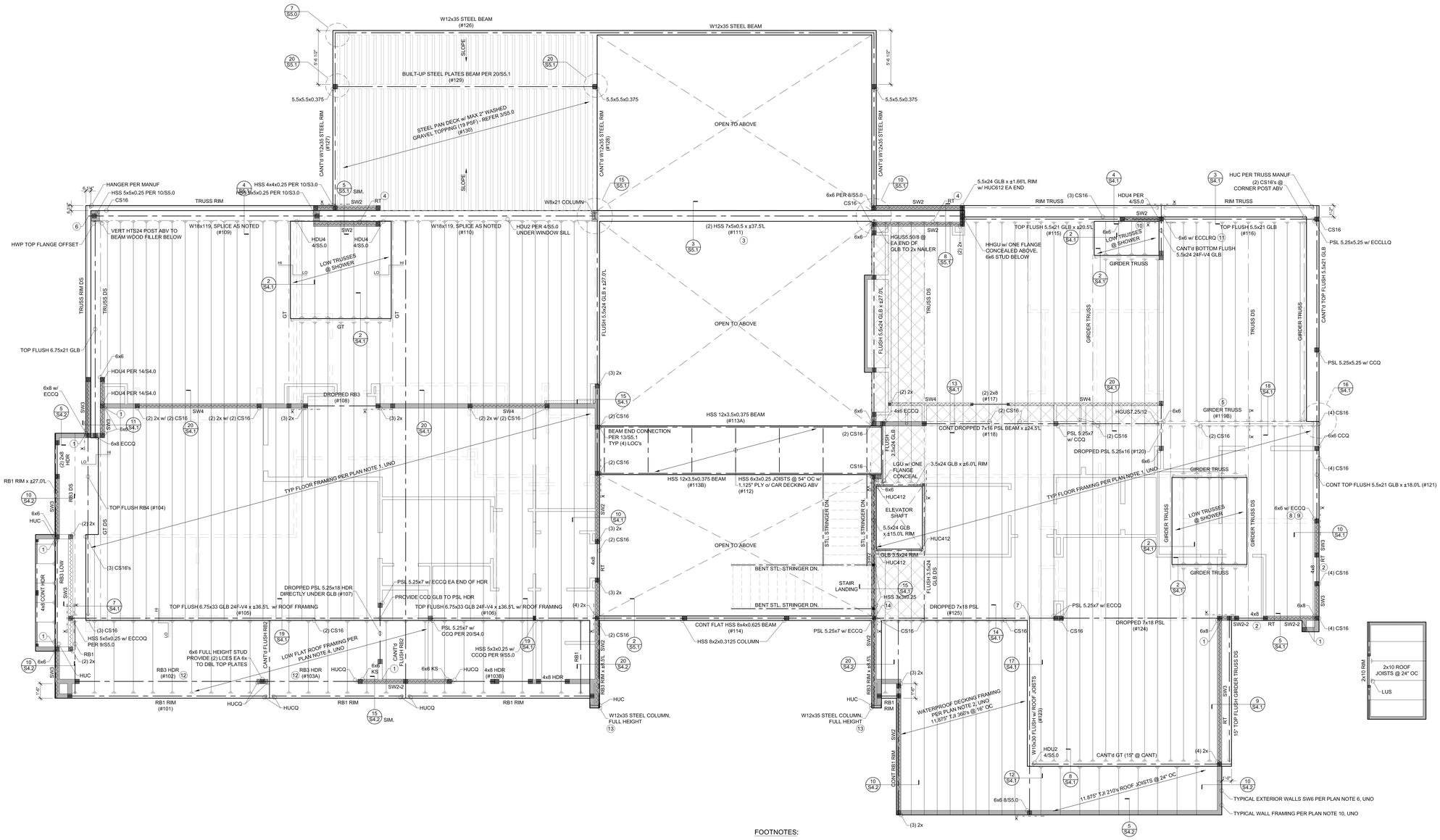
# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Main Floor Plan

# A5




# UPPER FLOOR & LOW ROOF FRAMING PLAN

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

FLUSH BEAM SCHEDULE:

| MARK | SIZE ① | BRG STUDS | HANGER, UNO |
|---|---|---|---|
| RB1 | 1.75x11.875 LSL | 2 | HUS1.81/10 |
| RB2 | 3.5x11.875 GLB or 3.5x11.875 LSL | 2<br>2 | HHUS410<br>HHUS410 |
| RB3 | 5.5x11.875 GLB or 5.25x11.875 PSL | 3<br>3 | HGUS5.50/10<br>HGUS5.50/10 |
| RB4 | 7x11.875 PSL | 4 | HGUS7.25/10 |

① ALL GLB ARE 24F-V4, UNO

LEGEND:

| | |
|---|---|
| X | HORIZ CS16 x 3'-0" LONG - TOP PLATE TO TOP PLATE (@ BREAK) or TOP FLUSHED BEAM TO TOP PLATE or RIM TO RIM or BEAM TO BEAM or BEAM TO RT (XX INDICATES 2-CS16 STRAPS) |
| DS | DRAG STRUT - NAIL THRU SHEATHING w/ 8d NAILS @ 4" OC INTO ENTIRE LENGTH OF MEMBER |
| KS | KING STUD |
| (X) | NUMBER OF BUILT-UP STUDS |
| GT | GIRDER TRUSS |
| RT | RIM TRUSS |
| | BLOCK DIAPHRAGM - PROVIDE FLAT 2x4 BLK'g w/ 8d @ 4" OC @ ALL PANEL EDGES @ 8d @ 12" OC IN THE FIELD |

FOOTNOTES:

1. SHEARWALL SHEATHING CONTINUOUS THRU WALL INTERSECTION
2. SHEATHE AND NAIL ABOVE AND BELOW WINDOW AND PANEL EDGE NAIL AROUND OPENING PER SHEARWALL SCHEDULE
3. (2) HSS 7x5x1/2 BUILT-UP BEAM SHALL BE GROOVE WELD TOGETHER TOP AND BOTTOM AND PROVIDE 1/2" DIAM. WTS AT 36"oc FOR 2x NAILER CONNECTION EACH SIDE OF BUILT-UP BEAM AND USE 5/4" WOOD NAILER TOP AND BOTTOM OF BUILT-UP BEAM WITH TB SCREWS AT 36"oc STAGGERED INTO HSS BEAMS, PRE-DRILL AS REQUIRED
4. TRUSS MANUFACTURER TO DESIGN RIM TRUSS TO TRANSFER 600 PLF LATERALLY FROM TOP TO BOTTOM CHORD
5. TRUSS MANUFACTURER TO DESIGN GIRDER TRUSS FOR A 4,500 LBS (WIND/SEISMIC) POINT LOAD AT HOLDOWN AND PROVIDE VERTICAL MEMBER TO RECEIVE HOLDOWN NAILS
6. PROVIDE (1)L90 WITH #9 x 1-1/2" SD CONNECTORS SCREWS EACH SIDE OF STEEL BEAM SNUG FIT WOOD FILLER TO TRUSS, (2)L90 TOTAL AND TRUSS MANUFACTURER TO PROVIDE VERTICAL MEMBERS TO RECEIVE L90 FASTENERS
7. PROVIDE 3-1/2" BEARING LENGTH OF STEEL BEAM TO TOP OF PSL WITH (2)1/2" DIAM. x 6" LAG BOLTS AT BEAM GAGE WITH 2-1/2" EDGE DISTANCE FROM FACE OF PSL BEAM
8. RAISE TOP OF POST TO BOTTOM OF GLB 21" DEPTH TOP FLUSH BEAM AND PROVIDE POST CAP PER PLAN, REFER DETAIL 18/S4.0
9. PROVIDE HORIZ CS16 x 4'-6" STRAP AT TOP PLATE AND WRAP AROUND CENTERED ON POST PER PLAN, REFER DETAIL 18/S4.0
10. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF GLB 21" DEPTH BEAM AND DBL 2x6 TOP PLATES AS REQUIRED TO BE FLUSHED WITH FLOOR FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 16"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES TO BOTTOM OF BEAM
11. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF GLB 21" DEPTH BEAM AND POST CAP AS REQUIRED TOP FLUSHED WITH FLOOR TRUSSES
12. PLACE GARAGE HEADER DIRECTLY ABOVE DOOR ROUGH OPENING
13. PROVIDE FULL HEIGHT SOLID WOOD FILLER AS REQUIRED FOR NAILER AND BOLT WITH 5/8" WTS AT 32"oc, REFER DETAIL 12/S3.1
14. POCKET BEAM INTO WALL WITH BUILT-UP 2x BEARING STUDS TO MATCH BEAM WIDTH AND (1)2x FULL HEIGHT STUD EACH SIDE WITH A35 EACH TOP AND BOTTOM

UPPER FLOOR & LOWER FLOOR FRAMING NOTES:

1. TYPICAL FLOOR FRAMING CONSISTS OF 1/4" TILE o/ 1-1/8" GYPCRETE PER ARCH o/ 1-1/8" T&G APA RATED SHEATHING (SPAN RATING 48 oc) OVER PREFABRICATED TRUSSES AT 16"oc, UNO. TRUSSES TO BE A MIN DEPTH OF 24".
2. TYPICAL WATER PROOF DECK FRAMING CONSISTS OF CONCRETE PAVERS (18 PSF MAX) o/ TAPERED RIGID INSULATION PER ARCH o/ 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 360's AT 16"oc, UNO.
3. GLUE AND NAIL FLOOR AND WATERPROOF DECK SHEATHING w/ 8d AT 6"oc AT FRAMED PANEL EDGES AND AT 12"oc IN THE FIELD, UNO.
4. TYPICAL LOWER ROOF FRAMING CONSISTS OF 2" THICK MAX. WASHED GRAVEL TOPPING (20 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 210's AT 24"oc, UNO. PROVIDE H8 EACH END OF ALL RAFTERS, H8 EACH SIDE OF ALL MULTIPLE RAFTERS, UNO.
5. NAIL NEW ROOF SHEATHING w/ 8d AT 6"oc AT FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12"oc IN THE FIELD, UNO.
6. "SW_" INDICATES SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE ON 5/S4.0 FOR ADDITIONAL INFORMATION. ALL NEW AND EXISTING EXTERIOR WALLS ARE SW6, UNO.
7. ALL HEADERS REQUIRED ARE SHOWN ON PLAN AND SHALL BE (2)2x8, UNO. REFER TO DETAIL 10/S4.0 FOR ADDITIONAL REQUIREMENTS.
8. PROVIDE (2) BEARING (TRIMMER) STUDS AT EACH END OF ALL HEADERS, BEAMS, AND GIRDER TRUSSES 6'-0" IN LENGTH AND OVER, UNO.
9. WHERE POSTS OCCUR PROVIDE SOLID VERTICAL GRAIN BLOCKING SOLID THRU FLOOR TO MATCHING SUPPORTS BELOW, UNO.
10. TYPICAL WALL FRAMING CONSISTS OF 2x4'S OR 2x6's AT 16"oc AT EXTERIOR WALLS AND 2x4's OR 2x6's AT 16"oc AT INTERIOR WALLS PER ARCH DRAWINGS, UNO.
11. REFER TO SHEET S4.0 FOR TYPICAL WOOD FRAMING DETAILS.
12. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
13. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

2 1 0 5 10


MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com



UNPUBLISHED WORK 2016 © McCullough Architects


Revisions
2021.11.17 Comment: Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

REGISTERED PROFESSIONAL ENGINEER TIMOTHY J. MCCULLOUGH STATE OF WASHINGTON 7084

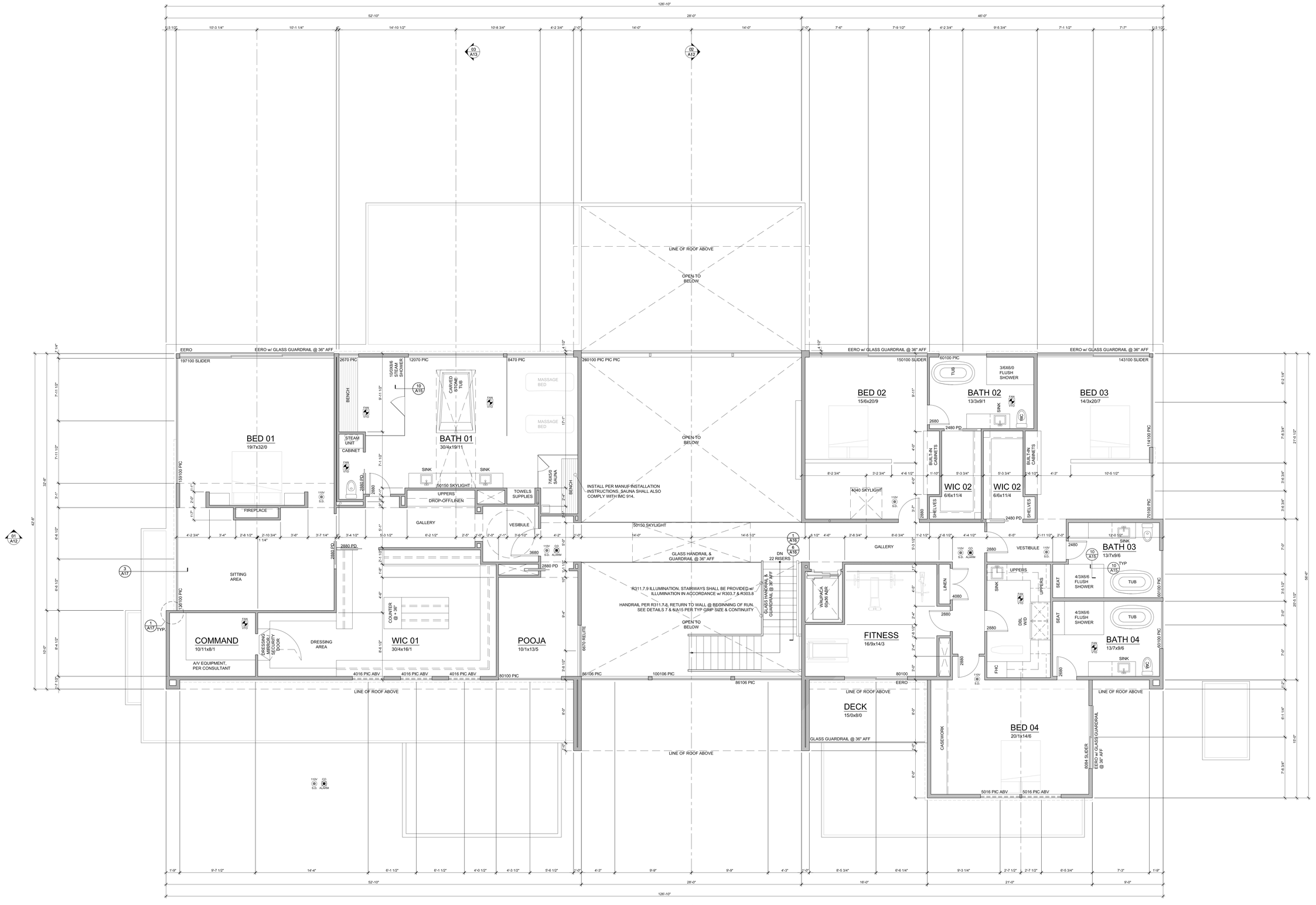
# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Upper Floor & Lower Roof Framing Plan

**A6**




# UPPER FLOOR PLAN

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

4,497 SF

GENERAL NOTES:

1. SEE ELEVATIONS, SECTIONS AND ROOF PLAN FOR PLATE HEIGHTS.
2. DIMENSION LINES ARE TO FACE OF STUD U.N.O.
3. WINDOW SIZES & ROUGH OPENINGS TO BE VERIFIED BY CONTRACTOR.
4. IF NOMINAL DOOR AND WINDOW HEIGHTS ARE SIMILAR, COORDINATE WITH DOOR AND WINDOW SPEC'S TO LOCATE FINAL ELEVATION OF THE HEAD HEIGHTS SO THAT ALL DOOR AND WINDOW TRIM ALIGN.
5. WINDOW AND DOOR SIZES ARE DIMENSIONED IN FEET AND INCHES (E.G. 2828= 2'-8"w x 2'-8"h)
6. EXTERIOR WALLS TO BE 2x6 STUDS AT 16" O.C., INTERIOR WALLS TO BE 2x4 STUDS AT 16" O.C., U.N.O.
7. FIREBLOCK ALL PLUMBING PENETRATIONS AND STAIR RUNS PER IRC SEC. R302.11.
8. SAFETY GLAZING PER IRC SEC. R308.4.
9. ALL WOOD IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED PER IRC SEC. R317.1.
10. PROVIDE UNDER-STAIR PROTECTION (1/2" GWB) PER IRC SEC R302.7.
11. PROVIDE (1) LAYER OF 1/2" GWB AT THE GARAGE SIDE OF ALL WALLS SEPARATING THE GARAGE FROM THE RESIDENCE, ALL WALLS SUPPORTING A FLOOR CEILING ASSEMBLY BETWEEN THE GARAGE AND RESIDENCE, AND BETWEEN THE GARAGE AND ITS ATTIC. PROVIDE (1) LAYER 5/8" TYPE X GWB TO GARAGE CEILING IF BELOW HABITABLE ROOMS.
12. PER IRC SEC R311.7.5. MAX. RISER HEIGHT SHALL BE 7-3/4". MIN. TREAD DEPTH SHALL BE 10". STAIR NOSINGS: 3/4" MIN., 1-1/4" MAX. RADIUS @ LEADING EDGE OF TREAD: 9/16" MAX.
13. PROVIDE HANDRAILS PER IRC SEC. R311.7.8. TOP OF HANDRAIL SHALL BE NOT LASS THAN 34" OR MORE THAN 38" ABOVE THE TREAD NOSINGS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE FLIGHT PER R311.7.8.2. THE HANDRAIL GRIP-SIZE SHALL BE PROVIDED PER R311.7.8.3.
14. PROVIDE GUARDS (MIN. 36" HEIGHT) IN LOCATIONS PER IRC SEC. R312.
15. FACTORY BUILT FIREPLACES & CHIMNEYS SHALL BE LISTED & LABELED AND SHALL BE INSTALLED & TERMINATED IN ACCORDANCE TO THE CONDITIONS OF THE LISTINGS. FACTORY BUILT FIREPLACES SHALL MEET EMISSION STANDARDS PER CH, 51-51 WAC R1004.1.1.
16. 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.

PLAN KEY:

- 110V S.D. — INDICATES 110V SMOKE DET, PER I.R.C. 313.4 INTERCONNECTED w/ EMERGENCY BATTERY BACKUP
- CO ALARM — INDICATES CARBON MONOXIDE ALARM PER I.R.C. R315.1
- FAN VTO — INDICATES EXHAUST VENTILATION FAN PER COVER SHEET.

2 1 0 5 10

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

Revisions

| | Comment |
|---|---|
| 2021.11.17 | Updated Plans to Structural |
| 2021.12.13 | Structural Backcheck 01 |
| 2021.12.15 | Structural Backcheck 02 |
| 2021.12.22 | Structural Backcheck 03 |

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

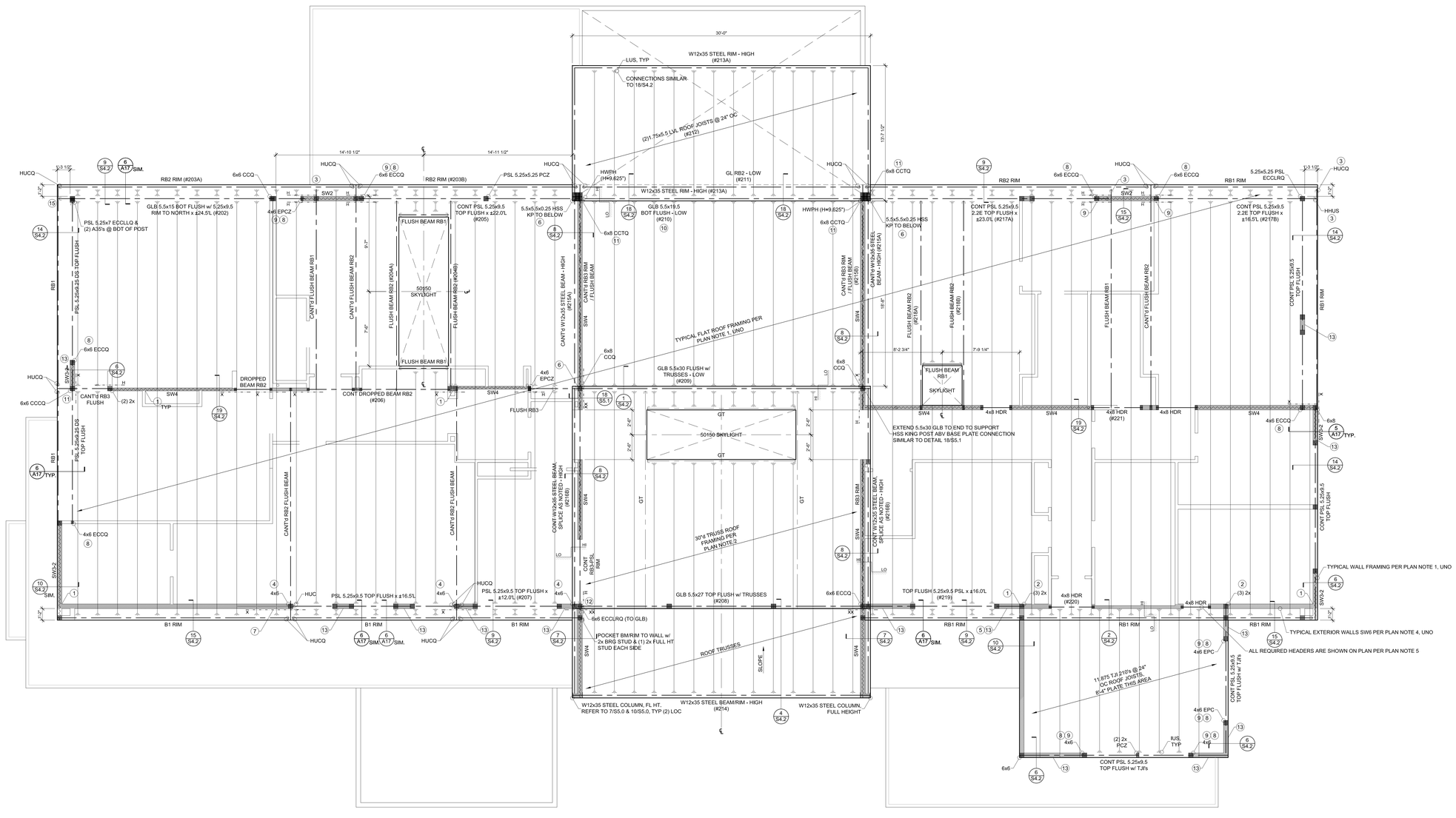
REGISTERED ARCHITECT 7864 STATE OF WASHINGTON

**KONERU RESIDENCE**
6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Upper Floor Plan

**A7**




## FLUSH BEAM SCHEDULE:

| MARK | SIZE ① | BRG STUDS | HANGER, UNO |
|---|---|---|---|
| RB1 | 1.75x11.875 LSL | 2 | HUS1.81/10 |
| RB2 | 3.5x11.875 GLB or 3.5x11.875 LSL | 2<br>2 | HHUS410<br>HHUS410 |
| RB3 | 5.5x11.875 GLB or 5.25x11.875 PSL | 3<br>3 | HGUS5.50/10<br>HGUS5.50/10 |
| RB4 | 7x11.875 PSL | 4 | HGUS7.25/10 |

① ALL GLB ARE 24F-V4, UNO

## LEGEND:

- X _ _ HORIZ CS16 x 3'-0" LONG - TOP PLATE TO TOP PLATE (@ BREAK) or TOP FLUSHED BEAM TO TOP PLATE or RIM TO RIM or BEAM TO BEAM (XX INDICATES 2-CS16 STRAPS)
- DS DRAG STRUT - NAIL THRU SHEATHING w/ 8d NAILS @ 4" OC INTO ENTIRE LENGTH OF MEMBER
- (X) NUMBER OF BUILT-UP STUDS
- GT GIRDER TRUSS
- RT RIM TRUSS
- KP KING POST

## GENERAL NOTES:

1. EAVE OVERHANG PER PLAN. APPLY ROOFING IN ACCORDANCE WITH I.R.C. SEC. 905. PROVIDE DRIP EDGE PER R905.2.8.5.
2. HEADERS (HDR) TO BE PER STRUCTURAL. FILL CAVITIES WITH RIGID INSULATION WHERE POSSIBLE.
3. COLUMNS @ HEADERS, BEAMS, & GIRDERS TO BE (2) 2x STUDS (U.N.O.)

## FOOTNOTES:

1. SHEARWALL SHEATHING CONTINUOUS THRU WALL INTERSECTION
2. PROVIDE (2)A35 TOP AND BOTTOM OF POST/BUILT-UP STUDS
3. HANGER PER PLAN INSTALL UPSIDE DOWN
4. PROVIDE VERT. HTS20 STRAP EACH BEAM END TO POST BELOW (AT EACH END OF EACH BEAM WERE HANGER NOT OCCURS)
5. PROVIDE (5)LTP5's ORIENT UPRIGHT AND CENTERED ON 2x SHIM BETWEEN BEAM AND DOUBLE TOP PLATES FOR DRAG CONNECTION.
6. PROVIDE HSS 3-1/2x3-1/2x1/4 MIN. KING POST (KP) AT HIGH STEEL BEAM AND SET COLUMN BASE PLATE AND CONNECTION TO TOP OF ROOF BEAM BELOW, REFER 18/s5.1
7. PROVIDE SNUG FIT LSL 1-3/4" BLOCKING BETWEEN (3) RAFTER BAYS WITH A35 TO TOP PLATE AND PROVIDE HORIZ CS16 x 6'-0" OVER ROOF SHEATHING - LAP RIM/BEAM 1'-6" AND NAIL REMAINING LENGTH TO LSL 1-3/4" BLKG
8. RAISE TOP OF POST TO BOTTOM OF 9-1/2" DEPTH TOP FLUSH BEAM AND PROVIDE POST CAP PER PLAN, REFER DETAIL 18/S4.0
9. PROVIDE HORIZ CS16 x 4'-6" STRAP AT TOP PLATE AND WRAP AROUND CENTERED ON POST PER PLAN
10. RAISED BOTTOM OF BEAM (+/-) 2-1/4" FROM BOTTOM OF TJI RAFTERS
11. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND POST CAP AS REQUIRED TOP FLUSHED WITH TOP OF TJI RAFTERS
12. NOTCH BOTTOM OF RB3-PSL BEAM TO FIT INTO RAISED POST CAP - NO OVERCUTS
13. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND DBL 2x6 TOP PLATES TO BE FLUSHED WITH TOP OF ROOF FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 16"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES CENTERED INTO BOTTOM OF BEAM, (2) SDWS SCREWS MIN. EACH WALL PANEL
14. PROVIDE SOLID WOOD SHIM BETWEEN BOTTOM OF 9-1/2" DEPTH BEAM AND DBL 2x6 TOP PLATES TO BE FLUSHED WITH TOP OF ROOF FRAMING AND PROVIDE 0.22" DIAM. x 8" SDWS TIMBER SCREWS AT 8"oc MAX, THRU UNDERSIDE OF DBL TOP PLATES CENTERED INTO BOTTOM OF BEAM
15. PROVIDE LS70 EACH FACE, (2) TOTAL WITH #9 x 1-1/2" SD CONNECTOR SCREWS IN LIEU OF NAILS

## ROOF FRAMING NOTES:

1. TYPICAL ROOF FRAMING CONSISTS OF SOLAR PANELS (5 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER 11-7/8" TJI 360's AT 24"oc, UNO. PROVIDE H8 EACH END OF ALL RAFTERS, H8 EACH SIDE OF ALL MULTIPLE RAFTERS, UNO.
2. TRUSS ROOF FRAMING PER PLAN CONSISTS OF SOLAR PANELS (5 PSF MAX.) OVER TAPERED RIGID INSULATION PER ARCH OVER 3/4" T&G APA RATED SHEATHING (SPAN RATING 48/24) OVER PREFABRICATED TRUSSES AT 24"oc, UNO. TRUSSES TO BE A MIN DEPTH OF 24". PROVIDE H2.5A EACH END OF ALL TRUSSES, H2.5A EACH SIDE OF ALL MULTIPLE TRUSSES, UNO. REFER TO ARCHITECTURAL DRAWINGS FOR TRUSS PROFILE.
3. NAIL ROOF SHEATHING W/ 8d AT 6"oc AT FRAMED PANEL EDGES AND OVER SHEARWALLS, AND AT 12"oc IN THE FIELD, UNO.
4. "SW_" INDICATES SHEARWALL BELOW FRAMING SHOWN. REFER TO SHEARWALL SCHEDULE ON S/S4.0 FOR ADDITIONAL INFORMATION. ALL EXTERIOR WALLS ARE SW6, UNO.
5. ALL HEADERS REQUIRED ARE SHOWN ON PLAN AND SHALL BE (2)2x8, UNO. REFER TO DETAIL 10/S4.0 FOR ADDITIONAL REQUIREMENTS.
6. PROVIDE (2) BEARING (TRIMMER) STUDS AT EACH END OF ALL HEADERS AND BEAMS 6'-0" IN LENGTH AND OVER, UNO.
7. WHERE POSTS OCCUR PROVIDE SOLID VERTICAL GRAIN BLOCKING SOLID THRU FLOOR TO MATCHING SUPPORTS BELOW.
8. TYPICAL WALL FRAMING CONSISTS OF 2x6's AT 16"oc AT EXTERIOR WALLS AND 2x4's OR 2x6's AT 16"oc AT INTERIOR WALLS PER ARCH DRAWINGS, UNO.
9. REFER TO SHEET S4.0 FOR TYPICAL WOOD FRAMING DETAILS.
10. REFER TO GENERAL STRUCTURAL NOTES SHEET S1.0 FOR ADDITIONAL REQUIREMENTS.
11. DO NOT SCALE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS.

# UPPER ROOF FRAMING PLAN

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

2 1 0 5 10


MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com


UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
2021.11.17 Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

7864 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON

**KONERU RESIDENCE**
6610 E Mercer Way
Mercer Island, WA 98040

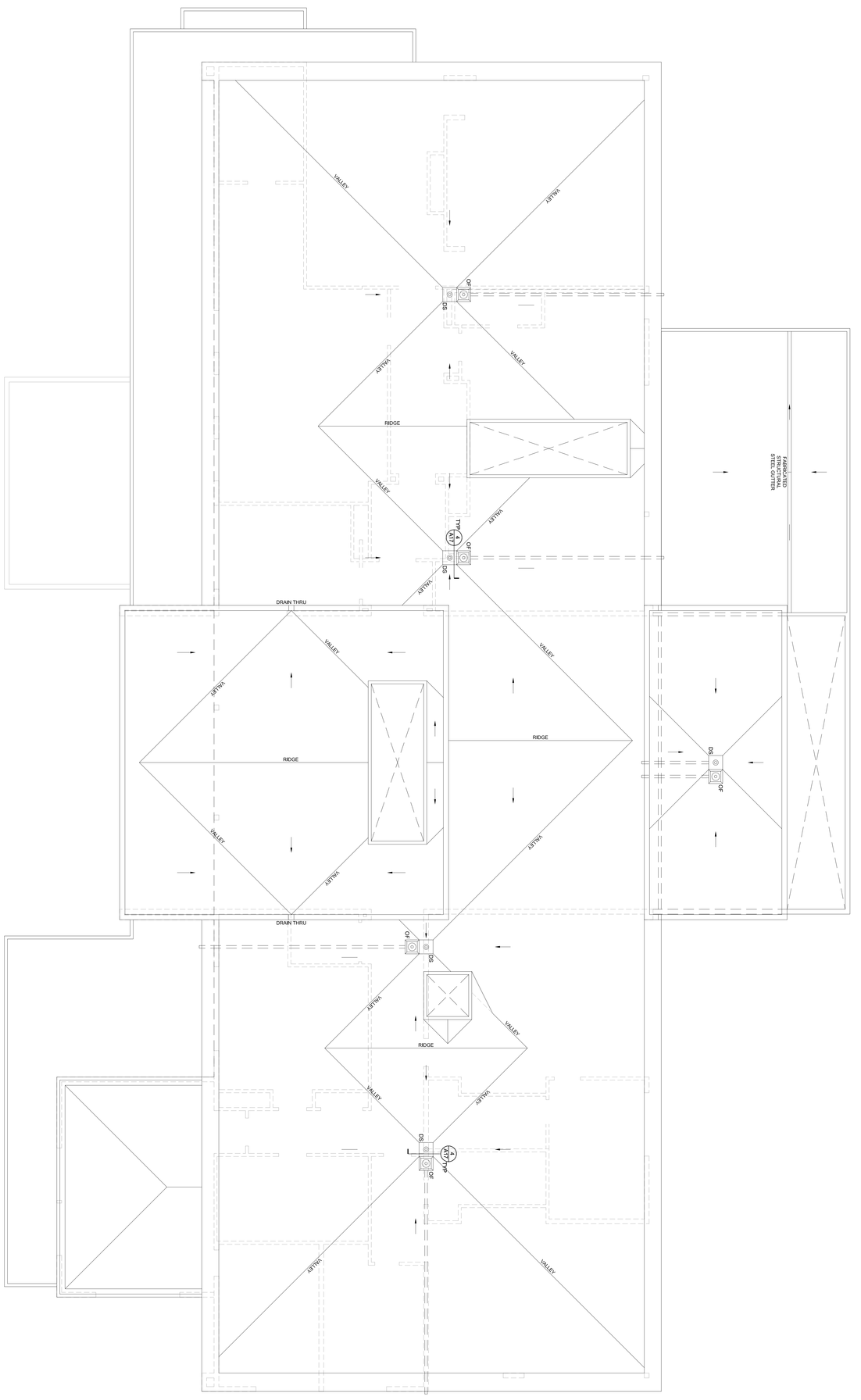
PERMIT SET

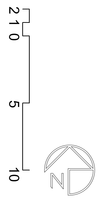
Upper Roof Framing Plan

**A8**

# ROOF DRAINAGE PLAN

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




**A9**

Roof Drainage Plan

PERMIT SET

## KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

7806 REGISTERED ARCHITECT A. PHILIP MCCULLOUGH STATE OF WASHINGTON

| | |
|---|---|
| Date: | **2021.10.13** |
| Job No: | **21-041** |
| Project No: | |
| Drawn: | **DJR** |
| Approved: | **APM** |

| Revisions | Comment |
|---|---|
| **2021.11.17** | **Updated Plans to Structural** |
| **2021.12.13** | **Structural Backcheck 01** |
| **2021.12.15** | **Structural Backcheck 02** |
| **2021.12.22** | **Structural Backcheck 03** |


McCULLOUGH ARCHITECTS

5601 6th Ave S. Suite 371
Seattle. WA 98108
206.443.1181
mccullougharchitects.com

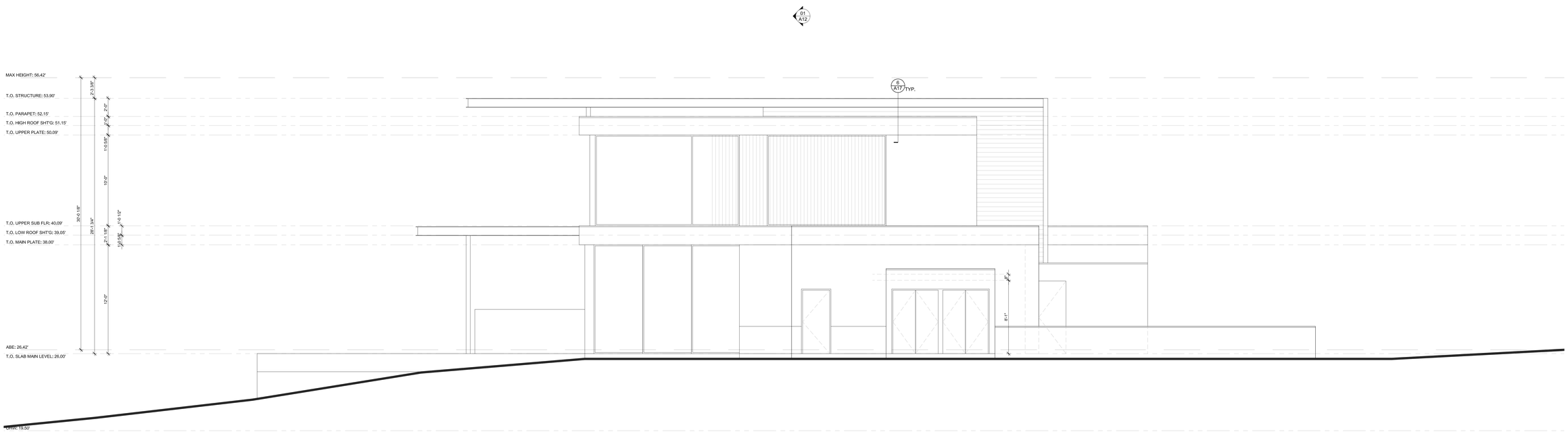


UNPUBLISHED WORK 2016 © McCullough Architects

# WEST ELEVATION

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

2 1 0 5 10




# NORTH ELEVATION

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

2 1 0 5 10


MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com


UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
2021.11.17 Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Comment

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

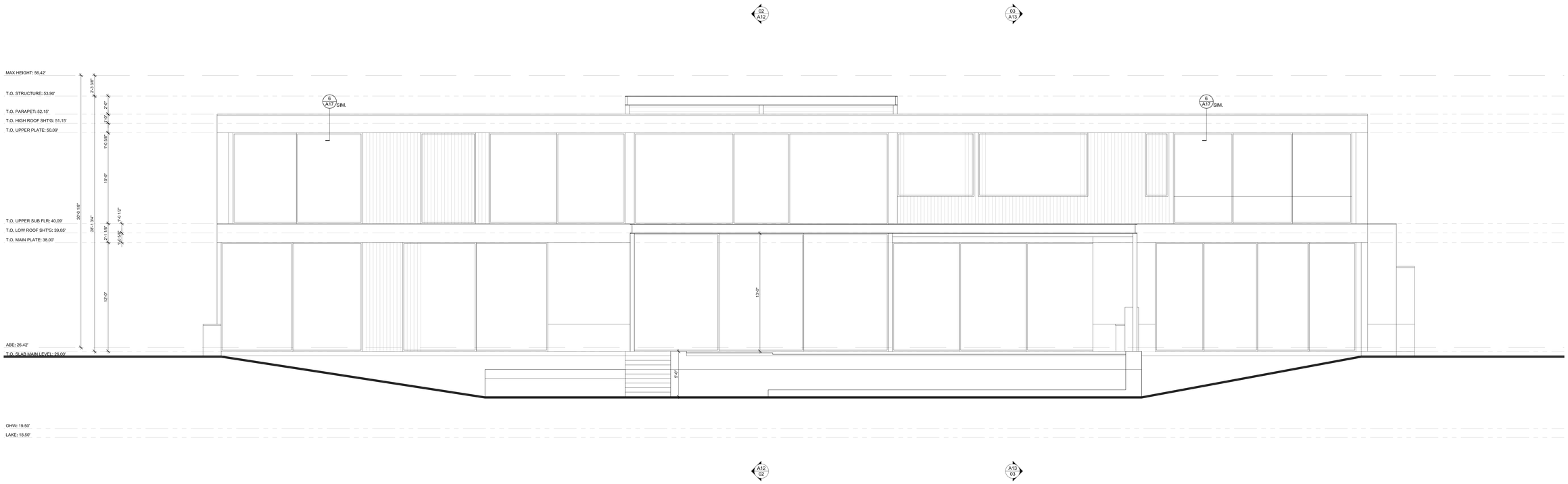
REGISTERED ARCHITECT 7864 STATE OF WASHINGTON

**KONERU RESIDENCE**
6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Exterior Elevations

**A10**




# EAST ELEVATION

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

2 1 0 5 10

# SOUTH ELEVATION

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

2 1 0 5 10

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
2021.11.17 Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

REGISTERED ARCHITECT 7864 STATE OF WASHINGTON

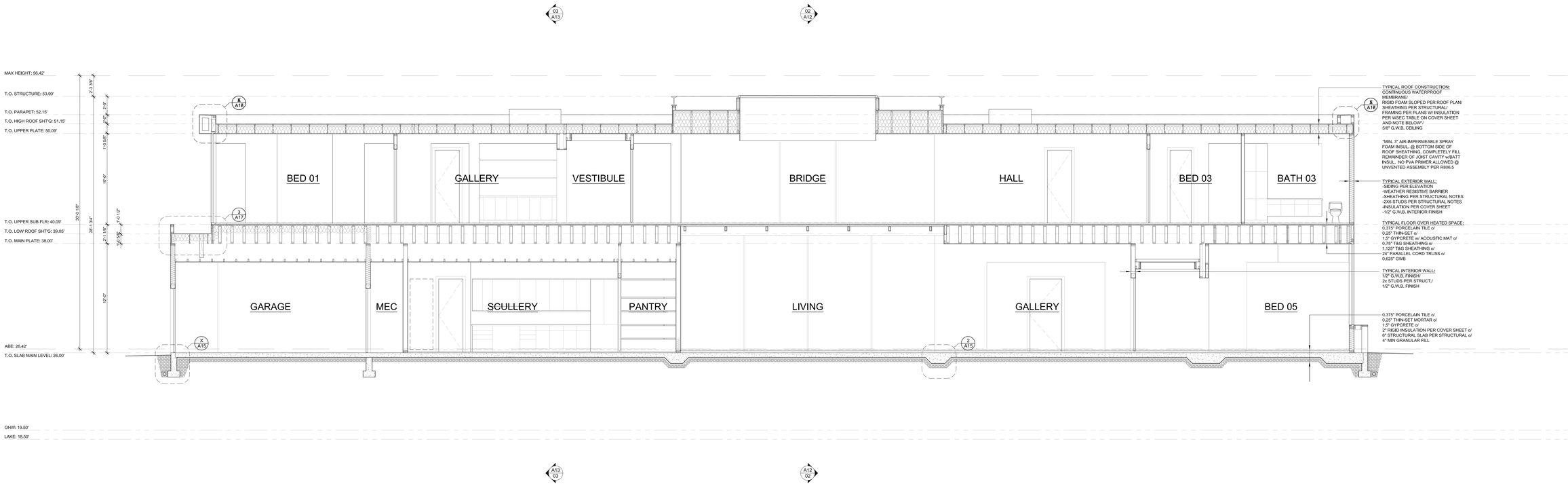
# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Exterior Elevations

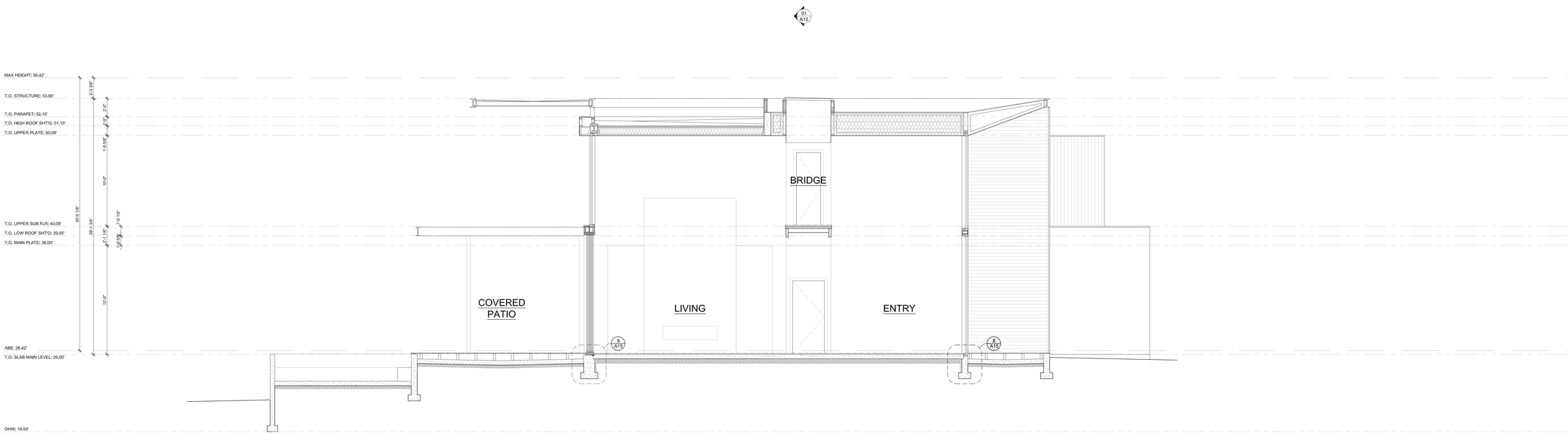
# A11




## SECTION 01

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

2 1 0 5 10




## SECTION 02

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

2 1 0 5 10

5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

MCCULLOUGH ARCHITECTS

UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
2021.11.17 Comment: Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

7864 REGISTERED ARCHITECT STATE OF WASHINGTON

# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island, WA 98040

PERMIT SET

Building Sections

# A12

02 A12

03 A13

A12 02

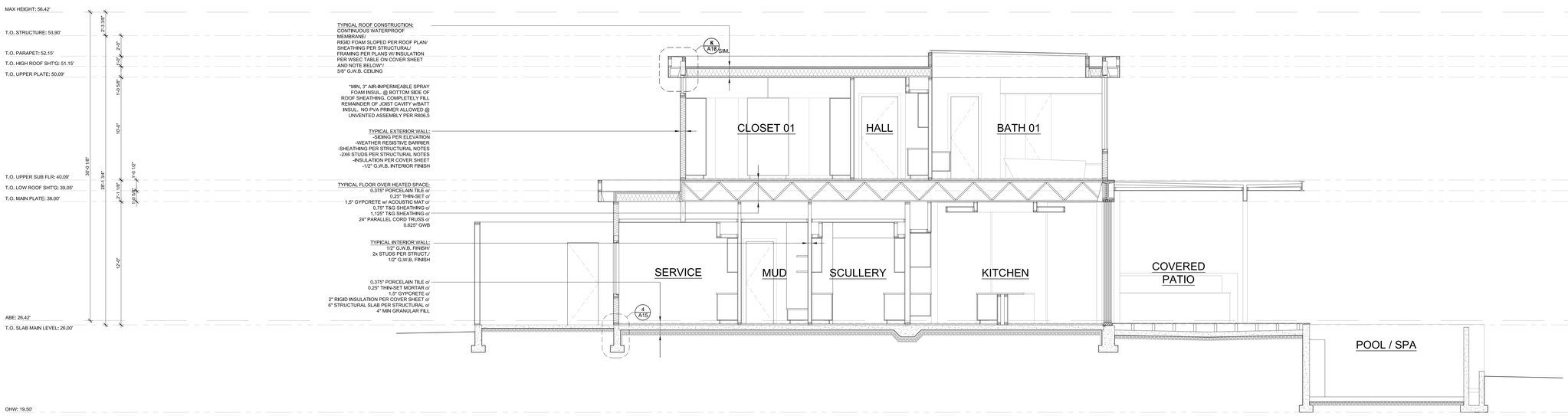
A13 03

## SECTION 03

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

2 1 0 5 10

01 A12




A12 01

## SECTION 04

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

2 1 0 5 10

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
2021.11.17 Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

7864 REGISTERED ARCHITECT JEFFREY P. MCCULLOUGH STATE OF WASHINGTON

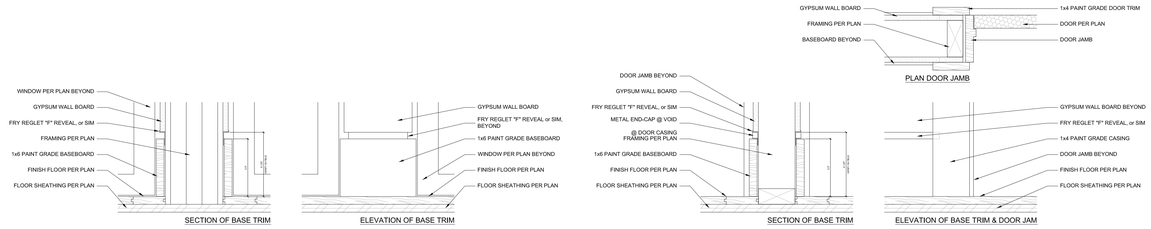
# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island, WA 98040

PERMIT SET

Building Sections

# A13




STEPS:

1. SET GYPSUM WALL BOARD APPROXIMATELY 6.125" ABOVE FINISH FLOOR. VERIFY BASEBOARD & FRY REGLET HEIGHTS PRIOR TO INSTALL PER CONFIRMATION OF 6.125" HEIGHT.
2. SET FRY REGLET "F" REVEAL (or SIM) @ BOTTOM OF GWB & ATTACH TO FRAMING. DRY-FIT PRIOR TO INSTALL TO CONFIRM TOP FLUSH MOUNT TO BASEBOARD.
3. SET 1x6 BASEBOARD DIRECTLY TO FRAMING. ABUT ADJACENT WINDOW FRAME. MITER JOINT @ ADJACENT BASE SURROUND @ WINDOW BASE CORNERS.

STEPS:

1. SET GYPSUM WALL BOARD APPROXIMATELY 6.125" ABOVE FINISH FLOOR. VERIFY BASEBOARD & FRY REGLET HEIGHTS PRIOR TO INSTALL PER CONFIRMATION OF 6.125" HEIGHT.
2. SET FRY REGLET "F" REVEAL (or SIM) @ BOTTOM OF GWB & ATTACH TO FRAMING. DRY-FIT PRIOR TO INSTALL TO CONFIRM TOP FLUSH MOUNT TO BASEBOARD.
3. SET 1x4 DOOR CASING.
4. SET 1x6 BASEBOARD DIRECTLY TO FRAMING. ABUT ADJACENT DOOR TRIM WHERE APPLICABLE.

## BASEBOARD & DOOR JAMB INTERSECTION DETAIL — 16

SCALE: N.T.S.



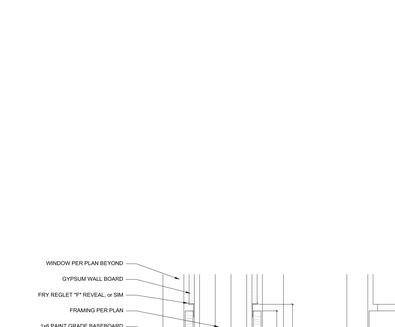

## RECESSED MUD SET SHOWER — 10

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




## PORCH SLAB @ SLIDING DOOR SILL — 9

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

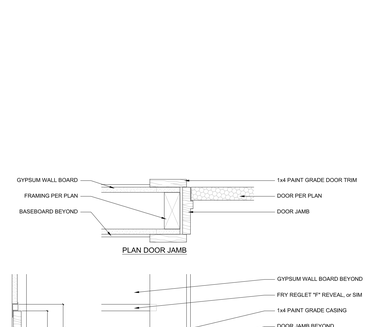



## SLIDING DOOR SILL @ HOUSE PERIMETER — 8

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

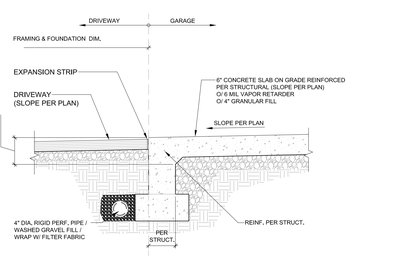
## PORCH SLAB @ WINDOW — 7

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



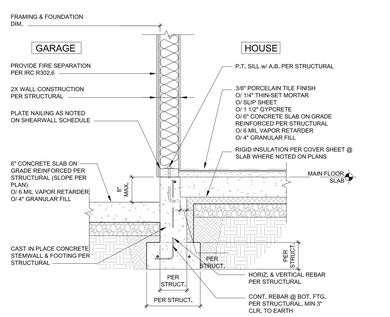

## PORCH SLAB @ HOUSE PERIMETER — 6

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



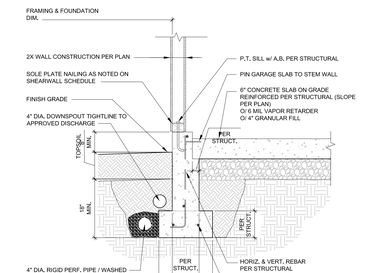

## FOUNDATION @ GARAGE DOOR — 5

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



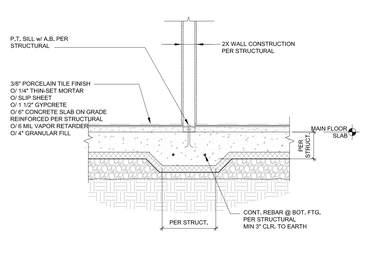

## FOUNDATION @ GARAGE-HOUSE — 4

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



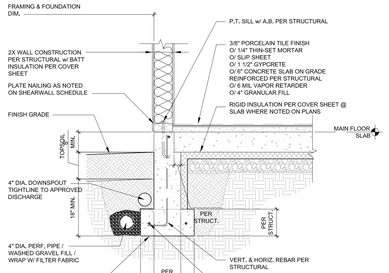

## FOUNDATION @ GARAGE PERIMETER — 3

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




## INTERIOR THICKENED SLAB — 2

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




## FOUNDATION @ HOUSE PERIMETER — 1

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

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

Revisions
2021.11.17 Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Comment

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

7864 REGISTERED ARCHITECT DAVID J. RUST STATE OF WASHINGTON

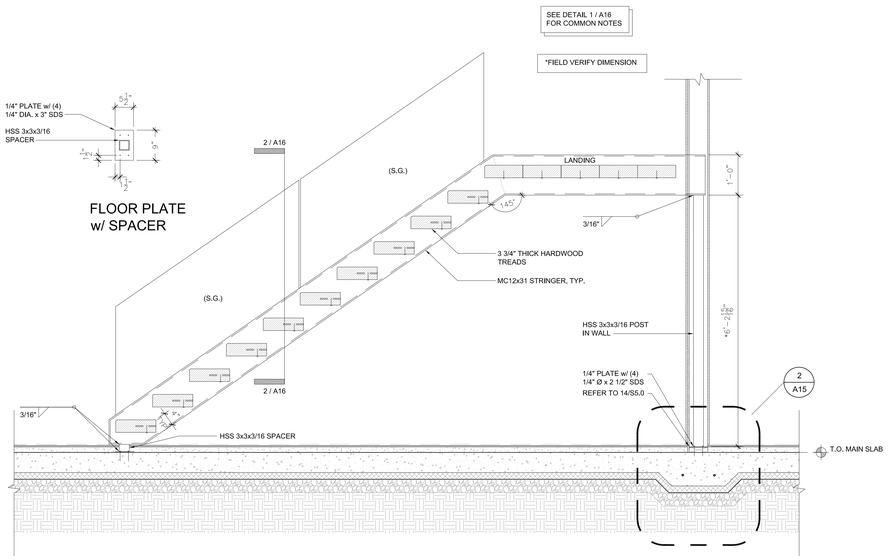
# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

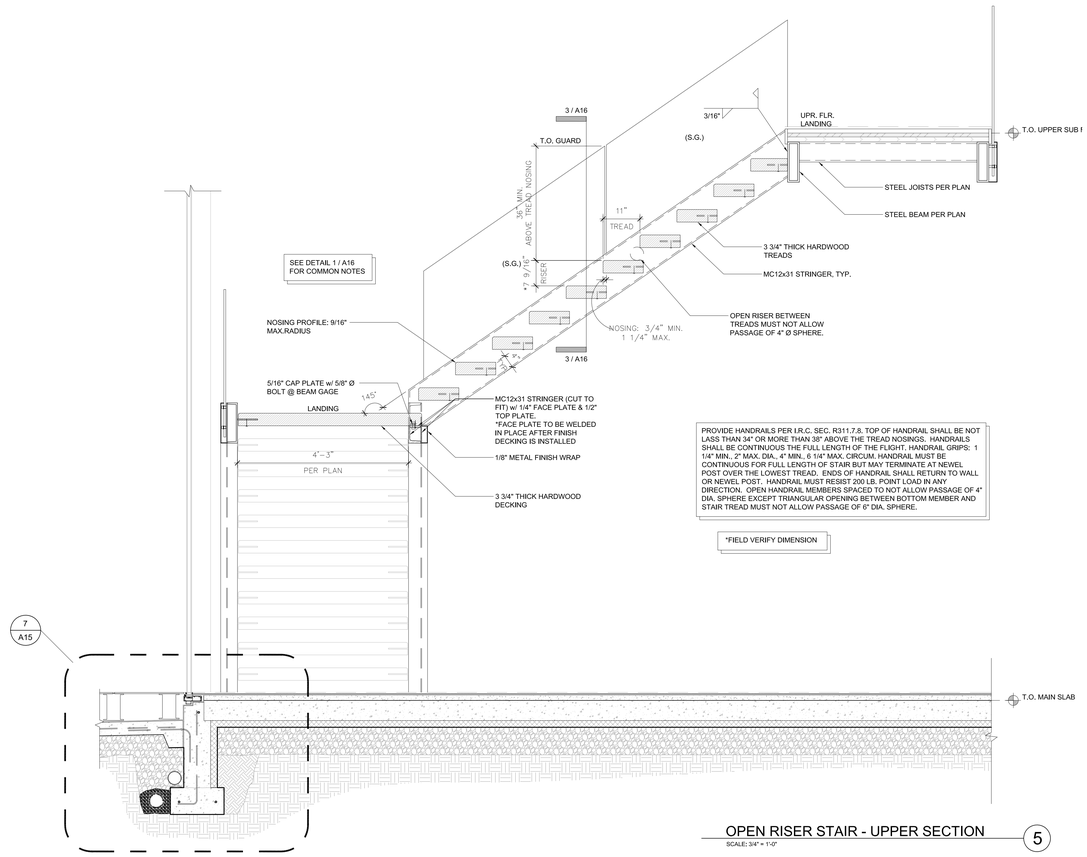
PERMIT SET

Architectural Details

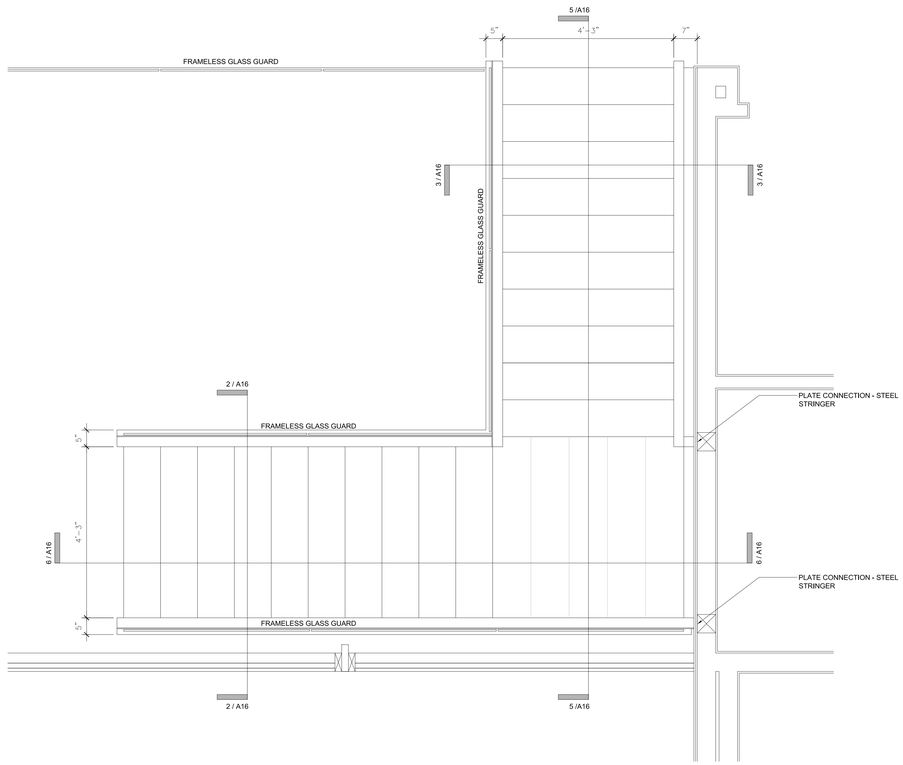
# A15



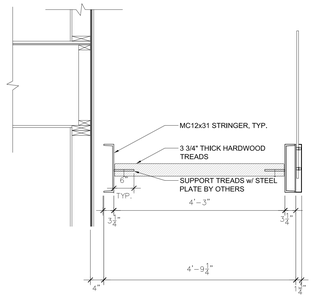

OPEN RISER STAIR - LOWER SECTION 6
SCALE: 3/4" = 1'-0"



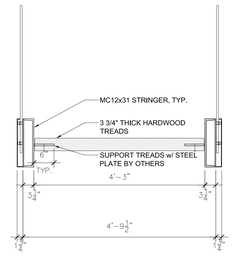

OPEN RISER STAIR - UPPER SECTION 5
SCALE: 3/4" = 1'-0"



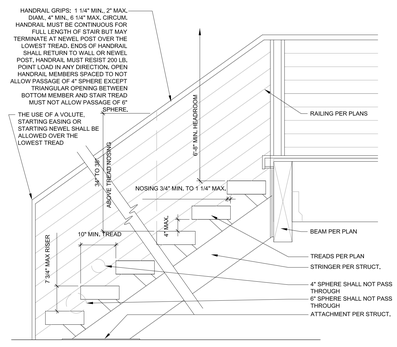

STAIR PLAN 4
SCALE: 3/4" = 1'-0"




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




LOWER STAIR SECTION 2
SCALE: 3/4" = 1'-0"




TYPICAL OPEN RISER INTERIOR STAIR 1
SCALE: 3/4" = 1'-0"


MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com



UNPUBLISHED WORK 2016 © McCullough Architects


Revisions
2021.11.17 Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

REGISTERED ARCHITECT STATE OF WASHINGTON

# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island, WA 98040

PERMIT SET

Stair Sections & Details

# A16

ROOF DRAIN & OVERFLOW @ DECK 4




LOW ROOF AT RECESSED WINDOW SILL
SCALE: 3/4" = 1'-0" 3




TYPICAL - RECESSED WINDOW JAMB
SCALE: 3/4" = 1'-0" 2




TYPICAL - EXTERIOR SWING DOOR
SCALE: 3/4" = 1'-0" 1




TYPICAL - RECESSED WINDOW HEAD
SCALE: 3/4" = 1'-0" 6




AT UNVENTED ROOFS WHERE LOCATED PER ROOF PLAN: 3" SPRAY FOAM INSUL. @ BOTTOM SIDE OF ROOF SHTG, FILL REMAINDER w/ BATT INSUL, NO PVA PRIMER ALLOWED @ UNVENTED ASSEMBLY PER R806.5, TYP

TYPICAL - ROOF @ UNVENTED PARAPET
SCALE: 3/4" = 1'-0" 5

Date: 2021.10.13
Job No: 21-041
Project No:
Drawn: DJR
Approved: APM

Revisions
2021.11.17 Updated Plans to Structural
2021.12.13 Structural Backcheck 01
2021.12.15 Structural Backcheck 02
2021.12.22 Structural Backcheck 03

MCCULLOUGH ARCHITECTS
5601 6th Ave S. Suite 371
Seattle, WA 98108
206.443.1181
mccullougharchitects.com

UNPUBLISHED WORK 2016 © McCullough Architects

REGISTERED ARCHITECT 7864 STATE OF WASHINGTON

# KONERU RESIDENCE

6610 E Mercer Way
Mercer Island. WA 98040

PERMIT SET

Architectural Details

# A17

COPYRIGHT © 2018 MALSAM TSANG ENGINEERING CORPORATION - ALL RIGHTS RESERVED

# GENERAL STRUCTURAL NOTES

THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS

## CRITERIA

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) 2018 EDITION.

2. DESIGN LOADING CRITERIA

| | |
|---|---|
| FLOOR LIVE LOAD (RESIDENTIAL) | 40 PSF |
| FLOOR LIVE LOAD (RESIDENTIAL DECKS AND BALCONIES) | 60 PSF |
| SNOW | 25 PSF |
| WIND | METHOD - DIRECTIONAL PROCEDURE<br>Kzt=1.0, GCpi=0.18, 110 MPH (RISK CATEGORY II), EXPOSURE "C" |
| EARTHQUAKE | ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE<br>LATERAL SYSTEM: LIGHT FRAMED SHEAR WALLS<br>SDC D, SITE CLASS E, Ie=1.0, Ss=1.45, S1=0.50,<br>Sds=1.059, Sd1=0.567, Cs=0.163, R=6.5,<br>SEISMIC DESIGN BASE SHEAR Vsx=68.0 KIPS(ULTIMATE) |

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

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

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

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

7. CONTRACTOR-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.

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

9. ALL STRUCTURAL SYSTEMS WHICH ARE TO BE COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER. MANUFACTURERS INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT THE TIME OF INSPECTION FOR THE INSPECTORS USE AND REFERENCE.

10. SHOP DRAWINGS FOR THE FOLLOWING ITEMS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

    REINFORCING STEEL
    STRUCTURAL STEEL
    METAL DECKING
    GLUED LAMINATED MEMBERS
    MANUFACTURED LUMBER (PSL'S, LSL'S, LVL'S)
    PLYWOOD WEB JOISTS
    CONNECTOR PLATE WOOD FLOOR TRUSSES
    CONNECTOR PLATE WOOD ROOF TRUSSES
    PREFABRICATED STAIR SYSTEM

    APPROVED SETS OF SHOP DRAWINGS SHALL ALSO BE SUBMITTED TO THE BUILDING DEPARTMENT AS REQUIRED BY THE JURISDICTION. IF THERE IS A DOUBT WHETHER OR NOT A POST-PERMIT SUBMITTAL IS NECESSARY OR WILL BE ACCEPTED, CONSULT THE BUILDING CODE REVIEWER FOR THE ORIGINAL PERMIT. NO DRAWING SHOULD BE SUBMITTED TO THE BUILDING OFFICIAL THAT STILL BEARS THE DISPOSITION OF "REVISE AND RESUBMIT" OR SIMILAR LANGUAGE.

11. SHOP DRAWING REVIEW OF DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. CONTRACTOR SHALL REVIEW DRAWINGS FOR CONFORMANCE WITH THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, AND ALL SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO. SUBMITTALS SHALL INCLUDE A REPRODUCIBLE AND (1)COPY; REPRODUCIBLE WILL BE MARKED AND RETURNED WITHIN (2)WEEKS OF RECEIPT WITH A NOTATION INDICATING THAT THE SUBMITTAL HAS BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTED ITEMS SHALL NOT BE INSTALLED UNTIL THEY HAVE BEEN APPROVED BY THE BUILDING OFFICIAL AS REQUIRED BY THE JURISDICTION.

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT, BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

12. SHOP DRAWINGS OF DESIGN BUILD COMPONENTS INCLUDING AWNINGS, BALCONIES, BASE ISOLATORS, CANOPIES, CURTAIN WALL SYSTEMS, ELEVATORS, EXTERIOR CLADDING, FALL PROTECTION ANCHORS, HOLD-DOWN SYSTEMS (MULTI-STORY), SKYLIGHT FRAMES, STAIR SYSTEMS, STEEL STUD FRAMING, STORAGE RACKS (GREATER THAN 6 FEET IN HEIGHT), AND SUNROOMS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO REVIEW OF THE ARCHITECT OR ENGINEER OF RECORD FOR GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. SHOP DRAWINGS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE MADE AVAILABLE UPON WRITTEN REQUEST.

## QUALITY ASSURANCE

13. SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SECTIONS 110, 1704 AND 1705 OF THE IBC BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE ARCHITECT, AND RETAINED BY THE BUILDING OWNER. THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING DEPARTMENT SHALL BE FURNISHED WITH COPIES OF ALL INSPECTION AND TEST RESULTS. SPECIAL INSPECTION OF THE FOLLOWING TYPES OF CONSTRUCTION SHALL BE PERFORMED.

| | |
|---|---|
| SOIL CONDITIONS, FILL PLACEMENT, AND DENSITY | PER SOILS REPORT |
| PILE OR PIER FOUNDATIONS | PER SOILS REPORT |
| CONCRETE CONSTRUCTION | PER TABLE 1705.3 |
| EPOXY GROUTED INSTALLATIONS | PER MANUFACTURER |
| STRUCTURAL STEEL FABRICATION AND ERECTION | PER AISC 360 |
| METAL DECK INSTALLATION (INCLUDING FIELD WELDING) | PER SDI QA/QC |

14. STRUCTURAL OBSERVATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 1704.6 OF THE IBC FOR THE FOLLOWING BUILDING ELEMENTS:

    CONCRETE CONSTRUCTION
    STRUCTURAL STEEL CONSTRUCTION
    SHEARWALLS
    HOLDOWNS

    THE CONTRACTOR SHALL PROVIDE THE ENGINEER OF RECORD ADEQUATE NOTICE TO SCHEDULE APPROPRIATE SITE VISITS FOR STRUCTURAL OBSERVATION.

    STRUCTURAL OBSERVATION MEANS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM, FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS, AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED IN SECTION 110 OR SPECIAL INSPECTIONS IN SECTION 1705 OR OTHER SECTIONS OF THE IBC.

    THE OWNER SHALL EMPLOY THE STRUCTURAL ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, TO PERFORM STRUCTURAL OBSERVATION. OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR, CONTRACTOR, AND THE BUILDING OFFICIAL. THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFYING ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

## GEOTECHNICAL

15. SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS SHALL CONFORM STRICTLY WITH RECOMMENDATIONS GIVEN IN THE SOILS REPORT OR AS DIRECTED BY THE SOILS ENGINEER. FOOTINGS SHALL BEAR ON SOLID UNDISTURBED EARTH AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. FOOTING DEPTHS/ELEVATIONS SHOWN ON PLANS (OR IN DETAILS) ARE MINIMUM AND FOR GUIDANCE ONLY; THE ACTUAL ELEVATIONS OF FOOTINGS MUST BE ESTABLISHED BY THE CONTRACTOR IN THE FIELD WORKING WITH THE TESTING LAB AND SOILS ENGINEER. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE SOILS REPORT.

| | |
|---|---|
| LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED) | SEE SOILS REPORT / 45 PCF |
| TRAFFIC SURCHARGE | 90 PSF |
| SEISMIC SURCHARGE | 8H |
| PASSIVE PRESSURE | 300 PCF |
| 4" DIAMETER STANDARD WEIGHT PIPE PILE CAPACITY | 10 TONS |

    SOILS REPORT REFERENCE: GEOTECHNICAL ENGINEERING STUDY AND CRITICAL AREA STUDY OF PROPOSED PROPERTY REDEVELOPMENT LOCATED AT 6610 EAST MERCER WAY, MERCER ISLAND, WASHINGTON, 98040, PREPARED BY GEOTECH CONSULTANTS, INC, REPORT NUMBER JN21151, DATED JUNE 8, 2021.

16. 2" DIAMETER EXTRA STRONG PIPE PILES SHALL BE DRIVEN TO REFUSAL. REFUSAL SHALL BE DEFINED AS LESS THAN 1" PENETRATION IN (60)SECONDS DURING CONTINUOUS DRIVING OF A 90-LB JACK HAMMER UNDER THE FULL EFFORT OF THE OPERATOR. PIPE PILES SHALL BE INSTALLED IN STRICT ACCORDANCE TO SOILS ENGINEER'S REQUIREMENTS. STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE A OR B, Fy = 35 KSI. PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED SLEEVE COUPLERS. PIPE JOINTS SHOULD NOT BE WELDED TOGETHER. PILES SHALL BE PLACED WITHIN 3" OF SPECIFIED LOCATION. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILES.

17. 4" DIAMETER STANDARD WEIGHT PIPE PILES SHALL BE DRIVEN TO REFUSAL AS DEFINED BY THE SOILS ENGINEER. PIPE PILES SHALL BE INSTALLED IN STRICT CONFORMANCE TO SOILS ENGINEER'S REQUIREMENTS. TESTING OF PILES SHALL BE ACCORDANCE WITH SOILS ENGINEER'S REQUIREMENTS AND AT A MINIMUM BE TESTED IN ACCORDANCE TO ASTM STANDARD D1143-81 FOR A MINIMUM OF (1)PILE OR 3% OF 3", 4" AND 6" DIAMETER PILES UP TO (5)PILES OF EACH SIZE MAXIMUM; USE OF THE QUICK LOAD TEST METHOD IN THE STANDARD IS THE MINIMUM REQUIRED. STEEL PIPE SHALL CONFORM TO ASTM 53, GRADE A OR B, Fy = 35 KSI. PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED SLEEVE COUPLERS. PIPE JOINTS SHOULD NOT BE WELDED TOGETHER. PILES SHALL BE PLACED WITHIN 3" OF SPECIFIED LOCATION. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO DRIVING PILES.

## CONCRETE

18. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318 AND ACI 301, INCLUDING TESTING PROCEDURES. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 3000 PSI. SLUMP OF CONCRETE SHALL NOT EXCEED 6". STRUCTURAL DESIGN IS BASED ON A CONCRETE STRENGTH OF f'c = 2500 PSI, THEREFORE NO CONCRETE STRENGTH TESTING REQUIRED. CONCRETE EXPOSURE CATEGORIES ARE F1, S0, W0, AND C1.

    ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260. TOTAL AIR CONTENT FOR FROST-RESISTANT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318-14, TABLE 19.3.3.1.

19. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, fy = 60 KSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, fy = 40 KSI. WELDED WIRE WIRE FABRIC SHALL CONFORM TO ASTM A1064. SPIRAL REINFORCEMENT SHALL BE DEFORMED WIRE CONFORMING TO ASTM A615, GRADE 60, fy = 60 KSI.

20. DETAILING OF REINFORCING STEEL (INCLUDING HOOKS AND BENDS) SHALL BE IN ACCORDANCE WITH ACI 315-99 AND 318-14. LAP ALL CONTINUOUS REINFORCEMENT #6 AND SMALLER 48 BAR DIAMETERS OR 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS #5 AND SMALLER 48 BAR DIAMETERS OR 2'-0" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-14, CLASS B. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

    NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER.

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

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

## ANCHORAGE

22. EPOXY-GROUTED ITEMS (THREADED RODS OR REINFORCING BAR) SPECIFIED ON THE DRAWINGS SHALL BE INSTALLED USING "SET-XP" EPOXY ADHESIVE AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT ESR-2508 AND IAMPO-UES REPORT ER-265. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED. RODS SHALL BE ASTM A36, UNO.

23. HEAVY DUTY THREADED CONCRETE ANCHORS SPECIFIED ON THE DRAWINGS SHALL BE "TITEN HD SCREW ANCHOR" AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT ESR-2713 AND ESR-1056, INCLUDING MINIMUM EMBEDMENT AND EDGE DISTANCE REQUIREMENTS. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED.

24. EXPANSION BOLTS INTO CONCRETE AND CONCRETE MASONRY UNITS SHALL BE "STRONG-BOLT 2" ANCHORS AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY. INSTALL IN STRICT CONFORMANCE TO ICC-ES REPORT ESR-3037 AND IAPMO-UES REPORT ER-240, INCLUDING MINIMUM EMBEDMENT AND EDGE DISTANCE REQUIREMENTS. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH CURRENT ICC REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. BOLTS INTO CONCRETE MASONRY OR BRICK MASONRY UNITS SHALL BE INTO FULLY GROUTED CELLS. SPECIAL INSPECTION OF INSTALLATION IS REQUIRED.

25. DRIVE PINS AND OTHER POWDER-ACTUATED FASTENERS SHALL BE LOW VELOCITY TYPE (PDPWL-300MG, 0.145" DIAMETER, UNO) AS MANUFACTURED BY THE SIMPSON STRONG TIE COMPANY OR AN APPROVED EQUIVALENT IN STRENGTH AND EMBEDMENT. INSTALL IN STRICT ACCORDANCE WITH ICC-ES REPORT ESR-2138. MINIMUM EMBEDMENT IN CONCRETE SHALL BE 1", UNO. MAINTAIN AT LEAST 3" TO NEAREST CONCRETE EDGE.

## WOOD

26. ALL 2x LUMBER SHALL BE KILN DRIED OR MC-19, AND ALL LUMBER SHALL BE GRADED AND MARKED IN CONFORMANCE WITH WCLIB STANDARD GRADING RULES FOR WEST COAST LUMBER NO 17. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

| | | |
|---|---|---|
| JOISTS AND BEAMS | (2x, 3x, 4x MEMBERS) | DOUGLAS FIR-LARCH NO 2<br>MINIMUM BASE VALUE, Fb = 900 PSI |
| BEAMS | (6x AND LARGER) | DOUGLAS FIR-LARCH NO 2<br>MINIMUM BASE VALUE, Fb = 875 PSI |
| POSTS | (4x MEMBERS) | DOUGLAS FIR-LARCH NO 2<br>MINIMUM BASE VALUE, Fc = 1350 PSI |
| | (6x AND LARGER) | DOUGLAS FIR-LARCH NO 2<br>MINIMUM BASE VALUE, Fc = 600 PSI |
| STUDS, PLATES AND MISC FRAMING | | DOUGLAS FIR-LARCH NO 2 |

27. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC STANDARDS. EACH MEMBER SHALL BEAR AN AITC OR APA-EWS IDENTIFICATION MARK AND SHALL BE ACCOMPANIED BY AN AITC OR APA-EWS CERTIFICATE OF CONFORMANCE. ALL SIMPLE SPAN GLULAM BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V4, Fb = 2400 PSI, Fv = 265 PSI, E = 1800 KSI, UNO. ALL CANTILEVER GLULAM BEAMS SHALL BE DOUGLAS FIR COMBINATION 24F-V8, Fb = 2400 PSI, Fv = 265 PSI, E = 1800 KSI, UNO. GLUED LAMINATED COLUMNS SHALL BE DOUGLAS FIR COMBINATION 3, L2D GRADE, Fc = 2300 PSI, Fb = 2000 PSI, E = 1900 KSI.

28. MANUFACTURED LUMBER, PSL, LVL, AND LSL, SHALL BE MANUFACTURED UNDER A PROCESS APPROVED BY THE NATIONAL RESEARCH BOARD. EACH PIECE SHALL BEAR A STAMP OR STAMPS NOTING THE NAME AND PLANT NUMBER OF THE MANUFACTURER, THE GRADE, THE NATIONAL RESEARCH BOARD NUMBER, AND THE QUALITY CONTROL AGENCY. ALL PSL, LVL, AND LSL LUMBER SHALL BE MANUFACTURED IN ACCORDANCE WITH ICC-ES REPORT ESR-1387 USING DOUGLAS FIR VENEER GLUED WITH A WATERPROOF ADHESIVE MEETING THE REQUIREMENTS OF ASTM D2559 WITH ALL GRAIN PARALLEL WITH THE LENGTH OF THE MEMBER. THE MEMBERS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

| | | | |
|---|---|---|---|
| PSL (2.0E) | Fb = 2900 PSI | E = 2000 KSI | Fv = 290 PSI |
| LVL (2.0E) | Fb = 2600 PSI | E = 2000 KSI | Fv = 285 PSI |
| LSL (1.55E) | Fb = 2325 PSI | E = 1550 KSI | Fv = 310 PSI |
| PSL COLUMN (1.8E) | Fc = 2500 PSI | E = 1800 KSI | Fv = 190 PSI |

    DESIGN SHOWN ON PLANS IS BASED ON LUMBER MANUFACTURED BY THE TRUS-JOIST CORPORATION. ALTERNATE MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE JOIST HANGERS AND OTHER HARDWARE MAY BE SUBSTITUTED FOR ITEMS SHOWN PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH MEMBERS PROVIDED.

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

29. PREFABRICATED PLYWOOD WEB JOIST DESIGN SHOWN ON PLANS IS BASED ON JOISTS MANUFACTURED BY THE TRUS-JOIST CORPORATION. ALTERNATE PLYWOOD WEB JOIST MANUFACTURERS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. ALTERNATE JOIST HANGERS AND OTHER HARDWARE MAY BE SUBSTITUTED FOR ITEMS SHOWN PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH PLYWOOD WEB JOIST PROVIDED.

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

    WALL SHEATHING SHALL BE 7/16" or 1/2" (NOMINAL) WITH SPAN RATING 24/0

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

    WATERPROOF DECK SHEATHING SHALL BE 3/4" T&G (NOMINAL) WITH SPAN RATING 48/24

    FLAT ROOF SHEATHING SHALL BE 3/4" T&G (NOMINAL) WITH SPAN RATING 48/24

    ROOF SHEATHING SHALL BE 1/2" or 7/16" (NOMINAL) WITH SPAN RATING 32/16 FOR ROOFS WITH A PITCH GREATER THAN 2:12

    REFER TO WOOD FRAMING NOTES BELOW FOR TYPICAL NAILING REQUIREMENTS.

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

32. PRESSURE TREATED WOOD (INCLUDES PRESERVATIVE AND FIRE TREATED) SHALL BE TREATED PER AWPA STANDARDS. PRESSURE TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO RETENTION OF 0.25 PCF. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO A RETENTION OF 0.40 PCF. SODIUM BORATE (SBX) TREATED WOOD SHALL NOT BE USED WHERE EXPOSED TO WEATHER. FASTENERS AND TIMBER CONNECTORS WITHOUT AMMONIA IN DIRECT CONTACT WITH ACQ-A TO A RETENTION LEVEL OF 0.40 PCF), CBA-A (UP TO A RETENTION LEVEL OF 0.41 PCF), CA-B (UP TO A RETENTION LEVEL OF 0.21 PCF), SHALL BE G185 OR A185 HOT DIPPED OR CONTINUOUS HOT-GALVANIZED PER ASTM A653. FASTENERS AND TIMBER CONNECTORS WITH AMMONIA IN DIRECT CONTACT WITH ACQ-A (OVER A RETENTION LEVEL OF 0.40 PCF), CBA-A (OVER A RETENTION LEVEL OF 0.41 PCF), CA-B (OVER A RETENTION LEVEL OF 0.21 PCF), OR WITH ACZA TREATED WOOD SHALL BE TYPE 304 OR 316 STAINLESS STEEL.

33. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-C-2019. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

    ALL 2x JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LUS" SERIES JOIST HANGERS. ALL TJI JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "IUS" SERIES JOIST HANGERS. ALL DOUBLE-JOISTS BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH "MIU" SERIES JOIST HANGERS.

    WHERE CONNECTOR STRAPS CONNECT (2)MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER.

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

34. WOOD FASTENERS

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

| SIZE | TYPE | LENGTH | DIAMETER |
|---|---|---|---|
| 8d | COMMON | 2-1/2" | 0.131" |
| 10d | GUN | 3" | 0.131" |
| 12d | GUN | 3-1/4" | 0.131" |
| 16d | GUN | 3-1/2" | 0.131" |

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

    NAILS - PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED.

    B. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG SCREWS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (2018 EDITION) WITH A LEAD BORE HOLE OF 60-70% OF THE SHANK DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" AND SMALLER LAG SCREWS. BOLT HOLES SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER. HOLES SHALL BE ACCURATELY ALIGNED IN MAIN MEMBERS AND SIDE PLATES/MEMBERS. BOLTS SHALL NOT BE FORCIBLY DRIVEN.

    C. SDS AND SDWS SCREWS CALLED OUT ON PLAN ARE TIMBER SCREWS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY. SCREWS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. EQUIVALENT SCREWS BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE CURRENT ICC APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. LAG SCREWS ARE NOT AN EQUIVALENT SUBSTITUTION.

35. WOOD FRAMING NOTES - THE FOLLOWING APPLY UNLESS NOTED OTHERWISE ON THE PLANS:

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

    B. WALL FRAMING: REFER TO ARCHITECTURAL DRAWINGS FOR THE SIZE OF ALL WALLS. ALL STUDS SHALL BE SPACED AT 16"oc, UNO. (2)STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER BEARING LOCATIONS. (2)2x8 HEADERS SHALL BE PROVIDED OVER ALL OPENINGS IN STRUCTURAL WALLS, UNO. NAIL MULTI-MEMBER HEADERS WITH (2)ROWS 10d AT 12"oc. SOLID BLOCKING FOR WOOD COLUMNS SHALL BE PROVIDED THROUGH FLOORS TO SUPPORTS BELOW. PROVIDE CONTINUOUS SOLID BLOCKING AT MID-HEIGHT OF ALL STUD WALLS OVER 10'-0" IN HEIGHT.

    ALL WALLS SHALL HAVE A SINGLE BOTTOM PLATE AND A DOUBLE TOP PLATE. END NAIL TOP PLATE AND BOTTOM PLATE TO EACH STUD WITH (3)10d NAILS. FACE NAIL DOUBLE TOP PLATES WITH 10d AT 12"oc AND LAP MINIMUM 4'-0" AT JOINTS AND PROVIDE (12)10d NAILS AT 4"oc EACH SIDE OF JOINT. AT TOP PLATE INTERSECTIONS PROVIDE (3)10d FACE NAILS.

    ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH (2)ROWS OF 12d NAILS AT 16"oc, OR ATTACHED TO CONCRETE BELOW WITH 5/8" DIAMETER ANCHOR BOLTS AT 4'-0"oc EMBEDDED 7" MINIMUM, UNO. THERE SHALL BE A MINIMUM OF (2)BOLTS PER PLATE SECTION WITH (1)BOLT LOCATED NOT MORE THAN 12" OR LESS THAN 4-1/2" FROM EACH END OF THE PLATE SECTION. INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH (2)ROWS OF 10d AT 16"oc. UNLESS NOTED OTHERWISE, GYPSUM WALLBOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH #6 x 1-1/4" TYPE S OR W SCREWS AT 12"oc. UNLESS NOTED OTHERWISE, 7/16" OR 1/2" (NOMINAL) APA RATED SHEATHING (SPAN RATING 24/0) SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS AT 6"oc AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UN-SUPPORTED EDGES) AND TO ALL INTERMEDIATE STUDS AND BLOCKING WITH 8d NAILS AT 12"oc. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND PANEL ENDS.

    C. FLOOR AND ROOF FRAMING: PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS, UNO. PROVIDE SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL TIMBER JOISTS TO SUPPORTS WITH (3)10d NAILS AND NAIL TJI JOISTS TO SUPPORTS WITH (2)10d NAILS. ATTACH JOISTS TO BEAMS WITH SIMPSON JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH (2)ROWS 10d AT 12"oc. TOENAIL RIM JOIST TO TOP PLATE WITH 10d AT 6"oc. TOENAIL BLOCKING BETWEEN JOISTS TO TOP PLATE WITH (3)10d NAILS.

    UNLESS NOTED OTHERWISE ON THE PLANS, PLYWOOD ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS WITH END JOINTS STAGGERED, AND NAILED AT 6"oc WITH 8d NAILS TO FRAMED PANEL EDGES, STRUTS AND OVER STUD WALLS AS SHOWN ON PLANS AND AT 12"oc TO INTERMEDIATE SUPPORTS. PROVIDE APPROVED PLYWOOD EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED T&G JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 10d AT 12"oc, UNO.

36. NOTCHES AND HOLES IN WOOD FRAMING:

    A. SAWN LUMBER JOISTS AND RAFTERS: NOTCHES AT THE ENDS OF JOISTS SHALL NOT EXCEED 1/4 THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF JOISTS SHALL NOT EXCEED 1/6 THE JOIST DEPTH, BE LONGER THAN 1/3 THE JOIST DEPTH, OR BE LOCATED IN THE MIDDLE 1/3 OF THE SPAN. HOLES SHALL NOT BE WITHIN 2" OF THE TOP OR BOTTOM OF THE JOIST AND THE DIAMETER SHALL NOT EXCEED 1/3 THE JOIST DEPTH. SPACING BETWEEN HOLES SHALL BE A MINIMUM OF (2)TIMES THE DIAMETER OF THE LARGEST HOLE OR 2" AND SHALL BE LOCATED A MINIMUM OF 2" FROM ANY NOTCH.

    B. EXTERIOR AND BEARING WALLS: WOOD STUDS ARE PERMITTED TO BE NOTCHED TO A DEPTH NOT EXCEEDING 1/4 OF ITS WIDTH. A HOLE NOT GREATER IN DIAMETER THAN 40% OF THE STUD WIDTH IS PERMITTED IN WOOD STUDS. HOLES SHALL NOT BE WITHIN 5/8" TO THE EDGE OF THE STUD. SPACING BETWEEN HOLES SHALL BE A MINIMUM OF (2)TIMES THE DIAMETER OF THE LARGEST HOLE OR 2" AND SHALL NOT BE LOCATED AT THE SAME SECTION AS A NOTCH.

    C. CUTS, NOTCHES, AND HOLES IN MANUFACTURED LUMBER, PREFABRICATED PLYWOOD WEB JOISTS, AND PREFABRICATED TRUSSES ARE PROHIBITED EXCEPT WHERE NOTED ON STRUCTURAL PLANS OR PERMITTED BY MANUFACTURER'S RECOMMENDATIONS.

37. ELECTRICAL, MECHANICAL, PLUMBING, AND DRAINAGE SYSTEMS SHALL BE DESIGNED TO ACCOMMODATE THE DIFFERENTIAL SHRINKAGE OR MOVEMENT OF THE WOOD STRUCTURE (3/8" PER FLOOR).

38. DEFLECTION OF CANTILEVERS SHALL BE CLOSELY MONITORED BY THE CONTRACTOR DURING CONSTRUCTION. CONTRACTOR TO VERIFY AND ENSURE ALL POST CAPS AND POST BEARING CONDITIONS ARE INSTALLED IN STRICT CONFORMANCE TO THE STRUCTURAL PLANS. CANTILEVERS IN WOOD FRAMING CAN DEFLECT UP TO 1/8" PER FOOT (I.E. 4' CANTILEVER MAY DEFLECT 1/2"). IF DEFLECTION EXCEEDS 1/8" PER FOOT NOTIFY STRUCTURAL ENGINEER IMMEDIATELY. BEFORE FINISHES ARE INSTALLED, FLOORS AT OR ABOVE CANTILEVERS MAY REQUIRE LEVELING COMPOUND AND SOFFITS FURRED TO MAKE THEM LEVEL.

39. PREFABRICATED CONNECTOR PLATE WOOD FLOOR TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION", ANSI/TPI 1 BY THE TRUSS PLATE INSTITUTE FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. LOADING SHALL BE AS FOLLOWS:

| | |
|---|---|
| TOP CHORD LIVE LOAD | 40 PSF |
| TOP CHORD DEAD LOAD | 25 PSF |
| BOTTOM CHORD DEAD LOAD | 5 PSF |
| TOTAL LOAD | 70 PSF |

    REFER TO PLAN FOR ADDITIONAL LOADING. ALL FLOOR TRUSSES SHALL BE DESIGNED FOR A MAXIMUM LIVE LOAD DEFLECTION OF THE SPAN DIVIDED BY 480.

    WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMITTED DOCUMENTS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. PROVIDE FOR SHAPE BEARING POINTS, INTERSECTIONS, ETC, SHOWN ON THE DRAWINGS. PROVIDE ALL TRUSS TO TRUSS AND TRUSS TO GIRDER TRUSS CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. PROVIDE FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.

40. PREFABRICATED CONNECTOR PLATE WOOD ROOF TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER IN ACCORDANCE WITH THE "NATIONAL DESIGN STANDARD FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION", ANSI/TPI 1 BY THE TRUSS PLATE INSTITUTE FOR THE SPANS AND CONDITIONS SHOWN ON THE PLANS. LOADING SHALL BE AS FOLLOWS:

| | |
|---|---|
| TOP CHORD LIVE LOAD | 25 PSF |
| TOP CHORD DEAD LOAD | 15 PSF |
| BOTTOM CHORD DEAD LOAD | 5 PSF |
| TOTAL LOAD | 45 PSF |
| WIND UPLIFT (TOP CHORD) | 10 PSF |
| BOTTOM CHORD LIVE LOAD<br>(BOTTOM CHORD LIVE LOAD DOES NOT ACT CONCURRENTLY WITH THE ROOF LIVE LOAD) | 10 PSF |

    REFER TO PLAN FOR ADDITIONAL LOADING

    TRUSSES SHALL BE DESIGNED TO NOT ALLOW LIMITED STORAGE PER IBC TABLE 1607.1. WEBS SHALL BE CONFIGURED SO THAT ALL OPENINGS ARE SMALLER THAN 24" WIDE x 42" HIGH.

    WOOD TRUSSES SHALL UTILIZE APPROVED CONNECTOR PLATES (GANGNAIL OR EQUAL). SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMITTED DOCUMENTS SHALL BE STAMPED AND SIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON. PROVIDE FOR SHAPES, BEARING POINTS, INTERSECTIONS, HIPS, VALLEYS, ETC, SHOWN ON THE DRAWINGS. EXACT COMPOSITION OF SPECIAL HIP, VALLEY, AND INTERSECTION AREAS, USE OF GIRDER TRUSSES, JACK TRUSSES, STEP-DOWN TRUSSES, ROOF OVER-FRAMING, ETC SHALL BE DETERMINED BY THE MANUFACTURER UNLESS SPECIFICALLY INDICATED ON THE PLANS. PROVIDE ALL TRUSS TO TRUSS AND TRUSS TO GIRDER TRUSS CONNECTION DETAILS AND REQUIRED CONNECTION MATERIALS. PROVIDE FOR ALL TEMPORARY AND PERMANENT TRUSS BRACING AND BRIDGING.

## STEEL

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

    A. AISC 360 AND CHAPTER 22 OF THE INTERNATIONAL BUILDING CODE.

    B. APRIL 14, 2010 AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, AMENDED AS NOTED IN THE CONTRACT DOCUMENTS, BY THE DELETION OF PARAGRAPH 4.4.1, AND REVISE REFERENCE FROM "STRUCTURAL DESIGN DRAWINGS" TO "CONTRACT DOCUMENTS" IN PARAGRAPH 3.1.

    C. SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS.

42. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

| TYPE OF MEMBER | ASTM SPECIFICATION | Fy |
|---|---|---|
| A. WIDE FLANGE SHAPES | A992 | 50 KSI |
| B. HP-SHAPES | A572 (GRADE 50) | 50 KSI |
| C. OTHER SHAPES, PLATES, AND RODS | A36 | 36 KSI |
| D. STRUCTURAL PIPE | A53 (GRADE B) | 35 KSI |
| E. HOLLOW STRUCTURAL SECTIONS: | | |
| SQUARE OR RECTANGULAR | A500 (GRADE C) | 50 KSI |
| ROUND | A500 (GRADE C) | 46 KSI |
| F. CONVENTIONAL HIGH-STRENGTH BOLTS (3/4"ROUND, UNO) | F3125 (GRADE A325) | |
| G. COMMON BOLTS (WOOD APPLICATIONS) | A307 | |
| H. ANCHOR BOLTS | F1554 (GRADE 36) | |
| I. HEADED SHEAR STUDS | A108 | |

43. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL CONFORM TO SECTION 10 OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

44. ALL A325 CONNECTION BOLTS NEED ONLY BE TIGHTENED TO A SNUG TIGHT CONDITION, DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. THIS MAY BE ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING AN ORDINARY SPUD WRENCH.

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

## ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| ± | PLUS OR MINUS | ES | EACH SIDE | OD | OUTSIDE DIAMETER |
| Ø | DIAMETER | EW | EACH WAY | OF | OUTSIDE FACE |
| AB | ANCHOR BOLT | EXP | EXPANSION | OPNG | OPENING |
| ABV | ABOVE | EXT | EXTERIOR | OPP | OPPOSITE |
| ADDL | ADDITIONAL | FDN | FOUNDATION | OSB | ORIENTED STRAND BOARD |
| AFF | ABOVE FINISHED FLOOR | FF | FINISHED FLOOR | | |
| | | FIN | FINISH | PAF | POWDER ACTUATED FASTENER |
| ALT | ALTERNATE | FLR | FLOOR | | |
| APPROX | APPROXIMATELY | FRMG | FRAMING | PEN | PENETRATION |
| ARCH | ARCHITECT, ARCHITECTURAL | FRP | FIBER REINFORCED PLASTIC | PERP | PERPENDICULAR |
| | | | | PL | PLATE |
| BLDG | BUILDING | FS | FAR SIDE | PL | PROPERTY LINE |
| BLKG | BLOCKING | FT | FEET | PLF | POUNDS PER LINEAR FOOT |
| BLW | BELOW | FTG | FOOTING | | |
| BM | BEAM | GA | GAGE, GAUGE | PLY | PLYWOOD |
| BMU | BRICK MASONRY UNIT | GALV | GALVANIZED | PREFAB | PREFABRICATED |
| | | GL | GLUE LAMINATED TIMBER | PRELIM | PRELIMINARY |
| BOE | BOTTOM OF EXCAVATION | | | PSF | POUNDS PER SQUARE FOOT |
| | | GR | GRADE | | |
| BOT | BOTTOM | GT | GIRDER TRUSS | PSI | POUNDS PER SQUARE INCH |
| BRG | BEARING | GWB | GYPSUM WALLBOARD | | |
| BSMT | BASEMENT | HD | HOLDOWN | PSL | PARALLEL STRAND LUMBER |
| BTWN | BETWEEN | HDR | HEADER | | |
| C | CAMBER | HF | HEM FIR | PT | PRESSURE TREATED LUMBER |
| CBF | CONCENTRICALLY BRACED FRAME | HGR | HANGER | | |
| | | HM | HIP MASTER | P-T | POST-TENSIONED |
| CGS | CENTER GRAVITY OF STEEL | HORIZ | HORIZONTAL | R | RADIUS |
| | | HSS | HOLLOW STRUCTURAL SECTION | REF | REFERENCE |
| CIP | CAST IN PLACE | | | REINF | REINFORCING |
| CJ | CONTROL JOINT | HT | HEIGHT | REQD | REQUIRED |
| CJP | COMPLETE JOINT PENETRATION | IBC | INTERNATIONAL BUILDING CODE | RET | RETAINING |
| | | | | RO | ROUGH OPENING |
| ℄ | CENTERLINE | ID | INSIDE DIAMETER | SCHED | SCHEDULE |
| CLG | CEILING | IE | INVERT ELEVATION | SECT | SECTION |
| CLR | CLEAR | IF | INSIDE FACE | SF | SQUARE FOOT |
| CMU | CONCRETE MASONRY UNIT | IN | INCH | SHTG | SHEATHING |
| | | INSUL | INSULATION | SIM | SIMILAR |
| COL | COLUMN | IRC | INTERNATIONAL RESIDENTIAL CODE | SOG | SLAB ON GRADE |
| CONC | CONCRETE | | | SPEC | SPECIFICATIONS |
| CONN | CONNECTION | INT | INTERIOR | SQ | SQUARE |
| CONST | CONSTRUCTION | JST | JOIST | SR | STUD RAIL |
| CONT | CONTINUOUS | K | KIPS (1000 POUNDS) | SS | STAINLESS STEEL |
| COORD | COORDINATE | KP | KING POST | STAGG | STAGGER/STAGGERED |
| CP | COMPLETE PENETRATION | KSF | KIPS PER SQ FT | STD | STANDARD |
| | | L | ANGLE | STIFF | STIFFENER |
| CTR | CENTER | L | LENGTH | STL | STEEL |
| CTRD | CENTERED | LBS | POUNDS | STRUCT | STRUCTURAL |
| CY | CUBIC YARD | LF | LINEAL FOOT | SW | SHEARWALL |
| DBL | DOUBLE | LL | LIVE LOAD | SYM | SYMMETRICAL |
| DEMO | DEMOLISH | LLH | LONG LEG HORIZONTAL | T&G | TONGUE AND GROOVE |
| DET | DETAIL | | | TDS | TIE DOWN SYSTEM |
| DEV | DEVELOPMENT | LLV | LONG LEG VERTICAL | TEMP | TEMPORARY |
| DF | DOUGLAS FIR | LOC | LOCATE, LOCATION | THK | THICKNESS |
| DIA | DIAMETER | LONG | LONGITUDINAL | THKD | THICKENED |
| DIAG | DIAGONAL | LSH | LONG SLOTTED HOLE | THRD | THREADED |
| DIM | DIMENSION | LSL | LAMINATED STRUCTURAL LUMBER | THRU | THROUGH |
| DIST | DISTRIBUTED | | | TOW | TOP OF WALL |
| DL | DEAD LOAD | LVL | LAMINATED VENEER LUMBER | TPL | TRIPLE |
| DN | DOWN | | | TRANSV | TRANSVERSE |
| DO | DITTO | MAT | MATERIAL | TYP | TYPICAL |
| DP | DEEP/DEPTH | MAX | MAXIMUM | UNO | UNLESS NOTED OTHERWISE |
| DS | DRAG STRUT | MB | MACHINE BOLT | | |
| DWGS | DRAWINGS | MECH | MECHANICAL | VERT | VERTICAL |
| (E) | EXISTING | MFR | MANUFACTURE | VIF | VERIFY IN FIELD |
| EA | EACH | MIN | MINIMUM | W | WIDE OR WIDTH |
| EE | EACH END | MISC | MISCELLANEOUS | w/ | WITH |
| EF | EACH FACE | MRF | MOMENT RESISTANT FRAME | w/o | WITHOUT |
| EL | ELEVATION | | | WD | WOOD |
| ELEV | ELEVATOR | MTL | METAL | WHS | WELDED HEADED STUD |
| EMBED | EMBEDMENT | NO | NUMBER | WP | WORKING POINT |
| ENGR | ENGINEER | NOM | NOMINAL | WTS | WELDED THREADED STUD |
| EQ | EQUAL | NS | NEAR SIDE | | |
| EQUIP | EQUIPMENT | NTS | NOT TO SCALE | WWM | WELDED WIRE MESH |
| EQUIV | EQUIVALENT | oc | ON CENTER | | |

MALSAM TSANG STRUCTURAL ENGINEERING
122 S JACKSON ST - SUITE 210
SEATTLE, WA 98104 - 206.789.6038

KONERU RESIDENCE
6610 E MERCER WAY
MERCER ISLAND, WA 98040

| | |
|---|---|
| PROJECT NO | 0426.2021.03.01 |
| PROJECT MANAGER | WAC |
| DRAWN | JAS |
| ENGINEER | JOSEPH MARQUEZ<br>206.602.5122<br>JOSEPHM@MALSAM-TSANG.COM |

| REV | DESCRIPTION | DATE |
|---|---|---|
| | PERMIT SET | 12.23.21 |

| | |
|---|---|
| ARCH | McCULLOUGH ARCHITECTS<br>206.443.1181 |

GENERAL STRUCTURAL NOTES

S1.0

SCALE - NTS

Plotted by: BobP
Plotted Date: Dec 23, 2021 - 11:36am

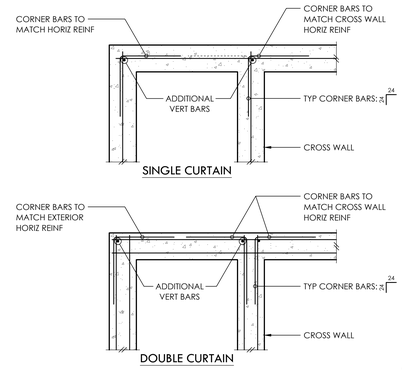
COPYRIGHT © 2018 MALSAM TSANG ENGINEERING CORPORATION - ALL RIGHTS RESERVED

1

2

3

4



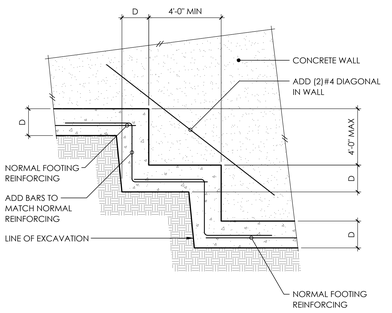

TYP CORNER BARS AT CONCRETE WALLS AND FTGS 5

6

7

8

9

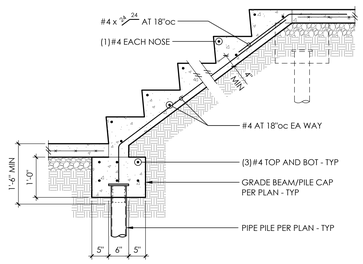



TYPICAL STEPPED FOOTING 10

11

12

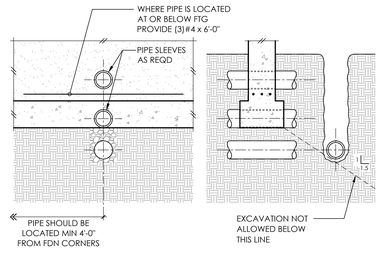
13




NOTE:

EXACT CONFIGURATION OF STAIR INCLUDING TREAD AND RISER DIMS PER ARCH DRAWINGS

TYPICAL STAIR ON GRADE 14



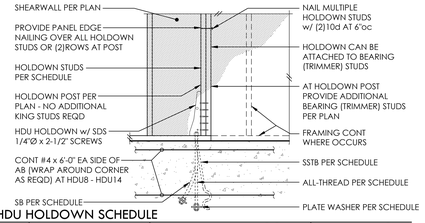

PIPE AND TRENCH LOCATIONS 15

16

17

18

19

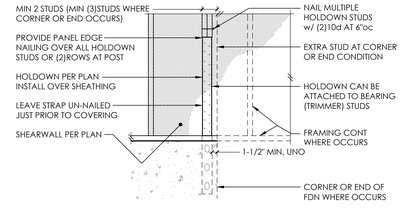



HDU HOLDOWN SCHEDULE

| PLAN | AT STEMWALL | | AT FOOTING①② | | | HD POST① | |
|---|---|---|---|---|---|---|---|
| MARK | AB | EMBED | ALL-THREAD | WASHER | EMBED | 4x WALL | 6x WALL |
| HDU2 | 5/8"Ø - SSTB16(L) | 12-5/8" | 5/8"Ø | 1-3/4"SQ x 1/2 | 9" | (2)2x4 | (2)2x6 |
| HDU4 | 5/8"Ø - SBS/8 x 24 | 18" | 5/8"Ø | 1-3/4"SQ x 1/2 | 9" | (2)2x4 | (2)2x6 |
| HDU5 | 5/8"Ø - SBS/8 x 24 | 18" | 5/8"Ø | 1-3/4"SQ x 1/2 | 9" | (2)2x4 | (2)2x6 |
| HDU8 | 7/8"Ø - SB7/8 x 24 | 18" | 7/8"Ø | 2-1/2"SQ x 1/2 | 12" | 4x6 | 6x6 |
| HDU11 | 1"Ø - SB1 x 30③ | 24" | 1"Ø | 3"SQ x 5/8 | 12" | 4x8 | 6x6 |
| HDU14 | - | - | 1"Ø | 3"SQ x 5/8 | 12" | 4x12 | 6x8 |

① ALL HOLDOWN ANCHOR BOLTS THAT NEED TO BE EMBEDDED INTO FOOTING ARE SPECIFICALLY SHOWN ON PLAN
② A307 ALL-THRD w/ PLATE WASHER PER SCHEDULE AND DOUBLE NUT BOT OR EQUIVALENT SIMPSON PAB
③ MINIMUM SIZE OF POST UNO ON FRAMING PLANS
④ REQUIRES MINIMUM 8" THICK CONCRETE WALL

19




LSTHD/STHD HOLDOWN SCHEDULE

| PLAN MARK | NAILS① | HD POST② |
|---|---|---|
| LSTHD8(RJ) | (20)16d SINKERS | DBL STUD |
| STHD10(RJ) | (28)16d SINKERS | DBL STUD |
| STHD14(RJ) | (30)16d SINKERS | DBL STUD |

① 16d SINKERS = 0.148"Ø x 3-1/4"
② MINIMUM SIZE OF POST UNO ON FRAMING PLANS

20

MALSAM TSANG STRUCTURAL ENGINEERING
122 S. JACKSON ST. - SUITE 210
SEATTLE, WA 98104 - 206.788.8038

# KONERU RESIDENCE

6610 E MERCER WAY
MERCER ISLAND, WA 98040

PROJECT NO 0426.2021.03.01
PROJECT MANAGER WAC
DRAWN JAS
ENGINEER JOSEPH MARQUEZ
206.602.5122
JOSEPHM@MALSAM-TSANG.COM

| REV | DESCRIPTION | DATE |
|---|---|---|
| | PERMIT SET | 12.23.21 |

ARCH McCULLOUGH ARCHITECTS
206.443.1181

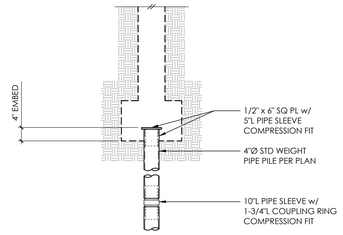
TYPICAL CONCRETE DETAILS

S3.0

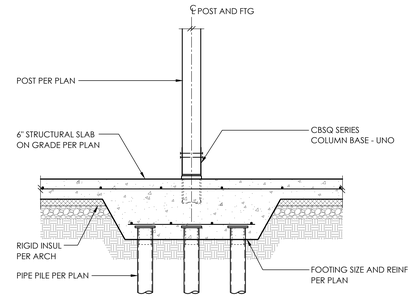
SCALE - 3/4" = 1'-0"

Plotted by: AJaP
Plotted Date: Dec 23, 2021 - 11:50am

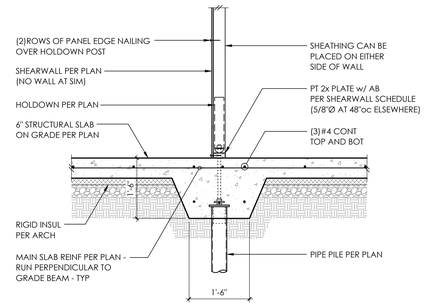
COPYRIGHT © 2018 MALSAM TSANG ENGINEERING CORPORATION - ALL RIGHTS RESERVED



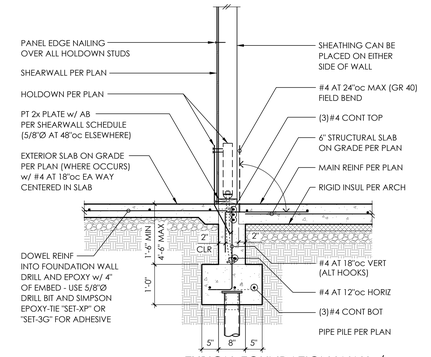

1




3

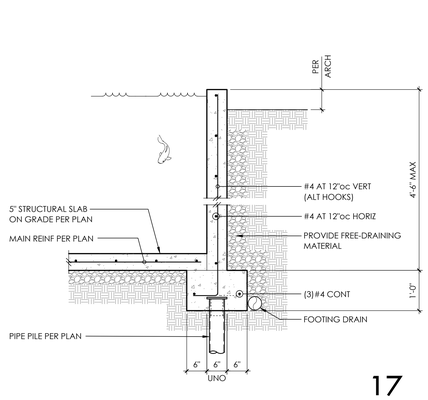



4

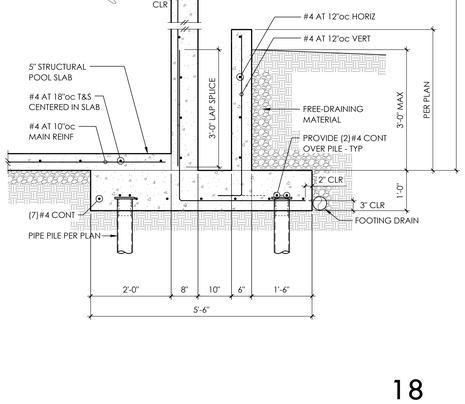



TYPICAL FOUNDATION WALL /
STRUCTURAL SLAB ON GRADE 5

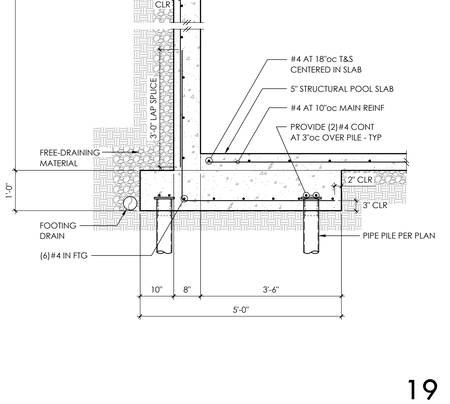
6



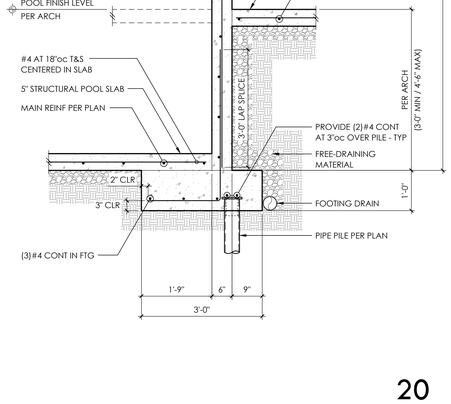

ELEVATOR PIT SLAB ELEVATION CHANGE 7




8




9




10

11




PLAN




12

13

14

15




FOR CALLOUTS
IN COMMON
REFER 8/S3.1

16




17




18




19




20

MALSAM TSANG
STRUCTURAL ENGINEERING
122 S JACKSON ST - SUITE 310
SEATTLE, WA 98104 - 206.788.8038

# KONERU RESIDENCE
6610 E MERCER WAY
MERCER ISLAND, WA 98040

MARC J. MALSAM
STATE OF WASHINGTON
21396
REGISTERED
PROFESSIONAL ENGINEER

| | |
|---|---|
| PROJECT NO | 0426.2021.03.01 |
| PROJECT MANAGER | WAC |
| DRAWN | JAS |
| ENGINEER | JOSEPH MARQUEZ |
| | 206.602.5122 |
| | JOSEPHM@MALSAM-TSANG.COM |

| REV | DESCRIPTION | DATE |
|---|---|---|
| | PERMIT SET | 12.23.21 |

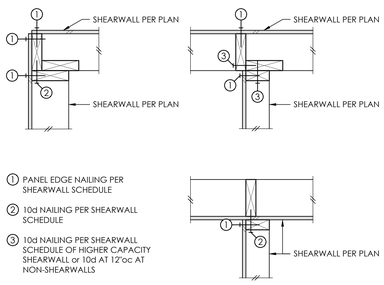
ARCH McCULLOUGH ARCHITECTS
206.443.1181

CONCRETE DETAILS

S3.1
SCALE - 3/4" = 1'-0"

Plotted by: AJaP
Plotted Date: Dec 23, 2021 - 11:50am

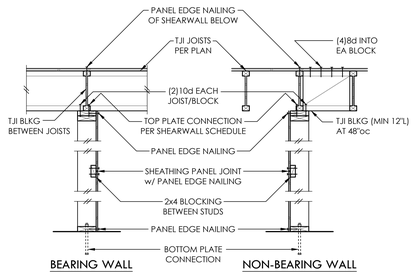
COPYRIGHT © 2018 MALSAM-TSANG ENGINEERING CORPORATION - ALL RIGHTS RESERVED




1. PANEL EDGE NAILING PER SHEARWALL SCHEDULE
2. 10d NAILING PER SHEARWALL SCHEDULE
3. 10d NAILING PER SHEARWALL SCHEDULE OF HIGHER CAPACITY SHEARWALL or 10d AT 12"oc AT NON-SHEARWALLS

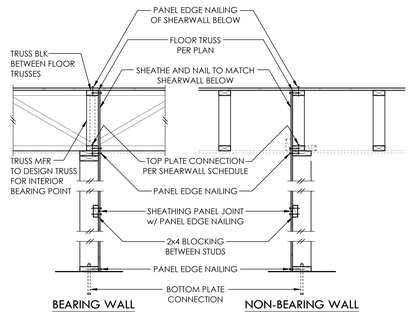
SCALE: 1-1/2" = 1'-0"

## TYPICAL SHEARWALL INTERSECTIONS 1



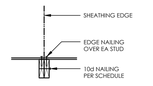

NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, UNO

## TYPICAL SHEARWALL CONSTRUCTION 2




NOTE:
SEE SHEARWALL SCHEDULE FOR ALL NAILING AND CONNECTIONS, NOT OTHERWISE NOTED

## TYPICAL SHEARWALL CONSTRUCTION 3




DETAIL A
PLAN VIEW AT ABUTTING PANEL EDGES OF SW3, SW2, SW3-2, AND SW2-2

## SHEARWALL SCHEDULE①②③④⑤⑥⑦

| MARK | SHEATHING | PANEL EDGE NAILING | TOP PLATE CONNECTION | | BASE PLATE CONNECTION | |
|---|---|---|---|---|---|---|
| | | | TRUSS | RIM/BEAM ⑧ | AT WOOD | AT CONCRETE |
| SW6 | 1/2" PLY or 7/16" OSB | 8d AT 6"oc | 10d AT 6"oc | A35 AT 30"oc | 12d AT 6"oc | 5/8"Ø AB AT 48"oc |
| SW4 | 1/2" PLY or 7/16" OSB | 8d AT 4"oc | 10d AT 4"oc | A35 AT 18"oc | 12d AT 4"oc | 5/8"Ø AB AT 42"oc |
| SW3 ④ | 1/2" PLY or 7/16" OSB | 8d AT 3"oc | (2)ROWS 10d AT 6"oc | A35 AT 16"oc | (2)ROWS 12d AT 6"oc | 5/8"Ø AB AT 36"oc |
| SW2 ④ | 1/2" PLY or 7/16" OSB | 8d AT 2"oc | (2)ROWS 10d AT 4"oc | A35 AT 12"oc | (2)ROWS 12d AT 4"oc | 5/8"Ø AB AT 24"oc |
| SW3-2④ | 1/2" PLY or 7/16" OSB EA SIDE | 8d AT 3"oc EA SIDE | N/A | A35 AT 8"oc | (2)ROWS 12d AT 3"oc | 5/8"Ø AB AT 18"oc |
| SW2-2④ | 1/2" PLY or 7/16" OSB EA SIDE | 8d AT 2"oc EA SIDE | N/A | A35 AT 6"oc | (3)ROWS 12d AT 3"oc | 5/8"Ø AB AT 12"oc |

① BLOCK PANEL EDGES WITH 2x4 LAID FLAT AND NAIL PANELS TO INTERMEDIATE SUPPORTS WITH 8d AT 12"oc.

② 8d NAILS SHALL BE 0.131"Ø x 2-1/2", 10d NAILS SHALL BE 0.131"Ø x 3", AND 12d NAILS SHALL BE 0.131"Ø x 3-1/4".

③ EMBED ANCHOR BOLTS AT LEAST 7". ALL BOLTS SHALL HAVE 3" x 3" x 0.229" PLATE WASHERS, THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) w/ SHEATHING, AT 2x6 SW3-2 AND SW2-2 WALLS, PROVIDE 4-1/2" x 3" x 0.229" PLATE WASHERS CENTERED ON PLATE.

④ 3x STUDS OR DBL STUDS NAILED TOGETHER w/ 10d NAILING IS REQD AT ABUTTING PANEL EDGES OF SW3, SW2, SW3-2, AND SW2-2. REFER TO DETAIL A. WHERE 3x STUDS ARE USED, STAGGER NAILS AT ADJOINING PANEL EDGES. ABUTTING PANEL EDGES SHALL BE OFFSET EACH SIDE OF WALL AT SW3-2 AND SW2-2.

⑤ TWO STUDS MINIMUM OR POST PER PLAN ARE REQUIRED AT EACH END OF ALL SHEARWALLS AND ALL END STUDS SHALL RECEIVE PANEL EDGE NAILING.

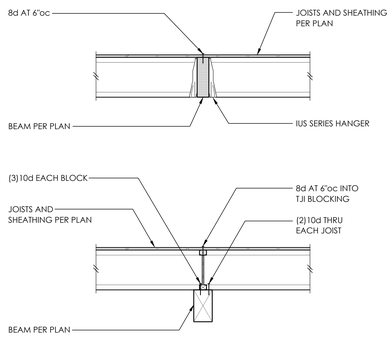
⑥ ALL EXTERIOR WALLS SHALL BE SW6, UNLESS NOTED OTHERWISE.

⑦ NAILS SHALL NOT BE SPACED LESS THAN 3/8" FROM EDGES OF SHEATHING. SHEATHING NAILS SHALL BE DRIVEN SO THEIR HEADS ARE FLUSH WITH SHEATHING (NOT COUNTERSUNK).

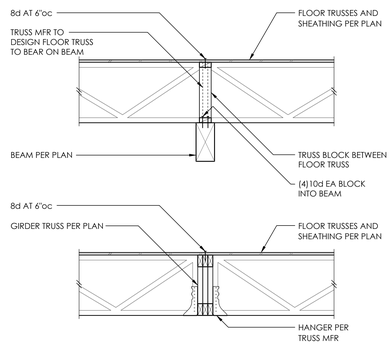
⑧ LTP4's INSTALLED OVER SHEATHING WITH 8d (0.131"Ø x 2-1/2") NAILS MAY BE SUBSTITUTED FOR A35's AT CONTRACTORS OPTION.

## 5

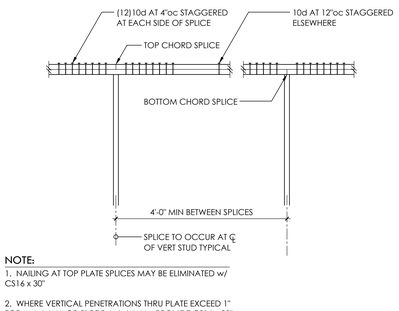
## 6




## TYPICAL FLUSH AND DROPPED BEAM 7




## TYPICAL DROPPED BEAM AND GIRDER TRUSS 8

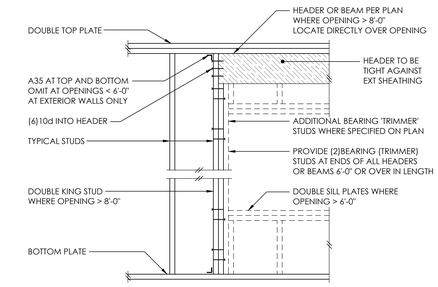



NOTE:
1. NAILING AT TOP PLATE SPLICES MAY BE ELIMINATED w/ CS16 x 30"

2. WHERE VERTICAL PENETRATIONS THRU PLATE EXCEED 1" FOR A 4x WALL OR 3" FOR A 6x WALL - PROVIDE CS16 x 30" AT TOP PLATE

3. MINIMUM EDGE DISTANCE FOR VERTICAL PENETRATIONS THRU TOP PLATE IS 1-1/4"

AT SHEARWALLS
## TYPICAL TOP PLATE SPLICE 9



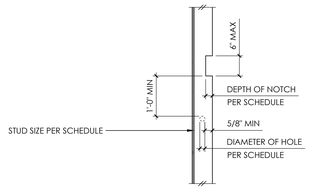

## TYPICAL HEADER SUPPORT 10

## 11

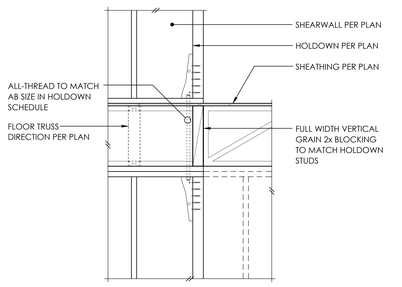
## 12

| BEARING AND EXTERIOR WALLS | | | NON-BEARING WALLS | | |
|---|---|---|---|---|---|
| STUD SIZE | MAX DEPTH OF NOTCH | MAX DIA. OF HOLE | STUD SIZE | MAX DEPTH OF NOTCH | MAX DIA. OF HOLE |
| 2x4 | 3/4" | 1-3/8" | 2x4 | 1-3/8" | 2" |
| 2x6 | 1-1/4" | 2-1/8" | 2x6 | 2-1/4" | 3-1/4" |

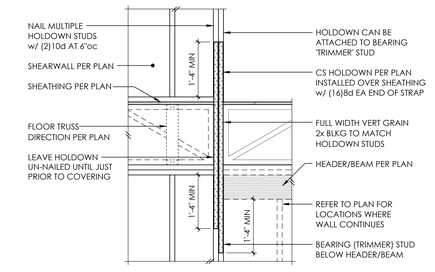
HOLE AND NOTCH SIZE FOR NON-BEARING WALLS MAY BE USED FOR BEARING WALLS IF REQUIRED NUMBER OF STUDS ARE DOUBLED. DOUBLE STUDS SHALL BE LIMITED TO TWO SUCCESSIVE STUDS.




## TYPICAL ALLOWABLE HOLES AND NOTCHES IN WALL STUDS 13



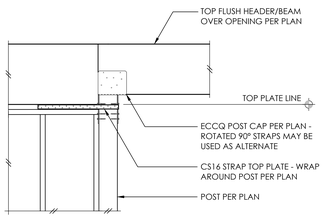

## TYPICAL HDU HOLDOWN 14



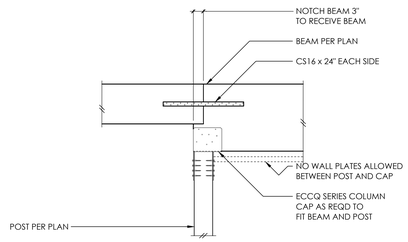

## TYPICAL CS16 HOLDOWN 15

## 16

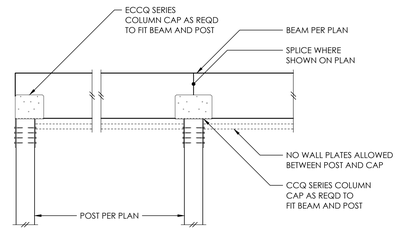
## 17




## TYPICAL HEADER/BEAM END CONNECTION OVER WDO/SGD 18




## 19




## 20

MALSAM TSANG STRUCTURAL ENGINEERING
122 S JACKSON ST - SUITE 210
SEATTLE, WA 98104 - 206.788.8038

# KONERU RESIDENCE
6610 E MERCER WAY
MERCER ISLAND, WA 98040

MARC J. MALSAM
STATE OF WASHINGTON
21586
REGISTERED
PROFESSIONAL ENGINEER

| | |
|---|---|
| PROJECT NO | 0426.2021.03.01 |
| PROJECT MANAGER | WAC |
| DRAWN | JAS |
| ENGINEER | JOSEPH MARQUEZ |
| | 206.602.5122 |
| | JOSEPHM@MALSAM-TSANG.COM |

| REV | DESCRIPTION | DATE |
|---|---|---|
| | PERMIT SET | 12.23.21 |

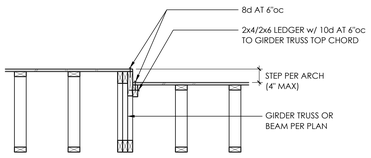
ARCH McCULLOUGH ARCHITECTS 206.443.1181

TYPICAL WOOD FRAMING DETAILS

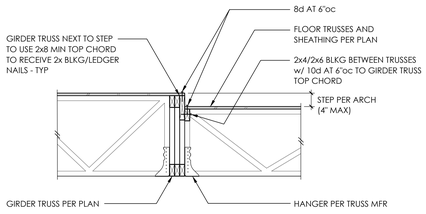
S4.0
SCALE - 3/4" = 1'-0"

Plotted by: AJAP
Plotted Date: Dec 23, 2021 - 11:50am

COPYRIGHT © 2019 MALSAM TSANG ENGINEERING CORPORATION - ALL RIGHTS RESERVED



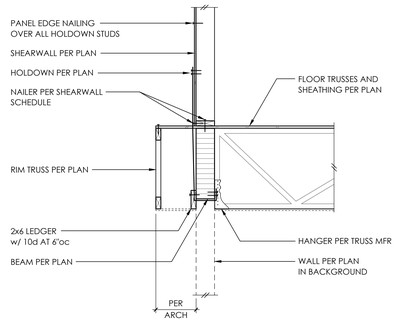

AT PARALLEL CONDITION



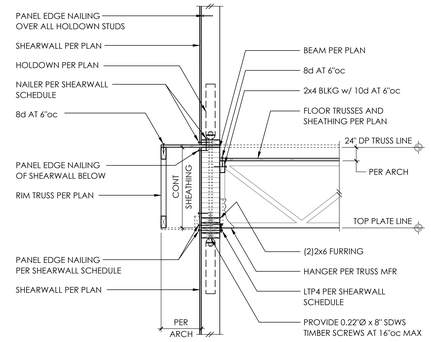

AT PERPENDICULAR CONDITION

TYPICAL TRUSS TO GIRDER TRUSS STEP 2

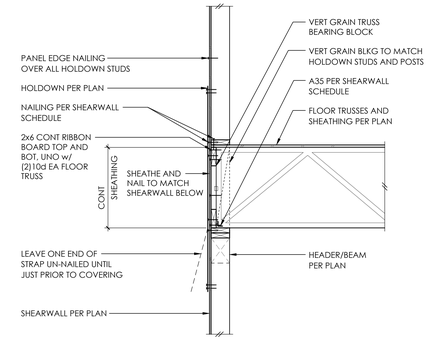
1




3

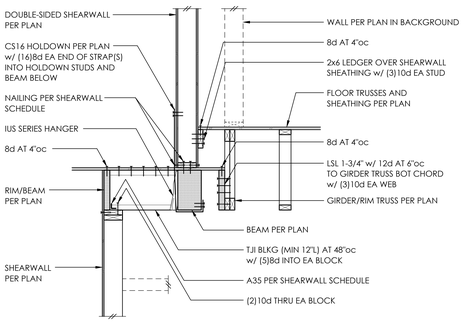



4

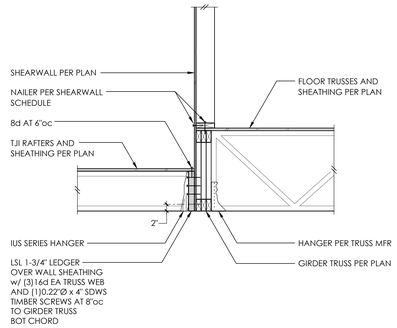



5

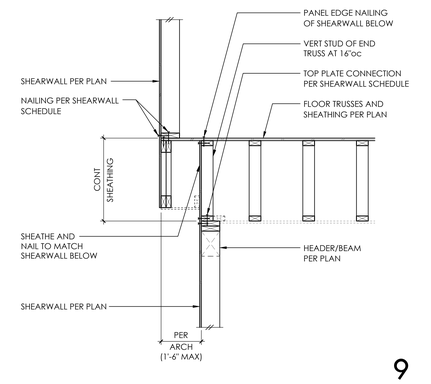
8



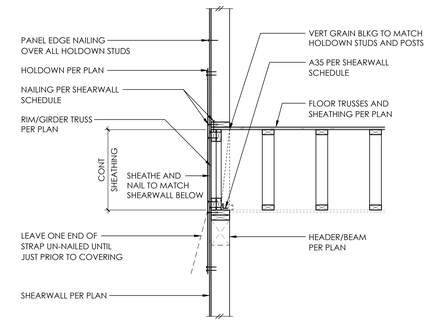

7



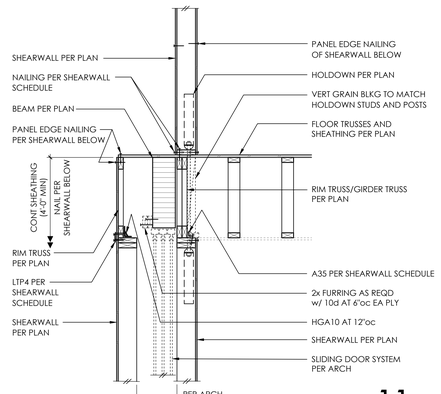

8



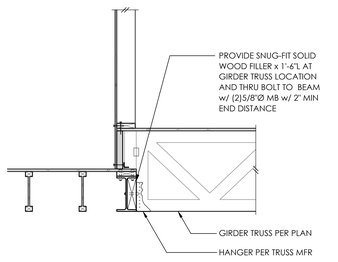

9




10

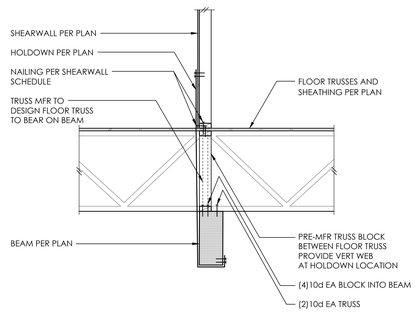



11

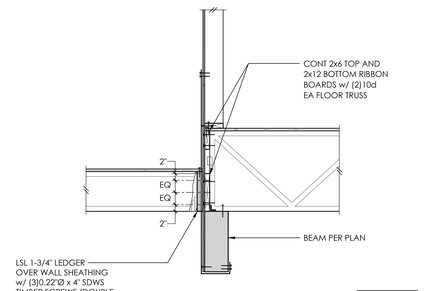



FOR CALLOUTS
IN COMMON
REFER 17/S4.1

12

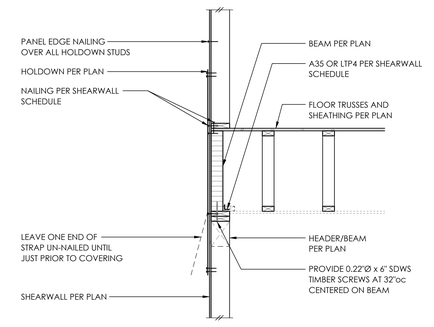



13



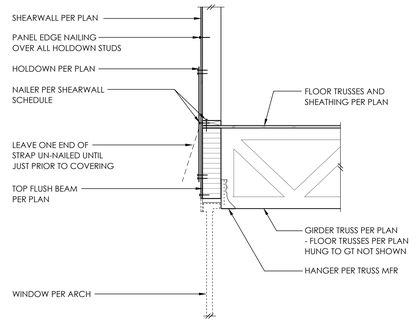

FOR CALLOUTS
IN COMMON
REFER 5/S4.1
AND 9/S4.1

14

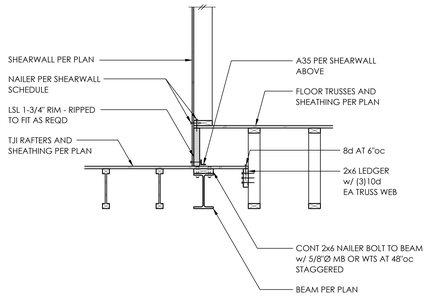



15

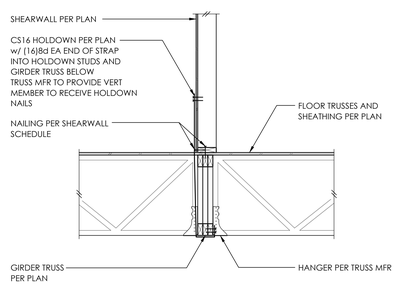
16



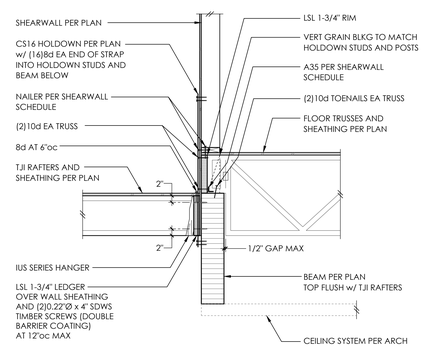

17



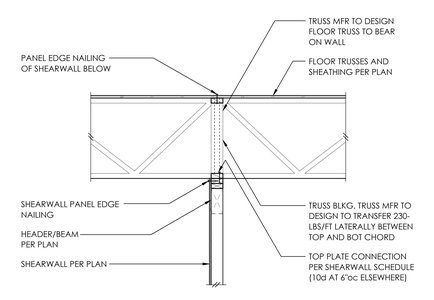

TYPICAL GIRDER TRUSS 18




19




20




MALSAM TSANG
STRUCTURAL ENGINEERING
122 S JACKSON ST - SUITE 210
SEATTLE, WA 98104 - 206.788.8038

# KONERU RESIDENCE
6610 E MERCER WAY
MERCER ISLAND, WA 98040

MARC J. MALSAM
STATE OF WASHINGTON
21586
REGISTERED
PROFESSIONAL ENGINEER

| | |
|---|---|
| PROJECT NO | 0426.2021.03.01 |
| PROJECT MANAGER | WAC |
| DRAWN | JAS |
| ENGINEER | JOSEPH MARQUEZ |
| | 206.602.5122 |
| | JOSEPHM@MALSAM-TSANG.COM |

| REV | DESCRIPTION | DATE |
|---|---|---|
| | PERMIT SET | 12.23.21 |

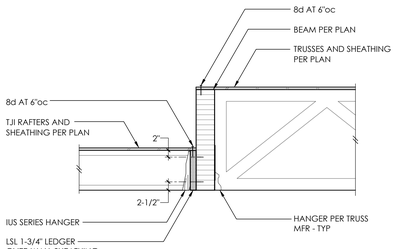
ARCH McCULLOUGH ARCHITECTS
206.443.1181

WOOD FRAMING
DETAILS

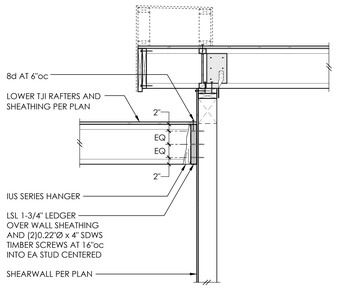
S4.1
SCALE - 3/4" = 1'-0"

Plotted by: AJaP
Plotted Date: Dec 23, 2021 - 11:50am

COPYRIGHT © 2019 MALSAM TSANG ENGINEERING CORPORATION - ALL RIGHTS RESERVED

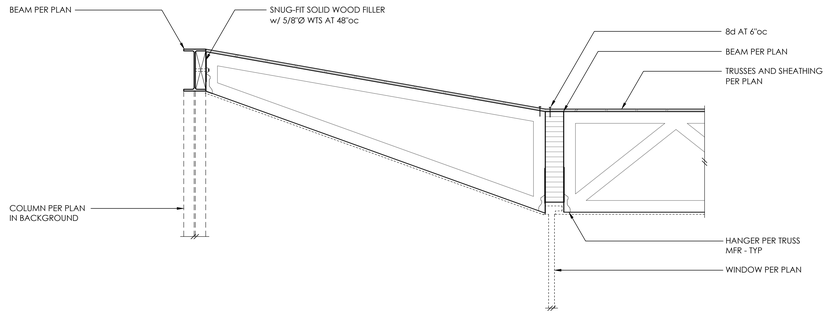



1

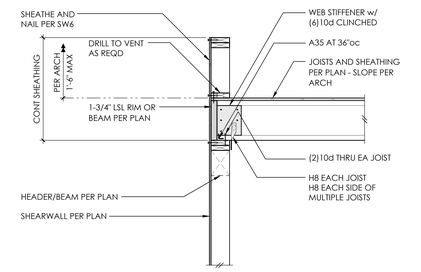



FOR CALLOUTS IN COMMON REFER 15/S4.2

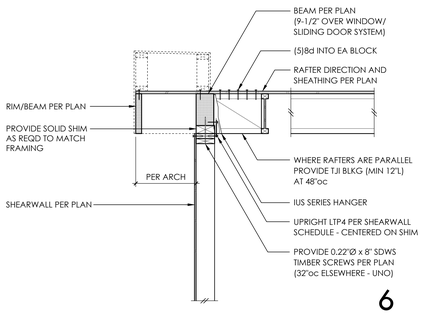
2



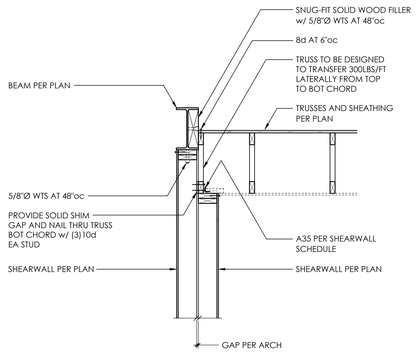

4



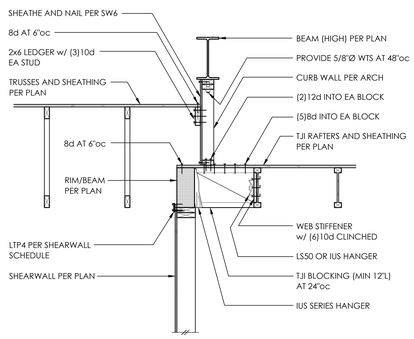

5



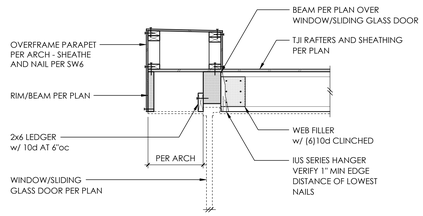

6



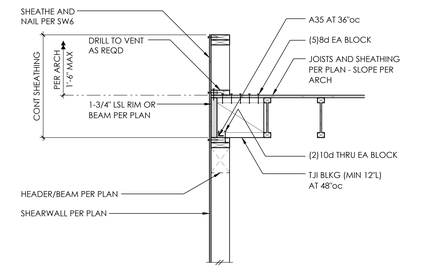

7



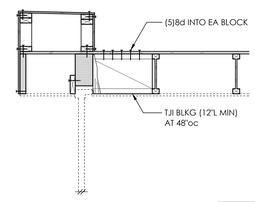

8




9

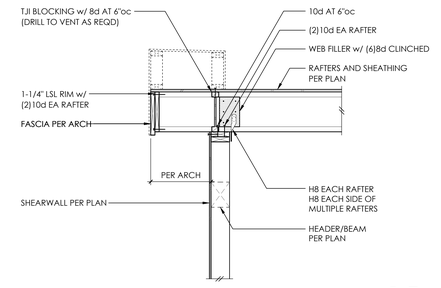



10

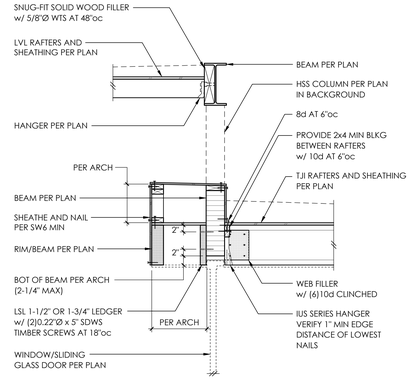



FOR CALLOUTS IN COMMON REFER 9/S4.2

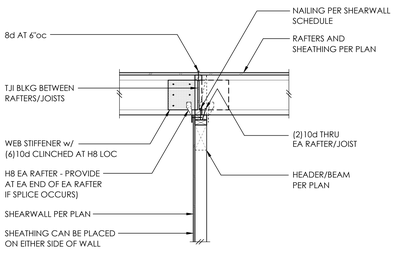
14



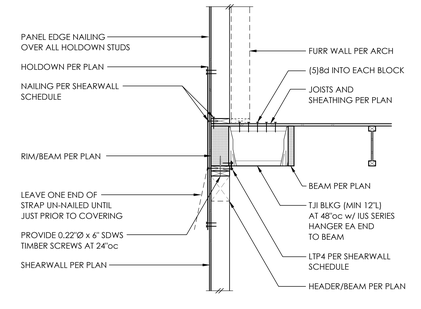

15




18




19




20

MALSAM TSANG STRUCTURAL ENGINEERING
122 S JACKSON ST - SUITE 310
SEATTLE, WA 98104 - 206.788.8038

# KONERU RESIDENCE
6610 E MERCER WAY
MERCER ISLAND, WA 98040

MARC J. MALSAM
STATE OF WASHINGTON
REGISTERED
21586
PROFESSIONAL ENGINEER

| | |
|---|---|
| PROJECT NO | 0426.2021.03.01 |
| PROJECT MANAGER | WAC |
| DRAWN | JAS |
| ENGINEER | JOSEPH MARQUEZ 206.602.5122 JOSEPHM@MALSAM-TSANG.COM |

| REV | DESCRIPTION | DATE |
|---|---|---|
| | PERMIT SET | 12.23.21 |

ARCH McCULLOUGH ARCHITECTS 206.443.1181

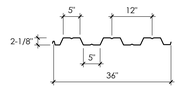
WOOD FRAMING DETAILS

S4.2
SCALE - 3/4" = 1'-0"

Plotted by: AJaP
Plotted Date: Dec 23, 2021 - 11:50am

COPYRIGHT © 2019 MALSAM TSANG ENGINEERING CORPORATION - ALL RIGHTS RESERVED

1

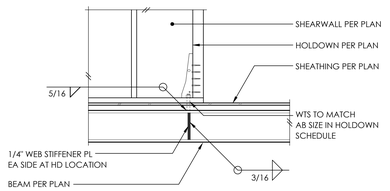



DG-2WHF STEEL DECK WITH G90 COATING.
MINIMUM SECTION PROPERTIES:

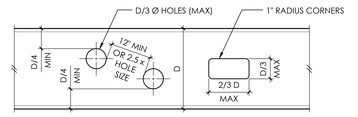
| DECK GAUGE | $I^+$ ($in^4$) | $I^-$ ($in^4$) | $S^+$ ($in^3$) | $S^-$ ($in^3$) | [PROPERTIES PER FOOT OF WIDTH] |
|---|---|---|---|---|---|
| 16 | 1.303 | 1.132 | 0.803 | 0.792 | |

1. USE 16 GAUGE DECK AS NOTED AT LEFT AND ON PLAN.
2. FOLLOW SPAN LAYOUTS AS SHOWN ON PLAN.
3. CONNECT DECK SEAMS WITH BUTTON PUNCHES AT 24"oc AND ARC SPOT WELD AT 12"oc EA END - PROVIDE 2" MIN BEARING LENGTH EACH END.
4. DECK TYPE MUST STRICTLY MEET CRITERIA LISTED AT LEFT. SUBMIT DECK INFORMATION TO ENGINEER PRIOR TO BEGINNING SHOP DRAWINGS

ASC STEEL ROOF DECK 3



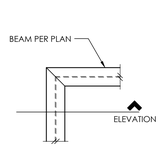

4



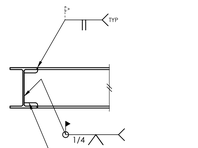

1. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF ALL BEAM PENETRATIONS w/ MECHANICAL DRAWINGS. ALL PENETRATIONS LARGER THAN 2"Ø SHALL BE SHOWN ON SHOP DRAWINGS OR SKETCHES AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. FIELD CUTTING NOT PERMITTED WITHOUT APPROVAL.
2. OPENINGS MAY OCCUR IN MIDDLE HALF OF BEAM LENGTH ONLY.
3. NO CUTTING MAY OCCUR IN TOP OR BOTTOM QUARTER OF BEAM DEPTH.
4. ADJACENT OPENINGS MUST BE SPACED AT THE GREATER OF, 12" OR 2.5 x LARGER OPENING SIZE, EDGE TO EDGE.
5. MAXIMUM SIZES OF OPENINGS SHALL BE D/3 Ø OR D/3 x 2D/3 AS SHOWN.
6. NO OPENINGS SHALL OCCUR WITHIN 12" OF AN ADJACENT BEAM CONNECTION.
7. REQUIRED OPENINGS NOT MEETING ABOVE CRITERIA SHALL BE SUBMITTED TO ENGINEER FOR REINFORCING DESIGN.

TYPICAL STEEL BEAM PENETRATIONS 5

6

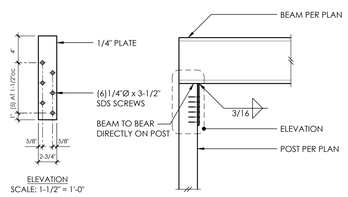



PLAN
AT CORNER



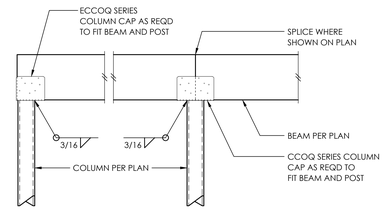

ELEVATION

TYPICAL BEAM CORNER CONNECTION (WELD) 7

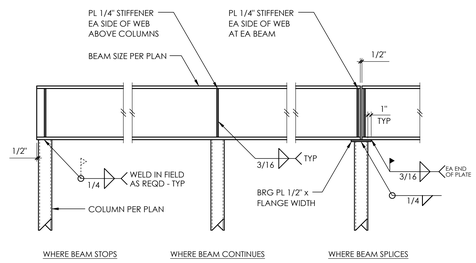



ELEVATION
SCALE: 1-1/2" = 1'-0"

8




TYPICAL CCOQ / ECCOQ COLUMN CAP 9

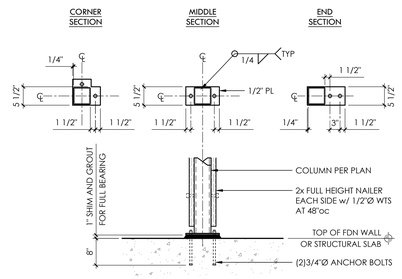



10

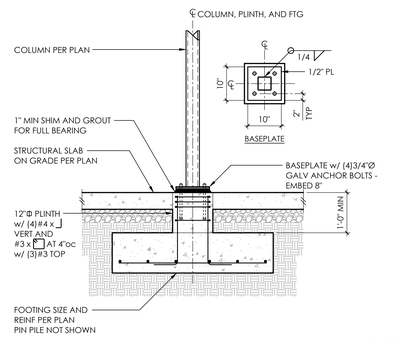
11

12

13




BASEPLATE - HSS COLUMN 14

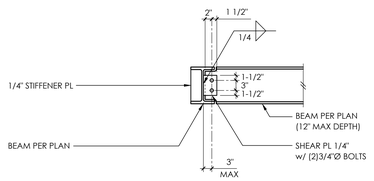



15

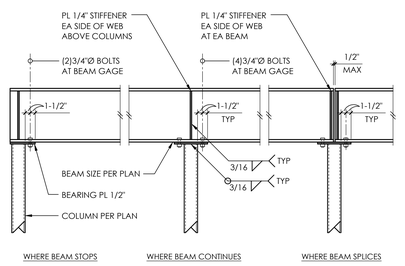
16

17

18




TYPICAL BEAM TO BEAM CONNECTION 19




NOTE
BEARING PLATE THICKNESS SHALL BE 3/4" WHERE DEPTH OF SUPPORTED MEMBER EXCEEDS 24"

20

Plotted by: AJAP
Plotted Date: Dec 23, 2021 - 11:50am

MALSAM TSANG
STRUCTURAL ENGINEERING
122 S JACKSON ST - SUITE 210
SEATTLE, WA 98104 - 206.788.8038

# KONERU RESIDENCE
6610 E MERCER WAY
MERCER ISLAND, WA 98040

| | |
|---|---|
| PROJECT NO | 0426.2021.03.01 |
| PROJECT MANAGER | WAC |
| DRAWN | JAS |
| ENGINEER | JOSEPH MARQUEZ |
| | 206.602.5122 |
| | JOSEPHM@MALSAM-TSANG.COM |

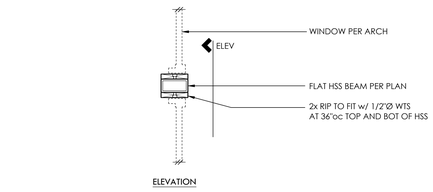
| REV | DESCRIPTION | DATE |
|---|---|---|
| | PERMIT SET | 12.23.21 |

ARCH McCULLOUGH ARCHITECTS
206.443.1181

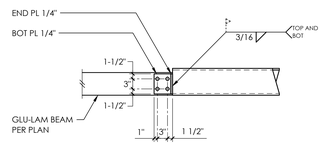
STEEL FRAMING
DETAILS

S5.0
SCALE - 3/4" = 1'-0"

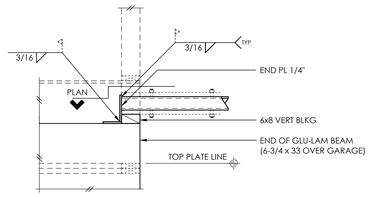
COPYRIGHT © 2019 MALSAM TSANG ENGINEERING CORPORATION - ALL RIGHTS RESERVED




ELEVATION

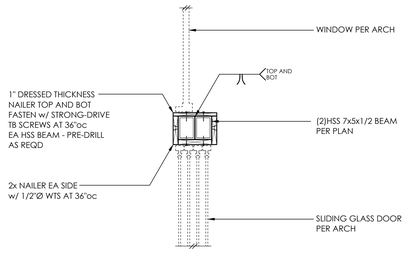



PLAN

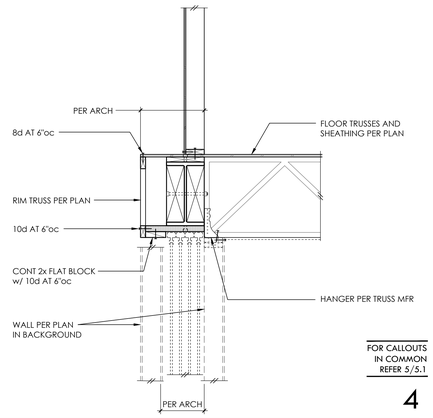



ELEVATION
AT NORTH END

2

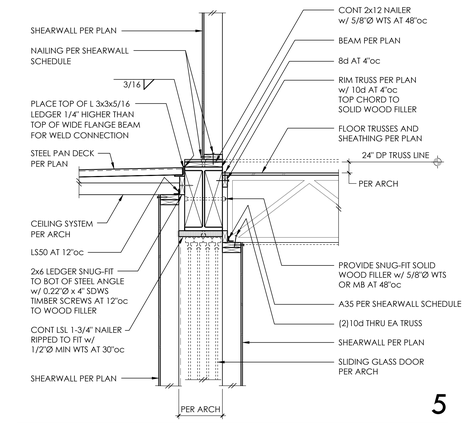



3




FOR CALLOUTS
IN COMMON
REFER 5/S.1

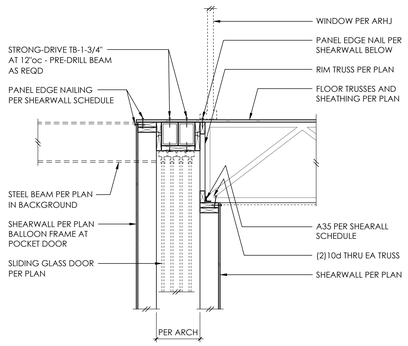
4



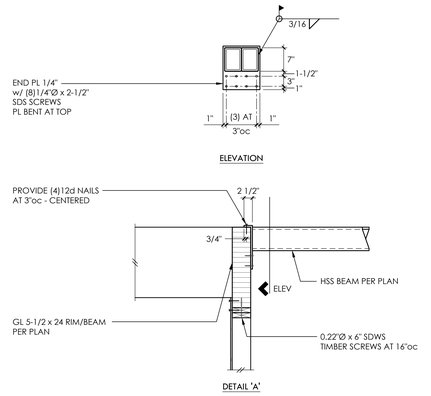

5

6

7




8




ELEVATION

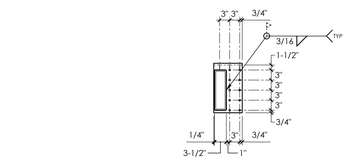



DETAIL 'A'

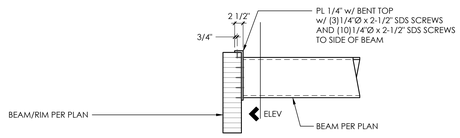
10

11

12

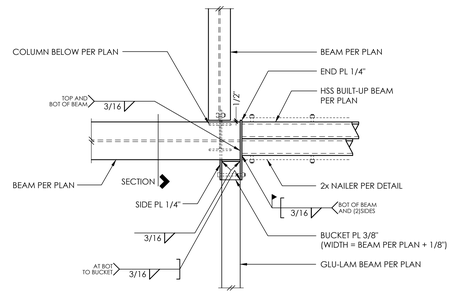



ELEVATION

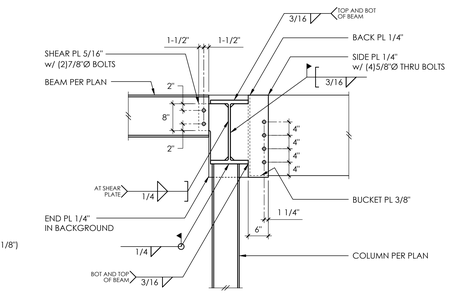



SECTION

13




PLAN

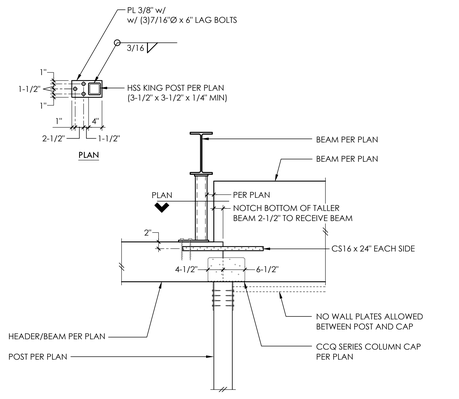



SECTION

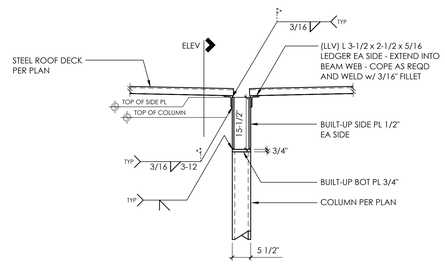
15

16

17

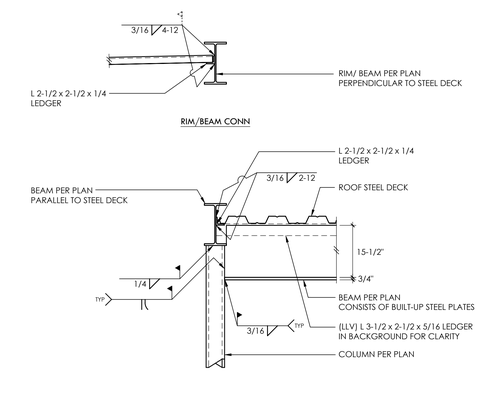



18




SECTION

20







ELEVATION

MALSAM TSANG
STRUCTURAL ENGINEERING
122 S JACKSON ST - SUITE 310
SEATTLE, WA 98104 - 206.788.8038

# KONERU RESIDENCE
6610 E MERCER WAY
MERCER ISLAND, WA 98040

MARC J. MALSAM
STATE OF WASHINGTON
4586
REGISTERED
PROFESSIONAL ENGINEER

| | |
|---|---|
| PROJECT NO | 0426.2021.03.01 |
| PROJECT MANAGER | WAC |
| DRAWN | JAS |
| ENGINEER | JOSEPH MARQUEZ |
| | 206.602.5122 |
| | JOSEPHM@MALSAM-TSANG.COM |

| REV | DESCRIPTION | DATE |
|---|---|---|
| | PERMIT SET | 12.23.21 |

ARCH McCULLOUGH ARCHITECTS
206.443.1181

STEEL FRAMING
DETAILS

S5.1
SCALE - 3/4" = 1'-0"

Plotted by: AJaP
Plotted Date: Dec 23, 2021 - 11:50am