

## GENERAL REQUIREMENTS

### SUMMARY OF WORK

Project consists of new construction as shown on these Contract Documents used in coordination with the Architectural and other discipline's documents.

### DEFINITIONS

The following acronyms are used throughout these structural notes:

- IBC - Governing code, including local amendments
- SER - Structural Engineer of Record per these Contract Documents
- UNO - unless noted otherwise
- ASTM - American Society for Testing and Materials

### GOVERNING CODE

All design and construction shall conform to the 2015 International Building Code and local jurisdiction amendments.

Reference to ASTM and other standards shall refer to the latest edition designated by IBC Chapter 35. Refer to the specifications for information in addition to that covered by these structural notes and drawings.

### DOCUMENTS

Structural Documents shall be used in conjunction with Architectural Documents for all bidding and construction.

Drawings indicate general and typical details of construction. Typical details and general notes shall apply even if not specifically denoted on plans, UNO. Where conditions are not specifically indicated similar details of construction shall be used, subject to review and approval by the Architect and the SER.

These Contract Documents and any materials used in preparation of them, including calculations, are the exclusive property of the SER and can be reproduced only with the permission of the SER.

### WARRANTY

The SER has used that degree of care and skill ordinarily exercised under similar circumstances by members of the profession in this locale and no other warranty, either expressed or implied, is made in connection with rendering professional services.

### OWNER RESPONSIBILITY

The owner shall retain a Special Inspector to perform the special inspection requirements required by the building official and as outlined in the Special Inspection section below.

## DESIGN CRITERIA

### BUILDING CATEGORY

Structural Risk Category II  
Importance factors for snow and seismic are listed with the loading criteria.

### LIVE LOADS - FLOOR AND ROOF

Live loads indicated with \* are reducible per IBC  
Partition loading has been added per IBC

Office Buildings: See Load maps

### LIVE LOADS - SNOW

Numbering below is per IBC Section 1603.1.3:

- Flat-Roof Snow Load:  $P_f = 23$  psf
- Snow Exposure Factor:  $C_e = 1.2$
- Snow Importance Factor:  $I_s = 1.0$
- Thermal Factor:  $C_t = 1.1$

### Additional Items:

- Ground Snow Load:  $P_g = 25$  psf
- Snow drifting load per IBC w/ ground snow load
- Minimum uniform roof snow load = 25 psf

### LATERAL LOADS - WIND

- Numbering below is per IBC Section 1603.1.4:
- Ultimate Design Wind Speed (3-second gust):  $V_{ult} = 130$  mph
  - Nominal Design Wind Speed:  $V_{nom} = 100$  mph
  - Risk Category: II
  - Wind Exposure: C
  - Internal Pressure Coefficient = +/- 0.18
  - Components and Cladding:
    - The following working loads may be used in lieu of calculations:

Uplift at roof and overhangs, see load maps

Walls (Effective area = 10ft<sup>2</sup>)  
at field - 18 psf  
at corner - 22 psf

### Additional Info:

- Topographic factor:  $K_{zt} = 1.0$
- Directionality factor:  $K_d = 0.85$
- Enclosure classification: (partially enclosed, enclosed, open)
- Gust Effect Factor:  $G = 0.85$
- Design Base Shear:  $V = xxx$  kips
- Analysis procedure: (directional, envelope)

### LATERAL LOADS - EARTHQUAKE

Numbering below is per IBC Section 1603.1.5:

- Risk Category: II
- Seismic Importance Factor:  $I_w = 1.0$
- Mapped Spectral Response Acceleration Parameters:  $S_s = 1.32$  g;  $S_1 = 0.544$  g
- Site Class: C;  $F_A = 1.00$ ;  $F_V = 1.30$
- Design Spectral Response Acceleration Parameters:  $S_{DS} = 0.88$  g;  $S_{D1} = 0.544$  g
- Seismic Design Category: D
- Basic Seismic Force-Resisting Systems:
  - Vertical Elements: Light framed wood wall sheathed with wood structural panels;
  - Diaphragms: Plywood sheathing.
- Design Base Shear: 69.115 kips
- Seismic Response Coefficient:  $C_S = 0.1135$
- Response Modification Coefficient:  $R = xxx$
- Analysis Procedure: Equivalent Lateral Force Procedure (Modal Response Spectrum Analysis, Seismic Response History Procedures, Simplified Design Procedure)

### Additional Items:

- Building Location: 48.073005° N, 123.971425° W
- Building Height: ~23 feet
- Redundancy Factors:
  - North/South Direction = 1.0
  - East/West Direction = 1.0

## CONTRACTOR PERFORMANCE REQUIREMENTS

### DESIGN DOCUMENTS

The contractor shall verify all dimensions and all conditions at the job site, including building and site conditions before commencing work, and be responsible for same. All discrepancies shall be reported to the Architect before proceeding with work. Any errors, ambiguities and/or omissions in the contract documents shall be reported to the Architect immediately, in writing. No work is to be started before correction is made.

Contractor shall verify and/or coordinate all dimensioned openings and slab edges shown on the contract documents. Some dimensions, openings and embedded items are shown on the structural drawings. Others may be required. Refer to architectural drawings for size and location of curbs, equipment pads, wall and floor openings, architectural treatment, embeds required for architectural items and dimensions. Refer to mechanical, plumbing, electrical and fire protection drawings for size and location of all openings for ducts, piping, conduits, etc. Submit openings to Architect for review.

Do not scale drawings. Use only field verified dimensions. When electronic plan files are provided for the Contractor's detailing convenience, it shall be noted that the electronic files are not guaranteed to be dimensionally accurate. The Contractor uses them at their own risk. The published paper documents are the controlling Contract Documents. Electronic files of detail sheets and notes will not be provided.

### CONTRACTOR-INITIATED CHANGES

Contractor-initiated changes shall be submitted in writing to the Architect for review and acceptance prior to fabrication or construction. Changes shown on shop drawings only will not satisfy this requirement.

### INSPECTIONS

The Contractor shall coordinate with the building department for all building department required inspections.

## CONTRACTOR PERFORMANCE REQUIREMENTS

### TEMPORARY SHORING AND BRACING

The Contractor shall provide temporary bracing as required until all permanent connections and stiffening have been installed. The Contractor is responsible for the strength and stability of all partially completed structures including but not limited to concrete or masonry walls, steel framing and erection aids. The Contractor shall, at their discretion, employ the aid of a licensed Structural Engineer to design all temporary bracing and shoring necessary to complete the work described in these contract documents. The Contractor shall be responsible for all required safety standards, safety precautions and the methods, techniques, sequences or procedures required in performing their work. For concrete construction refer to ACI 318- Section 26.11.2 "Removal of Formwork".

### SAFETY PROCEDURES

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.

## BUILDING MOVEMENT

All non-structural wall connections shall account for construction tolerances, column shortening and beam deflections. In addition, design components shall accommodate a typical vertical movement at each floor of 3/4" due to variable live loading. This displacement will occur at the free end of cantilever beams and at midspan of simple span beams. Non-structural walls shall accommodate typical lateral movements of 1/2" between adjacent floors perpendicular and/or parallel to the wall.

Wall attachments shall not apply any lateral loads to the bottom flange of beams. If attachment is made to the bottom of beams, additional inclined struts bracing the bottom flange or other equivalent means to counteract this force shall be provided by the Contractor.

## SHOP DRAWINGS AND SUBMITTALS

### SHOP DRAWING & SUBMITTAL REVIEW (including Deferred Structural Components)

The contractor must review and stamp the shop drawings & submittals for review. SER will only review submittals for items shown on SER documents. Submittals for Deferred Structural Components will receive cursory review by SER for loads imposed on primary structure. SER will review shop drawings for general conformance with the design concept of the project and general compliance with the information given in the Structural Contract Documents. Review of submittals does not constitute approval or acceptance of unauthorized deviation from Contract Documents.

Corrections or comments made on shop drawings during this review do not relieve Contractor from compliance with the requirements of the plans and specifications.

Contractor responsible for:

- Reviewing, approving, stamping and signing submittals prior to submittal to Architect and SER
- Timing submittals to allow two weeks of review time for the SER and time for corrections and/or resubmittal
- Conformance to requirements of the Contract Documents
- Dimensions and quantities
- Verifying information to be confirmed or coordinated
- Information solely for fabrication, safety, means, methods, techniques and sequences of construction
- Coordination of all trades

Resubmittals shall be clouded and dated for all changes to the submittal. Only clouded portions of resubmittal will be reviewed and SER's review stamp applies to only these areas.

### SUBSTITUTIONS

Substitutions shall be submitted in writing prior to submittal of shop drawings. Shop drawings bearing substitutions will be rejected. Submit engineering data to substantiate the equivalence of the proposed items. The SER's basic services contract does not include review of substitutions that require re-engineering of the item or adjacent structure. Nor does the SER's contract cover excessive review of proposed substitutions. The fees for making these reviews and/or redesign shall be paid by the Contractor. Reviews and approvals shall not be made until authorization is received.

### SUBMITTALS

Shop drawings and material submittals shall be submitted to the Architect and SER prior to any fabrication or construction for the following structural items. Submittals shall include one reproducible and one copy; reproducible will be marked and returned. If deviations, discrepancies, or conflicts between shop drawings submittals and the contract documents are discovered either prior to or after shop drawing submittals are processed by the SER, the Contract Documents control and shall be followed.

- Construction sequence description
- Contractor quality control testing procedures when required in specifications
- Concrete mix designs
- Concrete construction joint plans
- Concrete accessories material specification, size and location
- Reinforcing bar shop drawings and placing plans
- Reinforcing bar mill certificates shall be available upon request
- Masonry materials and mix designs
- Glued laminated members (certificates shall be on site and be available upon request)
- Engineered wood beams (certificates shall be on site and be available upon request)
- Deferred Structural Components listed below

### DEFERRED STRUCTURAL COMPONENTS

Components referred to as Deferred Structural Components shall comply with these notes. These elements have not been permitted under the base building application. The Contractor will be required to submit the component system documents to the building official for approval. The documents shall be stamped and signed by an engineer licensed by the state where the project is located. The deferred structural components shall not be installed until the design and submittal documents have been approved by the building official.

Prior to building department submittal, the deferred structural components submittals shall receive cursory review by SER for loads imposed on primary structure and general conformance with design concept of the project and general compliance with the information given in the Structural Contract Documents. Review of submittals does not constitute approval or acceptance of unauthorized deviation from Contract Documents. Submittals of contractor-designed components shall include the designing professional engineer's stamp and signature, as noted above. The submittal shall be approved by the component vendor prior to review by the SER. The designing professional is responsible for code conformance and all necessary connections not specifically called out on architectural or structural contract documents.

Submittals shall include details of connections to primary structure that indicate magnitude and direction of all loads imposed at point of connection. Design criteria shall be provided with submittal and calculations shall be made available upon request.

The following list includes the items that are defined as Deferred Structural Components. Refer to other discipline's contract documents for additional deferred components that may require structural design and details. Connections of these elements shall not induce torsion on structural members. Deferred Structural Components shall be manufactured, delivered, handled, stored, and field erected in conformance with instructions prepared by the component vendor.

Deferred structural components:

- Exterior wall system support
- Open web wood joists
- Handrails, guards, grab bars, and wall mounted shower seats
- Fall-restraint systems

## INSPECTIONS

### INSPECTIONS BY BUILDING OFFICIAL

The building official, upon notification, shall make structural inspections as required by local ordinance. The inspection by the building official per IBC Section 110 will be separate from and in addition to the special inspection and structural observation mentioned subsequently.

### SPECIAL INSPECTIONS

A Special Inspector shall be hired by the owner to perform the following special inspections per IBC Section 1704. See the specifications for additional requirements for special inspection and testing. The architect, structural engineer, and building department shall be furnished with copies of all inspection reports and test results.

Each contractor responsible for the construction of a seismic force resisting system, designated seismic system, or component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The written statement shall be in accordance with IBC Section 1704.4.

See IBC Chapter 17: "Special Inspections and Tests" for more detailed requirements.

### SPECIAL INSPECTIONS OF ARCHITECTURAL COMPONENTS

(PER IBC 1705.10.3, 1705.11.6 & 1705.11.7)

Verification and Inspection	Frequency		Reference
	Continuous	Periodic	
1. ROOF AND WALL CLADDING		X	IBC 1705.11.3.1
2. ERECTION AND FASTENING OF EXTERIOR CLADDING OR INTERIOR AND EXTERIOR VENEERS.		X	IBC 1705.12.5
3. ERECTION AND FASTENING OF INTERIOR AND EXTERIOR NON-BEARING WALLS.		X	IBC 1705.12.5

### SPECIAL INSPECTIONS OF MECHANICAL & ELECTRICAL COMPONENTS

(PER IBC 1705.11.4, 1705.11.6 & 1705.12.3)

Verification and Inspection	Frequency		Reference
	Continuous	Periodic	
1. ANCHORAGE OF EMERGENCY OR STANDBY POWER SYSTEMS.		X	IBC 1705.12.6.1
2. ANCHORAGE OF ELECTRICAL EQUIPMENT NOT PART OF EMERGENCY OR STANDBY POWER SYSTEMS.		X	IBC 1705.12.6.2

### SPECIAL INSPECTIONS AND TESTS OF SOILS (PER IBC 1705.6)

Verification and Inspection	Frequency		Reference
	Continuous	Periodic	
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X	
2. VERIFY THAT EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X		
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X	

### SPECIAL INSPECTIONS OF WOOD CONSTRUCTION

(PER IBC 1705.5 AND 1705.12.2)

Verification and Inspection	Frequency		Reference
	Continuous	Periodic	
MOISTURE CONTENT OF WOOD-FRAMED CONSTRUCTION AT TIME OF COVER		X	REFER TO GENERAL NOTES
NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS (SPACED 4" OC OR CLOSER) WITHIN THE SEISMIC FORCE RESISTING SYSTEM, INCLUDING DRAG STRUTS, BRACES, HOLD-DOWNS, SHEAR WALLS, AND DIAPHRAGMS		X	1705.12.2.2 1705.5.1
FIELD GLUING OPERATIONS OF ELEMENTS WITHIN THE SEISMIC FORCE RESISTING SYSTEM	X		1705.12.2.1

### SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

(PER IBC 1705.3)

Verification and Inspection	Frequency		Reference
	Continuous	Periodic	
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	X		IBC 1908.4 ACI 318: 20, 25.2, 25.3, 26.6.1-3
2. INSPECTION OF ANCHORS CAST IN CONCRETE	X		ACI 318: 17.8.2
3. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:			
a. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4a	X		ACI 318: 17.8.2
4. VERIFYING USE OF REQUIRED DESIGN MIX	X		IBC 1904.1, 1904.2, 1908.2, 1908.3, ACI 318: CH. 19, 26.4.3, 26.4.4
5. PRIOR TO CONCRETE PLACEMENT FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X		IBC 1908.10 ACI 318: 26.4, 26.12 ASTM C172, C31 SEATTLE DCI DR 14-2014
6. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X		IBC 1908.6, 1908.7, 1908.8 ACI 318: 26.5
7. VERIFY MAINTENANCE OF SPECIFIED CURRING TEMPERATURE AND TECHNIQUES	X		IBC 1908.9 ACI 318: 26.5.3- 26.5.5
8. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE BEING FORMED	X		ACI 318: 26.11.1,2(b)

## INSPECTIONS (continued)

### SPECIAL INSPECTIONS OF MASONRY CONSTRUCTION, LEVEL B

(PER IBC 1705.4)

Verification and Inspection	Frequency		Reference
	Continuous	Periodic	
VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE FOR SELF-CONSOLIDATING GROUT.	X		TMS 602: T84, 1.5B.1.b.3
VERIFICATION OF Fm AND Facc PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE.		X	TMS 602: T84, 1.4B
1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS		X	TMS 602: 1.5
2. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE: a. PROPORTIONS OF SITE-PREPARED MORTAR b. CONSTRUCTION OF MORTAR JOINTS		X	TMS 602: 2.1, 2.6A TMS 602: 3.3B
3. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE: a. GROUT SPACE c. CONSTRUCTION OF MORTAR JOINTS		X	TMS 602: 3.2D, 3.2F TMS 602: 3.3B
4. VERIFY DURING CONSTRUCTION: a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS b. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION c. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)		X	TMS 602: 3.3F TMS 402: 1.16.4.3, 1.17.1 TMS 602: 1.8C, 1.8D
5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		X	TMS 602: 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c, 1.4B.3, 1.4B.4

### SPECIAL INSPECTIONS OF STRUCTURAL STEEL CONSTRUCTION OTHER THAN SEISMIC LATERAL FORCE RESISTING SYSTEMS (PER IBC 1705.2.1)

Verification and Inspection	Frequency		Reference
	Continuous	Periodic	
INSPECTION OF FABRICATOR'S QUALITY CONTROL PROCEDURES		X	IBC 1704.2.5 AISC 360-N.2
REVIEW OF MATERIAL TEST REPORTS AND CERTIFICATIONS LISTED IN AISC SECTION N3.2		X	AISC 360-N.5.2
INSPECTION OF WELDING STRUCTURAL STEEL	PER AISC 360 TABLES N5.4-1, -2, -3		AISC 360-N.5.4 AISC 360-N.5.5 AWS D1.1
NONDESTRUCTIVE TESTING OF WELDED JOINTS	PER AISC 360 N5.5		AISC 360-N5.5 AWS D1.1
INSPECTION OF HIGH-STRENGTH BOLTING	PER AISC 360 TABLES N5.6-1, -2, -3		AISC 360-N.5.6
INSPECT THE FABRICATED STEEL OR ERECTED STEEL FRAME TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS		X	AISC 360-N.5.7
INSPECTION DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL...	X		AISC 360-N.5.7

### SPECIAL INSPECTIONS OF MASONRY CONSTRUCTION, LEVEL B

(PER IBC 1705.4)

Verification and Inspection	Frequency		Reference
	Continuous	Periodic	
VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE FOR SELF-CONSOLIDATING GROUT.	X		TMS 602: T84, 1.5B.1.b.3
VERIFICATION OF Fm PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE.		X	TMS 602: T84, 1.4B
1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS		X	TMS 602: 1.5
2. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE: a. PROPORTIONS OF SITE-PREPARED MORTAR b. CONSTRUCTION OF MORTAR JOINTS		X	TMS 602: 2.1, 2.6A TMS 602: 3.3B
3. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE: a. GROUT SPACE b. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS. c. PLACEMENT OF REINFORCEMENT, CONNECTORS.		X	TMS 602: 3.2D, 3.2F TMS 402: 1.16 TMS 602: 2.4, 3.4 TMS 402: 1.16 TMS 602: 3.2E, 3.4, 3.6A TMS 602: 3.3B
4. VERIFY DURING CONSTRUCTION: a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS b. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION d. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)		X	TMS 602: 3.3F TMS 402: 1.16.4.3, 1.17.1 TMS 602: 1.8C, 1.8D
5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS		X	TMS 602: 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4

## GEOTECHNICAL

### REPORT & GENERAL CRITERIA

Criteria outlined in the report listed below was used for the design of the foundations:

XXX  
prepared by XXX(DATE)

Contractor shall be familiar with recommendations in the above-mentioned report prior to start of construction. Allowable soil pressure and lateral earth pressure are assumed and therefore must be verified by a Geotechnical Inspector or the building official. If soils are found to be other than assumed, notify the Structural Engineer for possible foundation redesign. For wet weather work, see the Geotechnical Report.

Unless noted otherwise, footings shall be centered below columns or walls.

### INSPECTIONS

All prepared soil-bearing surfaces shall be inspected by the owners Geotechnical Inspector (or building official) prior to placement of reinforcing steel and concrete. Inspections shall be made per IBC Table 1705.6.

### BEARING VALUES

All footings shall bear on undisturbed soil and shall be lowered to firm bearing if suitable soil is not found at elevations shown. Exterior footings shall bear a minimum of 18" below the finished ground surface. Footing elevations shown on plans (or in details) are minimum depths and for guidance only; the actual elevations of footings must be established by the Contractor in the field working with the Geotechnical Inspector.

Allowable vertical bearing soil pressure = XXX psf  
Allowable lateral bearing soil pressure = XXX psf

### SUBGRADE PREPARATION

Prepare subgrade per the Geotechnical Report, summarized as follows: All footings shall be cast on undisturbed firm natural soils that are free of organic materials. Footing excavation shall be free of loose soils, sloughs, debris and free of water at all times. If organic silt and/or fill material is encountered at subgrade elevations, overexcavate a minimum of 2'-0" below the design foundation subgrade elevation prior to placing footings. The overexcavated areas shall be backfilled with structural fill compacted to 95% proctor per ASTM D-1557 or a lean concrete mix.

### EXISTING UTILITIES

The Contractor shall determine the location of all adjacent underground utilities prior to any excavation, shoring, pile driving, or pier drilling. Any utility information shown on the plans and details are approximate and not verified by the SER. Contractor is to provide protection of any utilities or underground structures during construction.

### DRAINAGE

Drainage systems, including foundation, roof and surface drains, shall be installed as directed by the Geotechnical Report. Vapor retarder placed below slab-on-grade shall conform to ASTM E 1643 and ASTM E 745.

### RETAINING WALLS

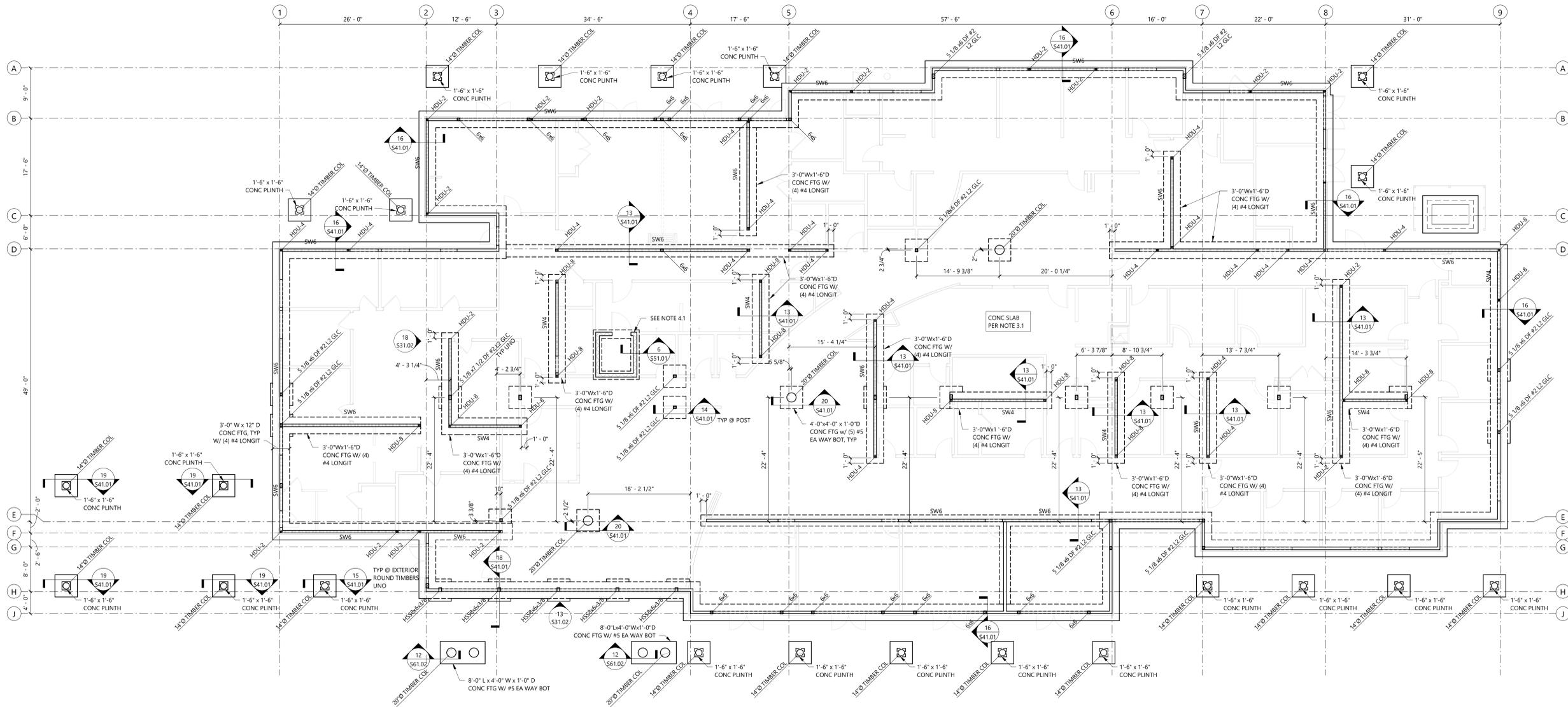
Grade on either side of concrete walls shall not vary by more than 12". UNO. Slope of backfill shall not exceed 2H to 1V, UNO. Backfill behind all retaining walls with free draining, granular fill installed per the Geotechnical Report. Provide for subsurface drainage. Design pressures used for the design of retaining walls are based on drained conditions.

Active earth pressure (restrained/unrestrained) = XXX/XXX PCF  
Passive earth pressure = XXX PCF  
Coefficient of friction (factor of safety of 1.5 included) = XXX

Provide temporary shoring for tops of walls if backfill is placed prior to the supporting structure being constructed. Supporting structure is the floor framing and sheathing completely installed and attached to perpendicular walls.



**JAMESTOWN S'KALLAM TRIBE  
 OUTPATIENT CLINIC**  
 526 S 9TH AVE  
 SEQUIIM, WA 98382



**1 FOUNDATION PLAN**  
 Scale: 1/8" = 1'-0"  
 North

**FOUNDATION PLAN NOTES**

- |   |  |   |   |
|---|--|---|---|
| <p><b>1. GENERAL</b></p> <ol style="list-style-type: none"> <li>ELEVATION AT TOP OF SLAB SHALL BE "X'-X\". UNO ELEVATION AT TOP OF FOOTING SHALL BE "X'-X\" BELOW TOP OF SLAB, UNO. [-X'-X\"] INDICATES ELEVATION AT TOP OF FOOTING, MEASURED IN FEET. FOOTING ELEVATIONS SHOWN ARE FOR CONTRACTOR CONVENIENCE AND BIDDING ONLY. FINAL ELEVATIONS SHALL BE DETERMINED BY ON-SITE VERIFICATION BY SOILS ENGINEER, BUT SHALL NOT BE SHALLOWER THAN THOSE SHOWN ON THIS PLAN. REFER TO STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION.</li> <li>REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN.</li> <li>REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF ALL MECHANICAL EQUIPMENT.</li> <li>REFER TO STRUCTURAL GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.</li> </ol> | <p><b>2. FOUNDATIONS</b></p> <ol style="list-style-type: none"> <li>EXCAVATE, BACKFILL, AND PREPARE SOILS AS REQUIRED PER STRUCTURAL GENERAL NOTES AND GEOTECHNICAL REPORT.</li> <li>REFER TO MECHANICAL AND CIVIL DRAWINGS FOR LOCATIONS OF ALL UNDERSLAB PIPING. FOOTINGS MAY BE LOWERED TO AVOID CONFLICTS WITH PIPING.</li> <li>STEP FOOTINGS AS REQUIRED PER TYPICAL STEPPED FOOTING DETAIL.</li> </ol> | <p><b>3. SLABS</b></p> <ol style="list-style-type: none"> <li>TYPICAL SLAB ON GRADE SHALL BE 4\" THICK WITH #3 @ 12\" OC EACH WAY AT CENTER OF SLAB. PLACE REINFORCEMENT AT ONE-THIRD DEPTH OF SLAB.</li> <li>PROVIDE VAPOR BARRIER AND BASE COURSE BELOW SLAB AT INTERIOR SPACES PER GEOTECH REPORT.</li> <li>PROVIDE CONTROL OR CONSTRUCTION JOINTS ON ALL COLUMN LINES, AT ALL RE-ENTRANT CORNERS, AND AT A MAXIMUM SPACING OF 30x SLAB THICKNESS. PLACE JOINTS IN A MANNER THAT DIVIDES THE SLAB INTO RECTANGULAR AREAS 400 SQUARE FEET OR LESS. AREAS SHALL BE APPROXIMATELY SQUARE AND HAVE NO ACUTE ANGLES. ALL JOINT LOCATIONS MUST BE APPROVED BY THE ARCHITECT PRIOR TO CONSTRUCTION. REFER TO TYPICAL SLAB JOINT DETAIL.</li> <li>TYPICAL THICKENED SLAB EDGES SHALL BE 8\" WIDE AND 8\" DEEP WITH (1) #4 CONTINUOUS AND #4 x 3'-0\" HOOKED BARS @ 24\" OC.</li> </ol> | <p><b>4. WALLS AND COLUMNS ABOVE</b></p> <ol style="list-style-type: none"> <li>INDICATES 8\" FULLY GROUTED CMU WALL.</li> <li>INDICATES SHEAR WALL.</li> </ol> |
|---|--|---|---|

PROJECT #	19-161-01
<b>PERMIT SET</b>	
ISSUE DATE	JANUARY 10, 2020
REVISION SCHEDULE	

**FOUNDATION PLAN**















