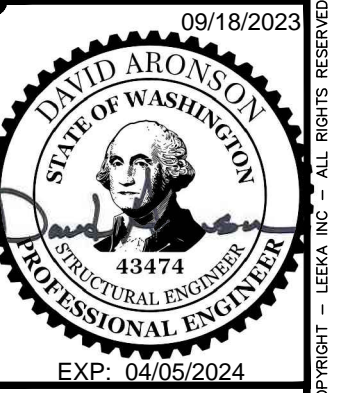


REVISED
4:00 pm, Oct 06, 2023



LEEKA Architecture and Planning
Creating Positive Impressions in the Built Environment
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Tenant Improvement
ESD112
Mental Health Facility Phase II
2400 NE 65th Ave. Vancouver WA.

ABBREVIATIONS:

Table with 2 columns: Abbreviation and Description. Includes entries like '& AND', 'L or L ANGLE', '@ AT', etc.

Table with 2 columns: Abbreviation and Description. Includes entries like 'FF FINISH FLOOR', 'FIN FINISH', 'FLR FLOOR', etc.

Table with 2 columns: Abbreviation and Description. Includes entries like 'PSF POUNDS PER SQUARE FOOT', 'PSI POUNDS PER SQUARE INCH', 'R RADIUS', etc.

DESIGN STANDARD
2018 INTERNATIONAL BUILDING CODE (IBC) WITH THE 2020 WASHINGTON STATE AMENDMENTS

DESIGN CRITERIA
1. DESIGN ALL LOADS FOR NEW CONSTRUCTION, UNLESS NOTED OTHERWISE.
2. LIVE LOADS
A. CEILING FRAMING LIVE LOAD: 20 PSF

- 3. WIND DESIGN DATA: INTERNATIONAL BUILDING CODE ASCE 7
A. ULTIMATE DESIGN WIND SPEED: V_{ult} = 135
B. NOMINAL DESIGN WIND SPEED: V_{ref} = 95
C. RISK CATEGORY: II
D. EXPOSURE: B
E. INTERNAL PRESSURE COEFFICIENT: GC_{pi} = +/- 0.18
F. EXTERIOR COMPONENT AND CLADDING DESIGN WIND PRESSURES:

Table: COMPONENT AND CLADDING NET DESIGN PRESSURES
WINDWARD WALLS: 30 PSF (ULT), 21 PSF (ASD)
LEEWARD WALLS: -33 PSF (ULT), -23 PSF (ASD)

- NOTES:
a. POSITIVE SIGNS SIGNIFY PRESSURE ACTING TOWARD THE EXTERIOR SURFACE
b. NEGATIVE SIGNS SIGNIFY PRESSURES ACTING FROM THE EXTERIOR SURFACE
c. PRESSURES SHOWN ARE CALCULATED FOR A 10 SF EFFECTIVE AREA. PRESSURES MAY BE REDUCED FOR ELEMENTS WITH LARGER EFFECTIVE AREAS, PER ASCE 7.
5. SEISMIC DESIGN DATA
A. RISK CATEGORY: II
B. SEISMIC IMPORTANCE FACTOR: I_e = 1.0
C. MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS: S_s = 0.824 S₁ = 0.370
D. SITE CLASSIFICATION: D
E. DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS: S_{DS} = 0.643 S₁ = 0.409
F. SEISMIC DESIGN CATEGORY: D
G. BASIC SEISMIC FORCE RESISTING SYSTEM: PC1 FOR EXISTING BUILDING - LIGHT FRAMED WALLS WITH GYPSUM BOARD SHEAR PANELS (NEW INTERIOR STRUCTURE)
H. SEISMIC BASE SHEAR: V = 284 KIPS (EXISTING BUILDING) V = 11 KIPS (NEW INTERIOR STRUCTURE)
I. SEISMIC RESPONSE COEFFICIENT: C_s = 0.13 (EXISTING BUILDING) C_s = 0.32 (NEW INTERIOR STRUCTURE)
J. RESPONSE MODIFICATION COEFFICIENT: R = 5 (EXISTING BUILDING) R = 2 (NEW INTERIOR STRUCTURE)
K. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE ANALYSIS

- GENERAL
1. THESE STRUCTURAL NOTES ARE A SUPPLEMENT TO THE SPECIFICATIONS.
2. SPECIFICATIONS AND CODES REFERENCED IN THESE NOTES ARE THE VERSIONS MOST RECENTLY ADOPTED BY THE PERMITTING AUTHORITY.
3. VERIFY DIMENSIONS AND CONDITIONS WITH THE ARCHITECTURAL DRAWINGS. FIELD VERIFY DIMENSIONS AND ELEVATIONS RELATIVE TO THE EXISTING STRUCTURE PRIOR TO FABRICATION OF MATERIALS.
4. FOR FEATURES OF CONSTRUCTION NOT FULLY SHOWN, PROVIDE THE SAME TYPE AND CHARACTER AS SHOWN FOR SIMILAR CONDITIONS, SUBJECT TO REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD.
5. APPLY, PLACE, ERECT OR INSTALL ALL PRODUCTS AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
6. ADEQUATELY BRACE STRUCTURE AND ALL STRUCTURAL COMPONENTS AGAINST WIND, LATERAL EARTH AND SEISMIC FORCES UNTIL THE PERMANENT LATERAL-FORCE RESISTING SYSTEMS HAVE BEEN INSTALLED.
7. PROVIDE BLOCKING BETWEEN STUDS (OR OTHER MEANS OF BRACING) AT WOOD BEARING WALLS TO PREVENT STUD BUCKLING PRIOR TO INSTALLATION OF GYPSUM WALLBOARD.
8. SUBMITTALS:
A. SUBMIT SHOP DRAWINGS FOR:
a. I-JOISTS
b. STRUCTURAL STEEL
B. SUBMIT SHOP DRAWINGS STAMPED BY A REGISTERED STRUCTURAL ENGINEER LICENSED IN THE STATE OF WASHINGTON TO BE REVIEWED BY EOR PRIOR TO SUBMITTAL TO BUILDING DEPARTMENT FOR PERMIT, FOR:
a. BIDDER DESIGNED STRUCTURAL ITEMS.
C. SUBMIT SHOP DRAWINGS PRIOR TO FABRICATION OF MATERIAL.
D. WHERE SPECIAL INSPECTION OR TESTING IS REQUIRED BY IBC CHAPTER 17, THE REGISTERED STRUCTURAL ENGINEER(S) FOR EACH STAMPED SUBMITTAL ABOVE SHALL PREPARE A STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE WITH IBC SECTION 1705 FOR SUBMITTAL BY THE PERMIT APPLICANT.

- SITE PREPARATION
1. REMOVE VEGETATION, RUBBISH AND EXISTING FILL. STRIP TOP SOIL 6", MINIMUM.
2. PRE-ROLL AREA WITH A HEAVY VIBRATORY ROLLER OR LOADED DUMP TRUCK. MAKE 3 PASSES (MINIMUM) OVER THE ENTIRE AREA.
3. REMOVE AREAS OF SOIL, AS REQUIRED, THAT EXHIBIT EXCESSIVE WEAVING OR DEFLECTION UNDER THE WEIGHT OF THE ROLLER OR DUMP TRUCK.
4. BACK-FILL EXCAVATED AREAS WITH STRUCTURAL FILL AS DESCRIBED BELOW.

- STRUCTURAL FILL OR BACK-FILL
1. STRUCTURAL FILL MATERIAL:
A. SAND AND GRAVEL MIXTURE OR CRUSHED ROCK
B. WELL GRADED FROM COARSE-TO-FINE WITH LESS THAN 10% BY WEIGHT OF THE MINUS 3/4" FRACTION PASSING THE NO. 200 SIEVE.
C. FREE OF ORGANICS, RUBBISH, CLAY BALLS AND ROCKS LARGER THAN 4".
2. PLACE STRUCTURAL FILL IN LOOSE LIFTS, MAXIMUM OF 8" IN THICKNESS.
3. COMPACT STRUCTURAL FILL TO A MINIMUM DENSITY OF 95% OF MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM D 1557.
4. VERIFY ADEQUACY OF STRUCTURAL FILL COMPACTION WITH RANDOM FIELD DENSITY TESTS IN ACCORDANCE WITH REQUIREMENTS OF "STRUCTURAL TESTS AND SPECIAL INSPECTIONS", IBC CHAPTER 17.
5. COMPACT STRUCTURAL FILL WITHIN 5'-0" OF RETAINING OR BASEMENT WALLS WITH LIGHT-WEIGHT, HAND-HELD EQUIPMENT. EXERCISE CARE TO AVOID DAMAGE TO WALLS.

- FOUNDATIONS
1. FOUNDATION SIZES BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 1500 PSF DEAD AND SNOW LOADS
2. FOUNDATION ELEVATIONS SHOWN ARE TO TOP OF FOOTINGS.
3. PLACE FOOTINGS ON FIRM, UNDISTURBED ORIGINAL SOIL, OR ON STRUCTURAL FILL. SEE "STRUCTURAL FILL OR BACK-FILL" NOTES FOR STRUCTURAL FILL INFORMATION.
4. LOCATE BOTTOM OF FOOTINGS AT A MINIMUM OF 1'-6" BELOW FINAL GRADE OR 1'-0" BELOW EXISTING GRADE, WHICHEVER IS LOWER.
5. PRIOR TO PLACEMENT OF CONCRETE, REMOVE ALL DISTURBED SOIL FROM FOOTING EXCAVATION TO NEAT LINES.
6. STEP BOTTOM OF FOOTINGS FROM ELEVATION TO ELEVATION AT A RATIO OF 1 VERTICAL TO 2 HORIZONTAL, WITH A MAXIMUM VERTICAL STEP OF 2'-0".

- CONCRETE REINFORCING STEEL
1. REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60.
2. WELDED REINFORCEMENT: ASTM A 706, GRADE 60. USE 80 KSI FILLER MATERIAL FOR WELDING.
3. WELDED METAL INSERTS, CONNECTIONS: AWS D1.4.
4. REINFORCEMENT MECHANICAL COUPLERS: TYPE 1, 125% F_y, TYPE 2, 125% F_y, 100% F_y
5. DETAIL, FABRICATE AND PLACE REINFORCING ACCORDING TO ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.
6. TYPICAL REINFORCING (MINIMUM, UNLESS NOTED OTHERWISE ON DRAWINGS):
A. CORNERS AND INTERSECTIONS OF WALLS AND FOUNDATIONS, PRE-CAST PANEL CORNERS: CORNER BARS EQUAL IN SIZE AND NUMBER TO HORIZONTAL REINFORCING, LEG LENGTH: 48 BAR DIAMETER (2'-0" MINIMUM).
7. DO NOT FIELD BEND, DISPLACE, WELD, HEAT OR CUT REINFORCING UNLESS INDICATED ON THE DRAWINGS, OR APPROVED BY STRUCTURAL ENGINEER OF RECORD.
8. MINIMUM COVER FROM CONCRETE SURFACES TO REINFORCING:
3" TO BOTTOM OF FOOTING
2" ± 1/4" TO EARTH FACE OF WALL
CENTER OF SLABS-ON-GRADE
9. REINFORCING LAP SPLICES (INCHES): CONFORM WITH ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"; AS SHOWN BELOW, UNLESS NOTED OTHERWISE ON DRAWINGS:

Table: REINFORCING LAP SPLICES (INCHES) for 3000 PSI concrete. Columns: BAR SIZE, TOP BARS, OTHER BARS. Values range from 22 to 47 inches.

- LAP SPLICE NOTES:
A. TOP BARS ARE DEFINED AS HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS PLACED BELOW THE BARS.
B. SPLICE LENGTH BASIS: CLASS B, CASE 1 SPLICE, WITH CENTER-TO-CENTER BAR SPACING OF GREATER THAN 3 BAR DIAMETERS.

- CAST-IN-PLACE CONCRETE
1. ALL CONCRETE MATERIALS, FORM WORK, MIXING, PLACING AND CURING SHALL BE IN ACCORDANCE WITH:
A. ACI 301 "STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE".
B. ACI 305 "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING" AND
C. ACI 306 "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING".
2. CONCRETE MIX DESIGN:
UNLESS NOTED OTHERWISE, ALL CONCRETE STRENGTH SHALL BE:
3,000 PSI FOR: EXTERIOR SLABS-ON-GRADE FOOTINGS
3,000 PSI FOR: OTHER CONCRETE
NOTES:
A. UNLESS NOTED OTHERWISE, CONCRETE STRENGTH SHALL BE OBTAINED AT A MINIMUM OF 28 DAYS AFTER PLACING AS DETERMINED BY LABORATORY-CURED CONCRETE CYLINDER TESTS.
B. NO WATER SHALL BE ADDED TO THE CONCRETE OTHER THAN THAT REQUIRED BY THE MIX DESIGN APPROVED BY THE ENGINEER OF RECORD. WATER ADDED AFTER INITIAL CONCRETE BATCHING SHALL BE SPECIAL INSPECTED.
C. PREPARE MIX DESIGNS FOR EACH TYPE OF CONCRETE BY EITHER LABORATORY TRIAL BATCH OR FIELD EXPERIENCE METHODS AS SPECIFIED IN ACI 301.
D. USE PORTLAND CEMENT TYPE I OR II; CONFORM WITH ASTM C 150; SUPPLY FROM 1 SOURCE.
E. AGGREGATES SHALL CONFORM WITH ASTM C 33 AND BE THOROUGHLY CLEANED AND WASHED PRIOR TO USE.
F. REPLACE UP TO 20% OF CEMENT WITH FLY ASH. FLY ASH SHALL CONFORM WITH ASTM C 618, CLASS C OR F. CONCRETE MIX STRENGTH TEST DATA SHALL BE PROVIDED.
G. CONCRETE EXPOSED TO WEATHER SHALL HAVE 5% ± 1% ENTRAINED AIR, BY VOLUME, AND SHALL CONFORM WITH ASTM C 260.
3. CONCRETE MIX PROPORTIONS:
A. PROPORTION ACCORDING TO ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
B. SUBMIT MIX DESIGNS, WITH COMPLETE STATISTICAL BACKUP, FOR REVIEW.
4. SAMPLING AND TESTING OF CONCRETE:
A. CONCRETE COMPRESSIVE STRENGTH OF LABORATORY CURED CYLINDERS SHALL BE TESTED AFTER THE SPECIFIED PERIOD AT 28 DAYS OR 56 DAYS AS NOTED.
B. SAMPLE, CURE AND TEST CONCRETE CYLINDERS ACCORDING TO APPLICABLE ASTM SPECIFICATIONS.
C. ACCEPTANCE OF COMPRESSIVE STRENGTH TEST RESULTS SHALL BE GOVERNED BY ACI 318, CHAPTER 5.
D. TEST A MINIMUM OF 3 CONCRETE TEST CYLINDERS FOR EACH 150 CU. YARDS OF CONCRETE, NOT LESS THAN ONE FOR EACH 5,000 SQUARE FEET OF SURFACE AREA FOR SLABS AND WALLS, OR EACH DAY OF POUR, FOR EACH CONCRETE STRENGTH. TEST 1 CYLINDER AT 7 DAYS AND 2 CYLINDERS AT 28 DAYS.
E. CAST 1 ADDITIONAL CYLINDER FOR STRENGTH VERIFICATION, IF PROBLEMS HAVE DEVELOPED FROM PREVIOUS 28 DAY BREAKS.
5. JOINTS:
A. CONSTRUCTION JOINTS BETWEEN FOOTINGS AND WALLS, COLUMNS OR PILASTERS AND THE SLABS THEY SUPPORT AND WALL CONSTRUCTION JOINTS: ROUGHEN CONTACT AREA TO AN APPROXIMATE 1/4" AMPLITUDE, LEAVING THE CONTACT SURFACE CLEAN AND FREE OF LAITANCE.
B. CONSTRUCTION JOINTS KEYWAYS: PROVIDE WHERE SHOWN ON DRAWINGS.
C. SUBMIT LOCATIONS AND DETAILS OF PROPOSED CONSTRUCTION JOINTS NOT DETAILED ON THE DRAWINGS FOR REVIEW.
6. DEPRESSIONS IN SLABS AND BEAMS: PROVIDE SAME DEPTH AS FOR ADJACENT AREAS, UNLESS NOTED OTHERWISE.
7. CHAMFER EXPOSED CORNERS 3/4", UNLESS NOTED OTHERWISE.

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