STRUCTURAL GENERAL NOTES – APPLICABLE TO ALL CONSTRUCTION UNLESS OTHERWISE NOTED ON THE PLANS

A. DESIGN SCOPE BY PRECISION STRUCTURAL ENGINEERING (PSE)

1. Design Shown on drawings by PSE is for the following items.
   a. Concrete culvert and foundation for new flood control gates.
2. Design Shown on PSE drawings does not include: finishes, architectural items, windows, doors, moisture barriers, water proofing, mechanical units, plumbing, or electrical items.

B. GENERAL REQUIREMENT:

1. Furnish all labor, materials, and equipment necessary to complete the work shown or inferred by these drawings.
2. Where construction details are not shown or noted for any part of the work, such details shall be the same as for similar work shown on the drawings.
3. Notes and details on the drawings take precedence over the general notes and typical details in case of conflict.
4. Provide manufacturer's approved product evaluation reports (ICC reports) and a list of all proposed substitutions to the Engineer for review and written approval before fabrication.
5. Pipes, ducts, sleeves, chases, etc. shall not be placed in slabs, beams, or walls unless specifically shown or noted nor shall any structural member be cut for pipe, ducts, etc., unless specifically shown. Obtain prior written approval for installation of any additional holes, ducts, etc.
6. Locate and protect underground or concealed conduit, plumbing or other utilities where new work is being performed.
7. The contract drawings and specifications represent the finished structure and do not indicate methods, procedures or sequence of construction. The contractor shall take necessary precautions to maintain and insure the integrity of the new and any existing structures during construction. The design stresses shall not be exceeded during construction based on the age of each element . Neither the owner nor Architect/Engineer will enforce safety measure regulations. Contractor shall design, construct and maintain all safety devices, including shoring and bracing for the new and any existing structures and shall be solely responsible for conforming to all local, state and federal safety and health standards, laws and regulations. Observation visits to the site by the engineer shall not include inspection of the above items.
8. Obtain prior written approval for any changes to the drawings.
9. The contractor shall review and compare the structural drawings with all other Construction Documents, such as Architectural, Mechanical and Electrical drawings, specifications, etc. Do not scale drawings. The contractor shall verify dimensions, elevations and all information. Report, in writing, any inconsistencies, errors, or omissions to the Architect/Engineer of record before proceeding with the work.
10. All existing constructions shown are schematic only. Contractor is responsible to verify actual conditions and allow for them in his bid. Notify the Architect/Engineer, in writing, in case of any discrepancy between actual conditions and what is shown on the structural drawings before proceeding with the work.
11. See Architectural, Mechanical, Electrical and other drawings for embedded items.
12. Shop drawings:
    a. Shop drawings shall be submitted in the form of two copies or electronic pdf format.
    b. Prior to submittals, the general contractor shall review all submittals for conformance with the Construction Documents and shall stamp submittals as being "Reviewed for Conformance".
    c. Any detail on the shop drawing that deviates from the Construction Documents shall be marked with the note "This is a change"
    d. Shop drawing submittals processed by the Structural Engineer are not Change Orders.
    e. Shop drawings shall be submitted to the Architect/Engineer prior to fabrication and construction regarding all structural items including:
       - Concrete and masonry reinforcement, drawings shall conform to ACI 315 and ACI 318.
    f. Shop drawings or calculations submitted for review that require re–submittal for re–review, as determined by the Structural Engineer, shall be billed hourly to the general contractor. Re–review will not proceed without written approval from the general contractor for additional engineering services.
13. Submit structural drawings signed and sealed by a professional Engineer licensed in the State where the project is located for any structural member needed for this project that is not designed by P.S.E.
14. Any substitutions for structural members, hardware or details shall be reviewed by the Architect and Structural Engineer. Such review will be billed on a time and materials basis to the General Contractor with no guarantee that the substitution will be allowed.
15. All communication shall be in writing. No verbal communications, decisions, instructions or approvals shall be valid.

C. CODE AND LOADS:

1. All design, material, and construction work for this project shall conform to the 201 Oregon Structural Specialty Code (OSSC) based on the 2012 International Building Code (IBC).
2. Design parameters.
   a. Floor Live Load = 250 psf.
   b. Floor Dead Load = 15 psf.
   c. Roof Live Load = n/a.
   d. Roof dead load 15 psf.
   e. Ground Snow Load, Pg = n/a.
   f. Flat Roof snow load = n/a.
   g. Snow Exposure Factor, Ce = n/a.
   h. Snow Load Importance Factor, I = n/a.
   i. Thermal Factor, Ct = n/a.
   j. Basic Wind Speed (3 second gust) = n/a.
   k. Risk Category = II
   l. Wind Exposure = n/a.
   m. Internal Pressure Coefficient = n/a.
   n. Components and Cladding studs = n/a.
   o. Seismic Importance Factor, Ie = 1.0
   p. Ss = 1.410
   q. S1 = 0.693
   r. Site Class = E
   s. Sms = 1.269
   t. Sm1 = 1.664
   u. Sds = 0.846
   v. Sd1 = 1.109
   w. Seismic Design Category = D
   x. Basic Seismic Force Resisting System = Special reinforced concrete shear walls
   y. Design Base Shear = 0.169 * W
   z. Approximate Fundamental Period, T = 0.20
   aa. Response Modification Factor, R = 5
   bb. Analysis Procedure Used = Equivalent Lateral Force Procedure

D. TESTING:

The owner/contractor shall retain an independent testing laboratory to test the quality of:
   a. Soil or fill material supporting footings and slab–on–grade.
   b. Concrete.
   c. All other material used in this project as required by the Engineer.
   d. A copy of test results shall be sent to the Engineer of Record.

E. INSPECTION:

The owner shall employ one or more qualified Inspectors to provide inspections during construction in according with section 1701 of the above code. The Inspector shall be certified by the building official to perform the type of inspection specified. Inspection shall be provided for:
   a. Foundation excavation.
   b. Reinforcement placement, prior to closing the forms and delivery of concrete.
   c. Concrete placement.
   d. Epoxy filled anchor bolts and/or rebar.
   e. Field welding.
   f. During preparation and taking of test specimens.
   g. See other sections of these notes for more required inspections.

Note: All discrepancies shall be brought to the immediate attention of the contractor for correction; then if not corrected, to the building official and to the Engineer in writing. The inspector shall furnish an inspection report to the building official and to the Engineer/Architect of Record.

F. CONCRETE:

1. Concrete shall develop 28–days minimum compressive strengths of 4,000 PSI.
2. Basement wall, foundation wall, basement slab, slab on grade, all concrete work exposed to weather, and all exterior concrete shall contain the proper admixtures to obtain 5% to 7% Air Entrainment. All interior concrete work shall contain 2% to 4% Air Entrainment.
3. Reinforcing Steel:
   a. All reinforcing steel shall be ASTM A615 Grade 60.
   b. Vertical bars shall be doweled to supporting members with the same size and spacing of reinforcement shown in the drawing or general notes.
   c. Splices shall be 55 bar diameters or 36 inches whichever is greater UON.
6. When air temperature is above 80 degrees Fahrenheit, Hot Weather Concreting, ACI 305R shall apply. When the average air temperature is below 40 degree Fahrenheit, Cold Weather Concreting, ACI 306R shall apply.
7. All concrete shall be consolidated with mechanical vibrators.
8. All concrete work shall be cured and maintained above 50 degrees Fahrenheit for at least seven days according to the Standard Practice for Curing Concrete, ACI 308, ACI 318 and as approved by the Engineer.
9. Reference the specifications for additional requirements.

G. CONTROL AND EXPANSION JOINTS:

1. All joints in walls and slab–on–grade shall be located as shown on drawing or as approved by the Architect/Engineer. Sealant shall be installed in accordance with specifications and approved by the Architect/Engineer.

H. FOUNDATION

1. A foundation investigation and report was prepared by PBS Engineering & Environmental, Inc., 486 E Street, Suite B, Coos Bay, OR 97420. The contractor shall read and follow the recommendations in this report. Contractor shall keep a copy of this report on site at all times during construction.
2. If the stated bearing capacity of 1500 psf, as determined by the geotechnical engineer, is not encountered, the contractor shall notify the Engineer, in writing.
3. Footing/slab shall bear on a new granular stabilization pad capable of supporting the above or the required bearing capacity as described in the Geotechnical report.
4. Soft soil shall be removed and replaced with lean concrete or competent material approved by the Geotechnical Engineer.
5. All excavation, soil removal, proof rolling and/or compaction shall be observed and tested by a Geotechnical Engineer. Observation and compaction reports shall be sent to the Engineer and building official.
6. Excavation shall be properly backfilled. Back fill for walls shall be pervious material acceptable to the Geotechnical Engineer. Do not place back fill behind walls before they have attained their design strength.
7. Reference the specifications for additional requirements.

I. ABBREVIATIONS:

AB	ANCHOR BOLT	EQ	EQUAL	LL	LIVE LOAD	RFT	RAFTERS
ADDL	ADDITIONAL	ES	EACH SIDE	MATL	MATERIAL	SGN	STRUCTURAL GENERAL NOTES
ALT	ALTERNATE	EW	EACH WAY	MAX	MAXIMUM	SEP	SEPARATION
APA	AMERICAN PLYWOOD ASSOCIATION	FA	FRAMING ANCHOR	MB	MACHINE BOLT	SIM	SIMILAR
ARCH	ARCHITECTURAL	FD	FROST DEPTH	MFR	MANUFACTURER	SN	SHEAR NAIL
B	BOTTOM	FEN	FLOOR EDGE NAILING	MIN.	MINIMUM	SNL	SNOW LOAD
BLKG	BLOCKING	FF	FINISHED FLOOR	MTL	METAL	SPEC	SPECIFICATION
BN	BOUNDARY NAIL	FN	FIELD/INTERMEDIATE NAILING	NO.	NUMBER	STD	STANDARD
BOF	BOTTOM OF FOOTING	FS	FAR SIDE	NS	NEAR SIDE	STGR	STAGGER
CBC	CALIFORNIA BUILDING CODE	FTG	FOOTING	NTS	NOT TO SCALE	STIFF	STIFFENERS
CJ	CONSTRUCTION JOINT OR CONTROL JOINT	GALV	GALVANIZED	OC	ON CENTER	T	TOP
CL	CENTER LINE	GC	GENERAL CONTRACTOR	OD	OUTSIDE DIAMETER	TB	TOP & BOTTOM
CLR	CLEAR	GIR	GEOTECHNICAL INVESTIGATION REPORT	OFDSC	OREGON ONE & TWO FAMILY DWELLING SPECIALTY CODE	TD	TYPICAL DETAILS
CONN	CONNECTION	GLB	GLUED LAMINATED BEAM	OH	OPPOSITE HAND	TG	TONGUE & GROOVE
CONT	CONTINUOUS	GR	GRADE	OSB	ORIENTED STRAND BOARD	THK	THICKNESS/THICK
DBL	DOUBLE	HDR	HEADER	OSSC	OREGON STRUCTURAL SPECIALTY CODE	TN	TOENAIL
DIM	DIMENSION	HGR	HANGER	OSV	ON SITE VERIFY	TOB	TOP OF BEAM
DL	DEAD LOAD	HORIZ	HORIZONTAL	OTOB	OUT TO OUT OF BEARING	TOF	TOP OF FOOTING
DO	DITTO (REPEAT)	HSH	HORIZONTALLY SLOTTED HOLES	PERP	PERPENDICULAR	TOW	TOP OF WALL
DWG	DRAWING	ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	PL	PLATE	TYP	TYPICAL
DWL	DOWEL	ID	INSIDE DIAMETER	PLF	POUND PER LINEAR FOOT	UBC	UNIFORM BUILDING CODE
E	EXISTING	INT	INTERIOR	PSE	PRECISION STRUCTURAL ENGINEERING	UON	UNLESS OTHERWISE NOTED
EA	EACH	JT	JOINT	PT	PRESSURE TREATED	VERT	VERTICAL
EF	EACH FACE	LDGR	LEDGER	PW	PLATE WASHER	VSH	VERTICAL SLOTTED HOLES
EL	ELEVATION	LGST	LIGHT GUAGE STEEL, COLD–FORMED STEEL	REF	REFERENCE	WD	WOOD
EMBED	EMBEDMENT			REN	ROOF EDGE NAILING	WEN	WALL EDGE NAILING
EN	EDGE NAIL			REINF	REINFORCEMENT	WWF	WELDED WIRE FABRIC
EOR	ENGINEER OF RECORD					W/	WITH
						W/O	WITHOUT

SCHEDULE OF SPECIAL INSPECTION SERVICES

PROJECT		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	SERVICE	Y/N	EXTENT	AGENT*	DATE COMPLETED
1705.3 Concrete Construction					
1. Inspection of reinforcing steel installation (see 1705.2.2 for welding)	Shop (3) and field inspection	Y	Periodic		
2. Inspection of prestressing steel installation	Shop (3) and field inspection	N	Periodic		
3. Inspection of anchors cast in concrete where allowable loads have been increased per section 1908.5 or where strength design is used	Shop (3) and field inspection	N	Periodic		
4. Inspection of anchors and reinforcing steel post-installed in hardened concrete: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedement and tightening torque	Field inspection	Y	Periodic or as required by the research report issued by an approved source		
5. Verify use of approved design mix	Shop (3) and field inspection	Y	Periodic		
6. Fresh concrete sampling, perform slump and air content tests and determine temperature of concrete	Shop (3) and field inspection	Y	Continuous		
7. Inspection of concrete and shotcrete placement for proper application techniques	Shop (3) and field inspection	Y	Continuous		
8. Inspection for maintenance of specified curing temperature and techniques	Shop (3) and field inspection	N	Periodic		
9. Inspection of prestressed concrete:	Shop (3) and field inspection				
a. Application of prestressing force		N	Continuous		
b. Grouting of bonded prestressing tendons in the seismic-force-resisting system		N	Continuous		
10. Erection of precast concrete members					
a. Inspect in accordance with construction documents	Field inspection	N	In accordance with construction documents		
b. Perform inspections of welding and bolting in accordance with Section 1705.2	Field inspection	N	In accordance with Section 1705.2		
11. Verification of in-situ concrete strength, prior to stressing of tendons in post tensioned concrete and prior to removal of shores and forms from beams and structural slabs	Review field testing and laboratory reports	N	Periodic		
12. Inspection of formwork for shape, lines, location and dimensions	Field inspection	Y	Periodic		
13. Concrete strength testing and verification of compliance with construction documents	Field testing and review of laboratory reports	Y	Periodic		
1705.6 Soils					
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Field inspection	Y	Periodic		
2. Verify excavations are extended to proper depth and have reached proper material.	Field inspection	Y	Periodic		
3. Perform classification and testing of controlled fill materials.	Field inspection	Y	Periodic		
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of controlled fill	Field inspection	Y	Continuous		
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Field inspection	Y	Periodic		
1705.7 Driven Deep Foundations					
1. Verify element materials, sizes and lengths comply with requirements	Field inspection	Y	Continuous		
2. Determine capacities of test elements and conduct additional load tests, as required	Field inspection	N	Continuous		
3. Observe driving operations and maintain complete and accurate records for each element	Field inspection	Y	Continuous		
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element	Field inspection	Y	Continuous		
5. For steel elements, perform additional inspections per Section 1705.2	See Section 1705.2	N	See Section 1705.2		
6. For concrete elements and concrete-filled elements, perform additional inspections per Section 1705.3	See Section 1705.3	N	See Section 1705.3		
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	Field inspection	N	In accordance with construction documents		
8. Perform additional inspections and tests in accordance with the construction documents	Field Inspection and testing	N	In accordance with construction documents		

* INSPECTION AGENTS		
FIRM	ADDRESS	TELEPHONE NO.
1.		
2.		
3.		
4.		

Notes: 1. The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Special Inspector(s) and/or testing agencies may be subject to the approval of the Building Official and/or the Design Professional.
2. The list of Special Inspectors may be submitted as a separate document, if noted as above.
3. Special Inspections as required by Section 1704.2.5 are not required where the fabricator is approved in accordance with IBC Section 1704.2.5.2
4. Observe on a random basis, operations need not be delayed pending these inspections. Perform these tasks for each welded joint, bolted connection, or steel element.
5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 360, N7.

Are Requirements for Seismic Resistance included in the *Statement of Special Inspections*? **No**
Are Requirements for Wind Resistance included in the *Statement of Special Inspections*? **No**

DATE:

STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER

PROJECT ADDRESS: Coquille, OR PERMIT APPL. NO.: _____

Description of Work: China Camp Creek Tide Gate Project

Owner: Beaver Slough Drainage District Architect: _____ Engineer: Nabil Taha, P.E.

STRUCTURAL OBSERVATION
(only checked items are required)

Firm or Individual to be responsible for the Structural Observation:

Name: _____ Phone: ( ) _____ Registration: _____

FOUNDATION	WALL	FRAME	DIAPHRAGM
☑ Footing, Stem Walls, Piers	☑ Concrete	☐ Steel Moment Frame	☑ Concrete
☑ Mat Foundation	☐ Masonry	☐ Steel Braced Frame	☐ Steel Deck
☑ Caisson, Piles, Grade Beams	☐ Wood	☐ Concrete Moment Frame	☐ Wood
☑ Stepp g/Retain g Foundation, Hillside Special Anchors	☐ Others:	☐ Masonry Wall Frame	☐ Others:
☐ Others:		☐ Others:	

DECLARATION BY OWNER

I, the Owner of the project, declare that the above listed firm or individual is hired **by me** to be the Structural Observer.

_____
Signature Date

DECLARATION BY ARCHITECT OR ENGINEER OF RECORD (required if the Structural Observer is different from the Architect or Engineer of Record)

I, the Architect or Engineer of record for the project, declare that the above listed firm or individual is designated by me to be responsible for the Structural Observation.

_____
Signature License No. Date

SHEET INDEX:			
S1	GENERAL STRUCTURAL NOTES	S2.4	CROSS SECTIONS
S2	CROSS SECTIONS	S3	NORTH CANAL PLAN
S2.1	CROSS SECTIONS	S4	MIDDLE CANAL PLAN
S2.2	CROSS SECTIONS	S5	EAST CANAL PLAN
S2.3	FRONT FACE ELEVATIONS		

Structural details for this project are for illustration only. They are not drawn to scale unless noted otherwise. Contractor must verify all dimensions before fabrication or construction. Do not scale drawings.

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Light Gauge Steel, Straw Bales, Bamboo, Log, Timber/Wood, Structural Insulated Panels/SIPs, Masonry, Steel, Concrete, Modular Homes/Factory Built Housing (FBH), Coffee Shop, ICF etc. Commercial or Residential.

Project:
China Creek Tide Gate Restoration Project
Coquille, OR

Owner:
Beaver Slough Drainage District

Stamp:
STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
19119
OREGON
APRIL 15, 1997
NABIL M. TAHA
EXPIRES 6/30/16
NOT FOR CONSTRUCTION

REVISIONS:

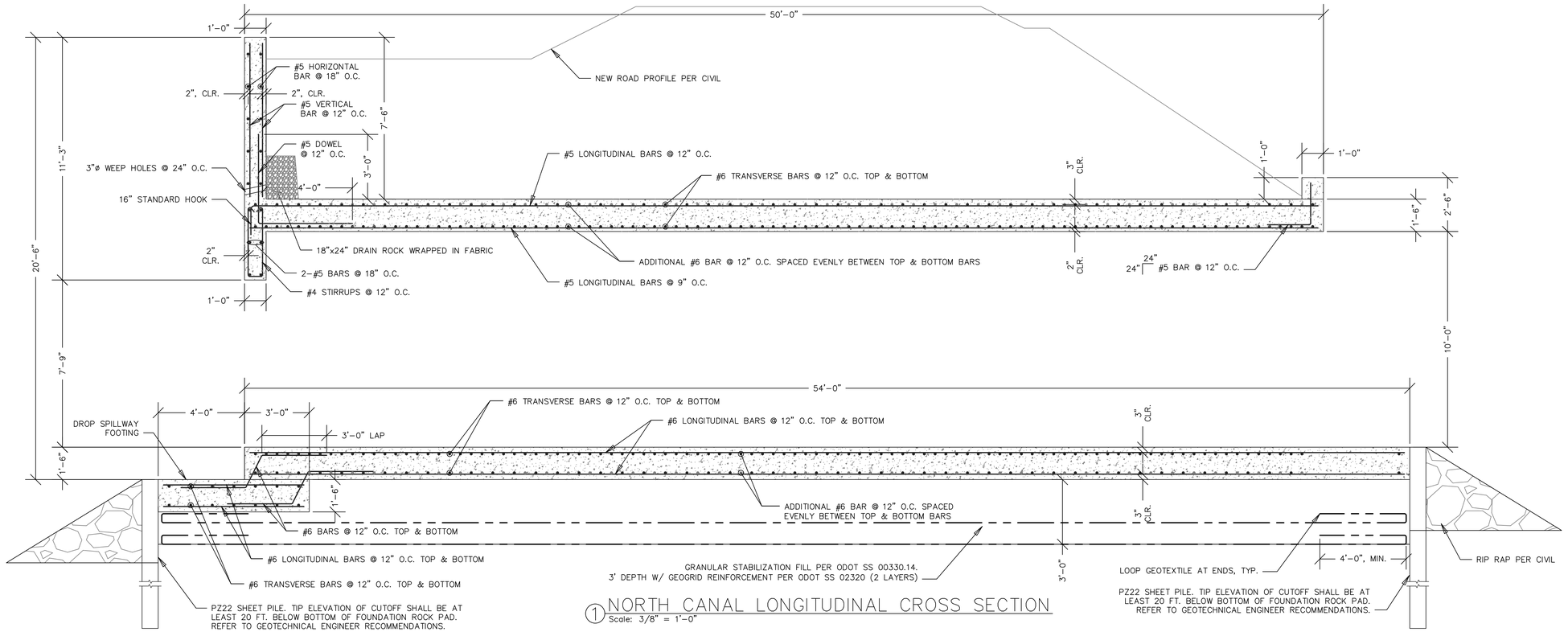
MARK	DATE:	BY:

DRAWN BY: R.H.
DS. BY: R.H.
CHK BY: N.T.
DATE: 05–09–16

PROJECT #:
Nehalem 215-2

TITLE:
GENERAL STRUCTURAL NOTES

PAGE NO:
S1



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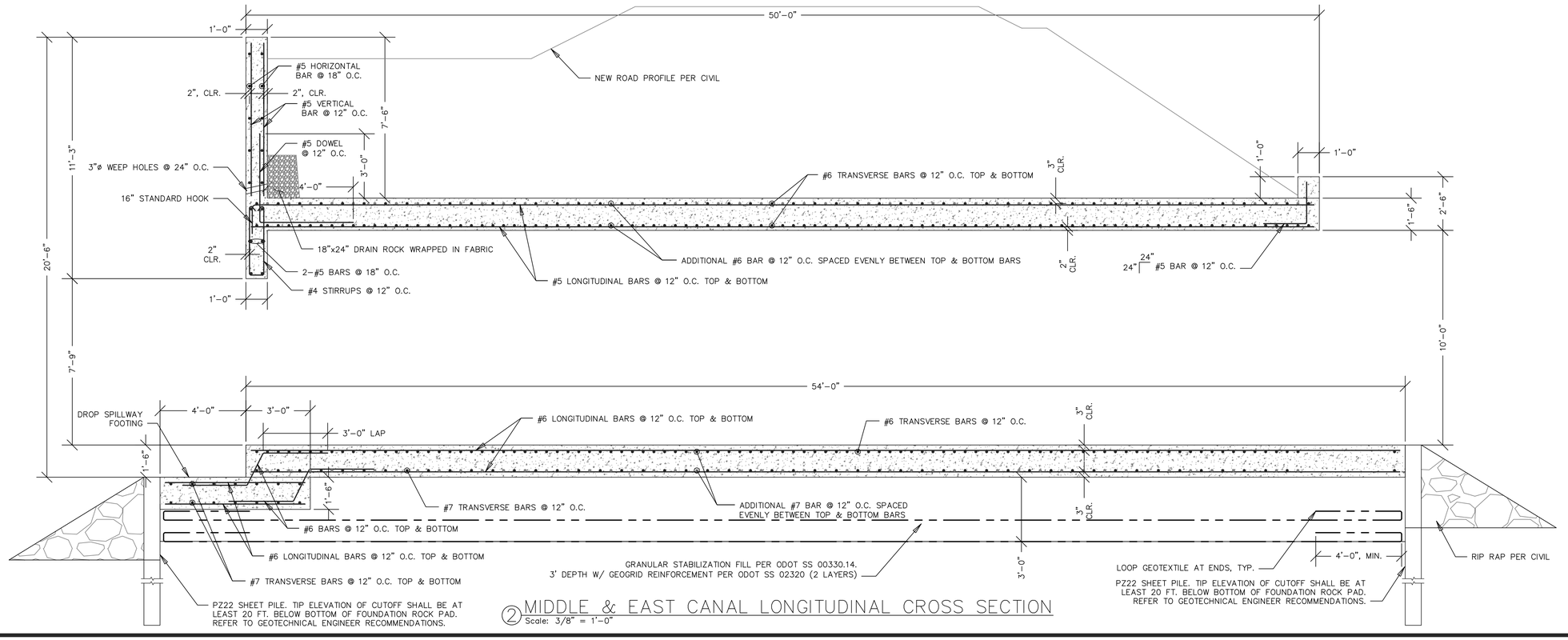

2 MIDDLE & EAST CANAL LONGITUDINAL CROSS SECTION
Scale: 3/8" = 1'-0"

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TIDE GATE DETAILS

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S2

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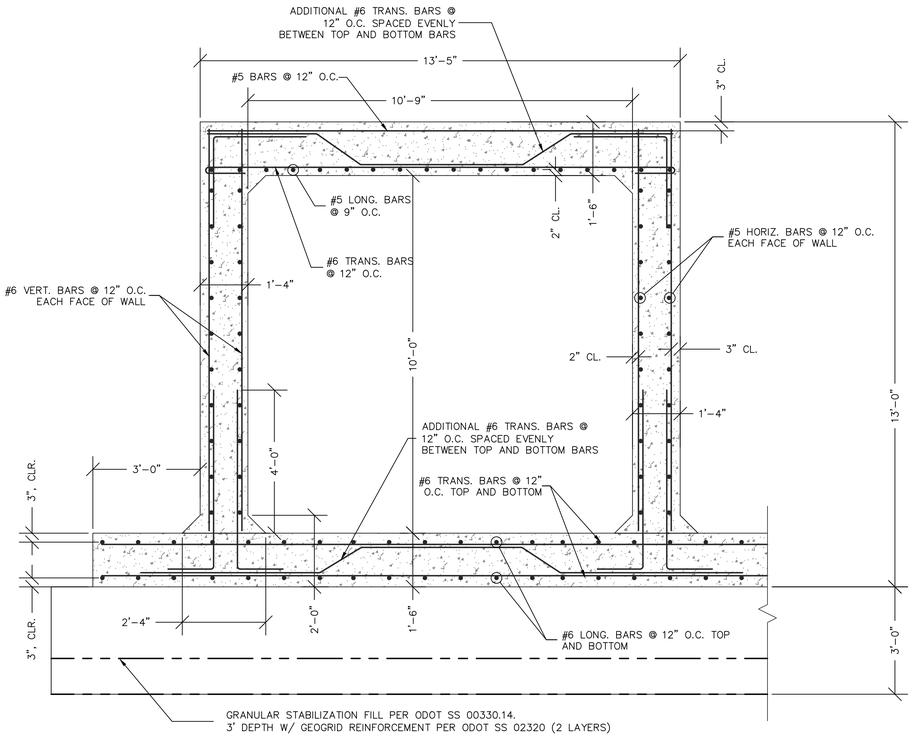

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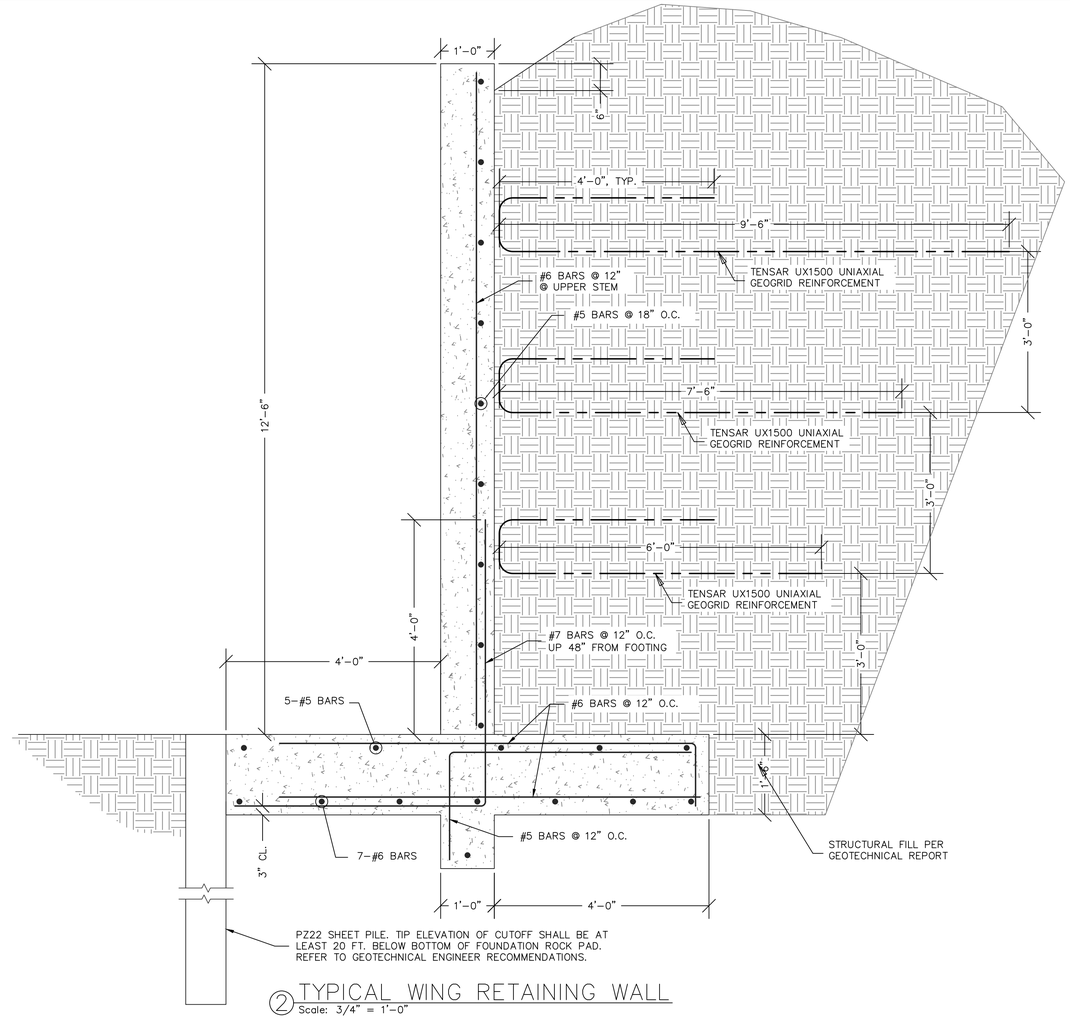

2 TYPICAL WING RETAINING WALL
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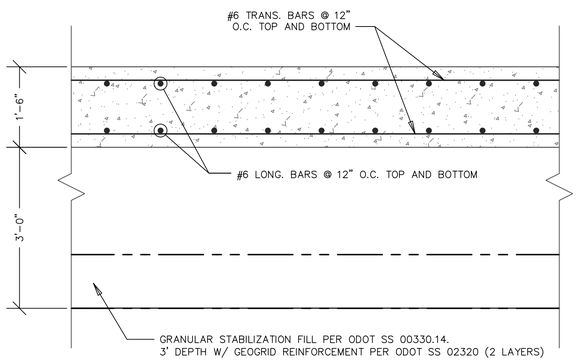

3 COMMON SLAB BETWEEN STRUCTURES
Scale: 3/4" = 1'-0"

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Beaver Slough Drainage District

Stamp:
STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 19113 OREGON JULY 15, 1997 NEIL M. TAHA
NOT FOR CONSTRUCTION
EXPIRES 6/30/16

REVISIONS:

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TIDE GATE DETAILS

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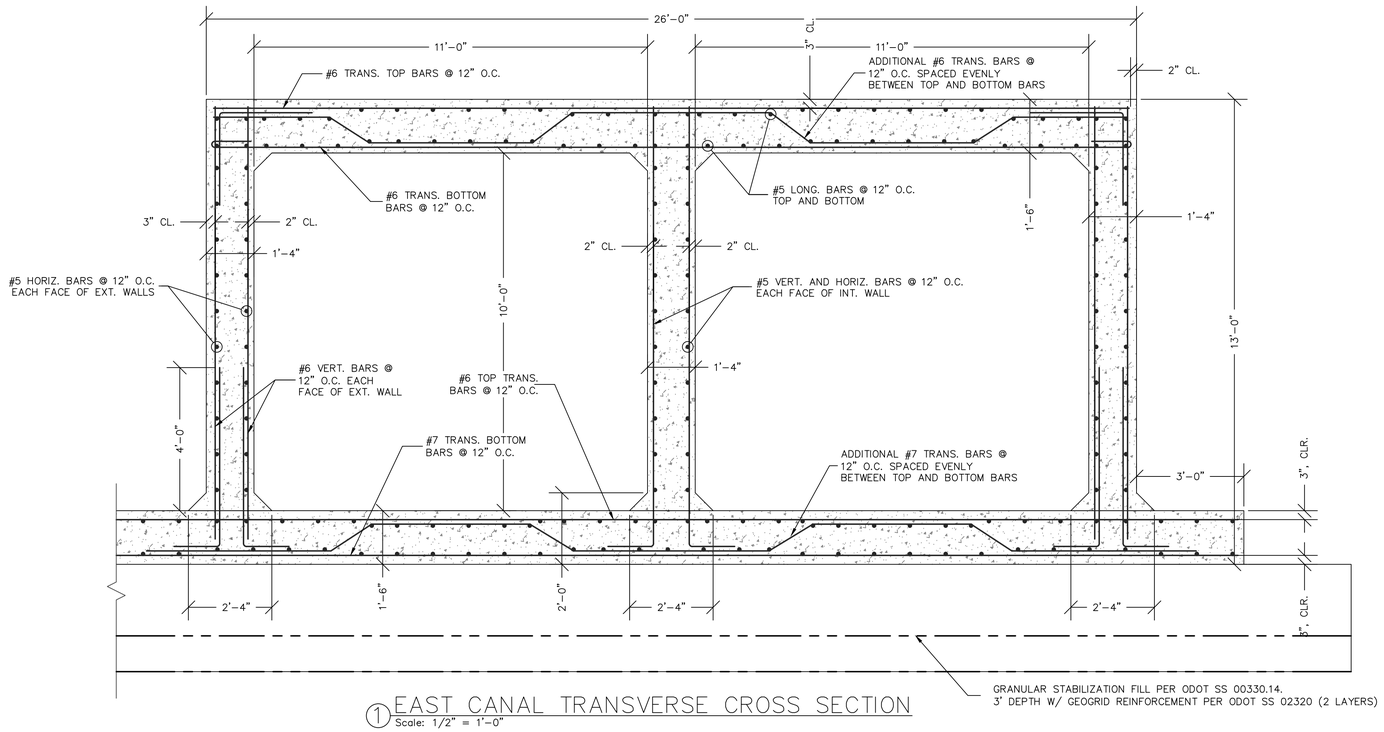
S2.1



① EAST CANAL TRANSVERSE CROSS SECTION
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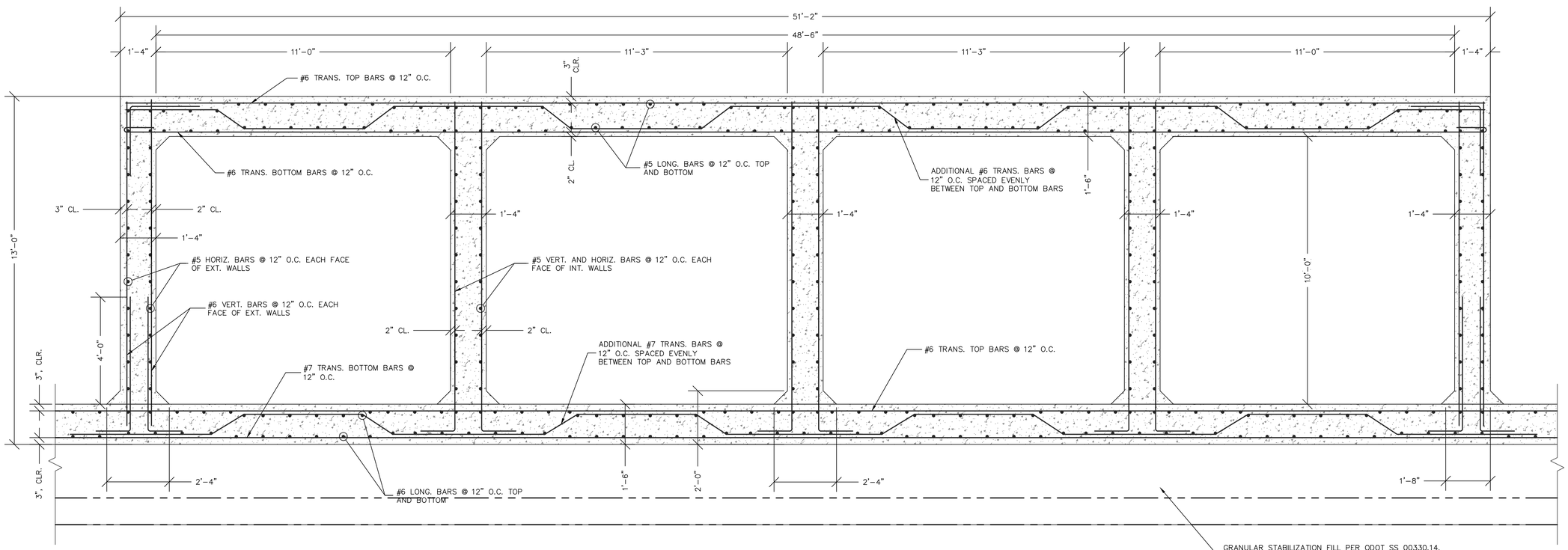

② MIDDLE CANAL TRANSVERSE CROSS SECTION
Scale: 1/2" = 1'-0"

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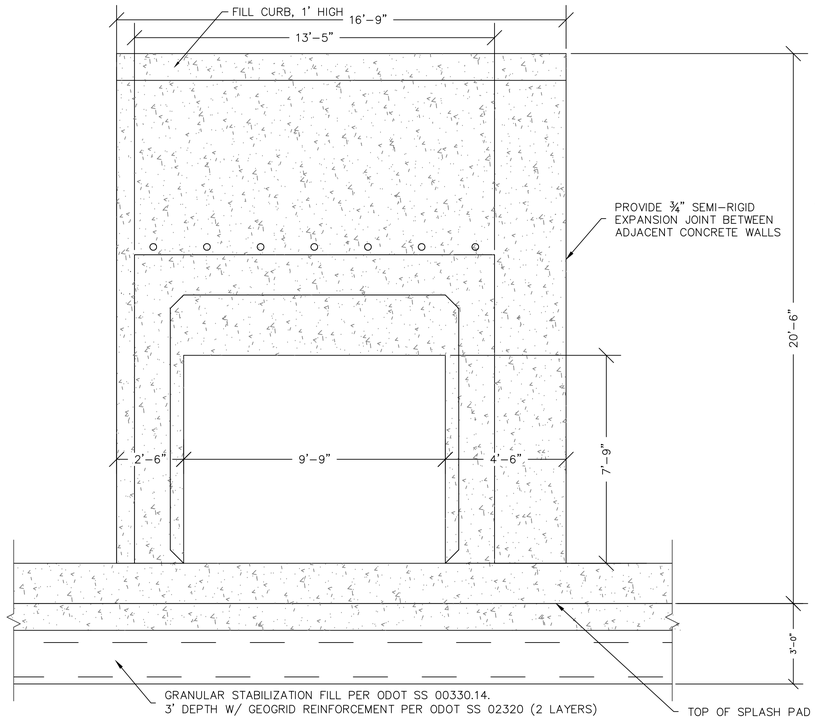
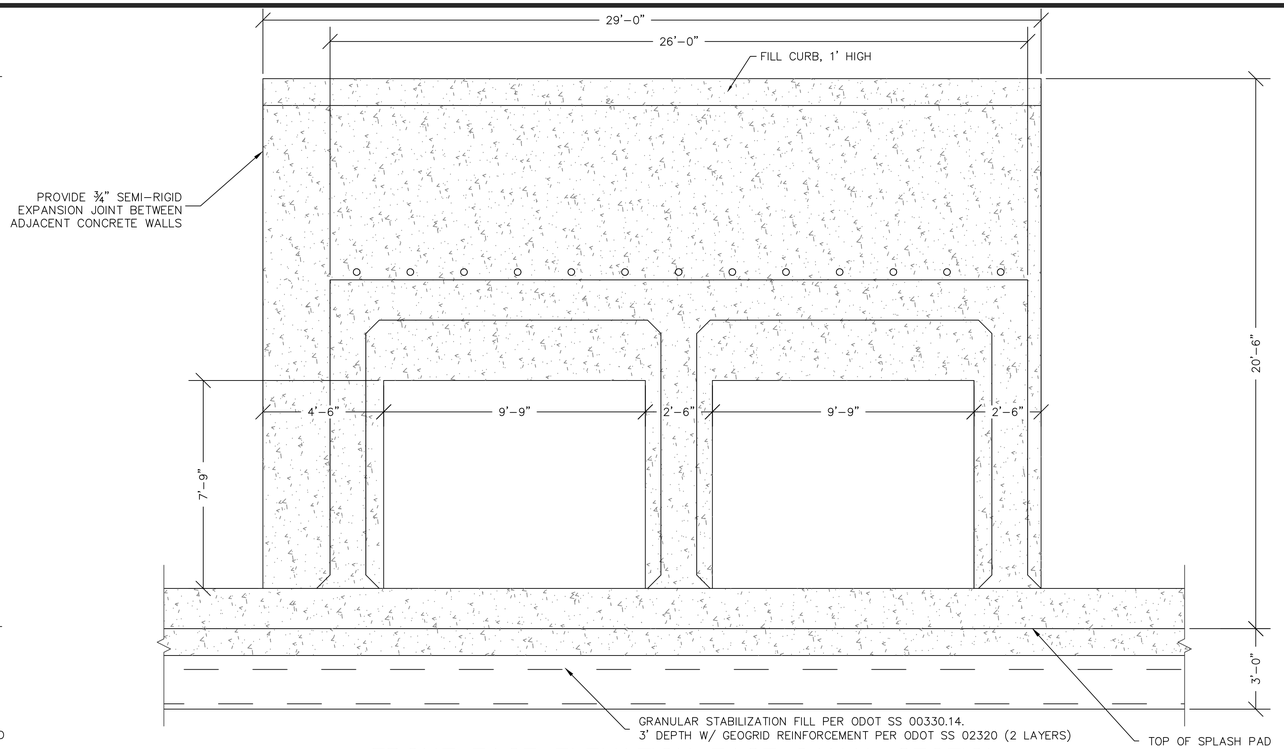
PAGE NO:
S2.2



① FRONT FACE ELEVATION NORTH CANAL SECTION
Scale: 3/8" = 1'-0"



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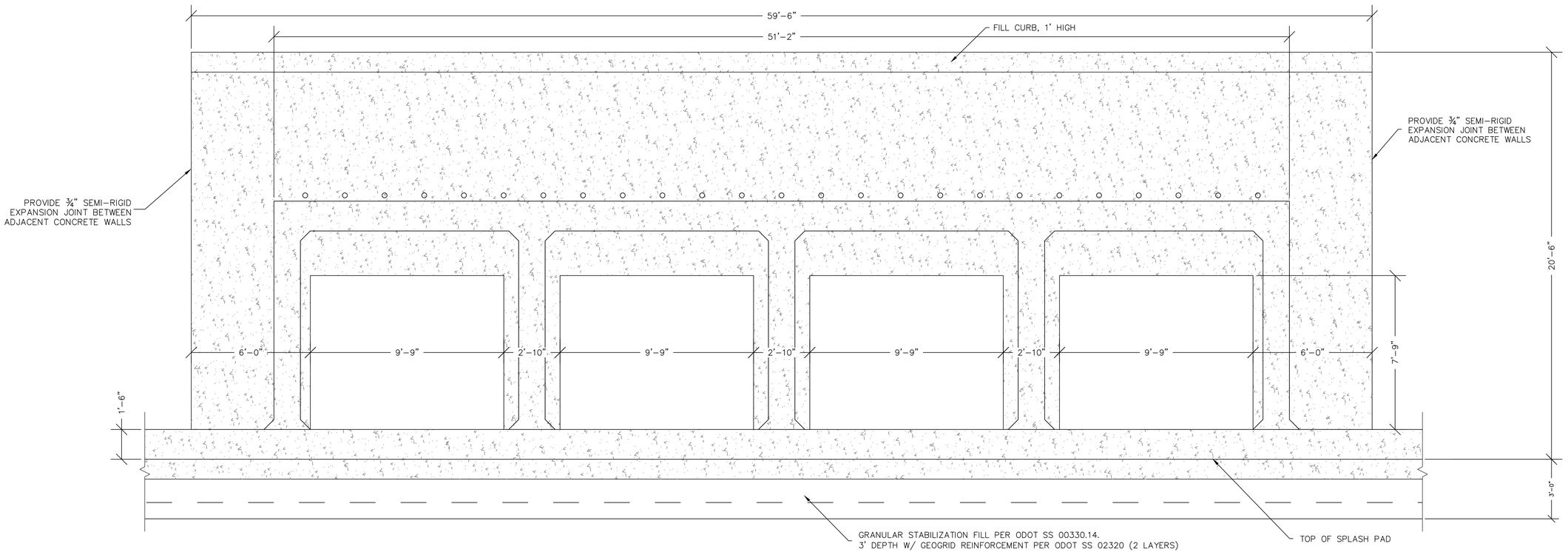
Scale: 3/8" = 1'-0"



③ FRONT FACE ELEVATION MIDDLE CANAL SECTION
Scale: 3/8" = 1'-0"

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Project:
China Creek Tide Gate Restoration Project
Coquille, OR

Owner:
Beaver Slough Drainage District

Stamp:
REGISTERED PROFESSIONAL ENGINEER
OREGON
JUNE 15, 2007
NEIL M. TAHA
EXPIRES 6/30/16
NOT FOR CONSTRUCTION

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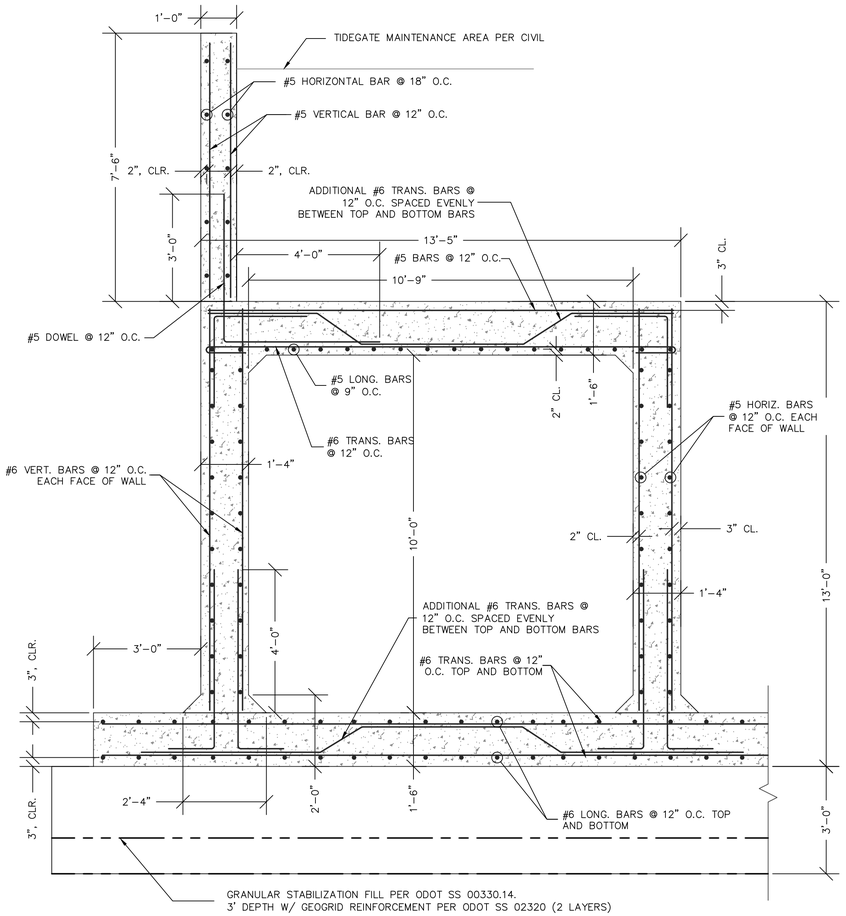
CHK BY: N.T.
DATE: 05-09-16

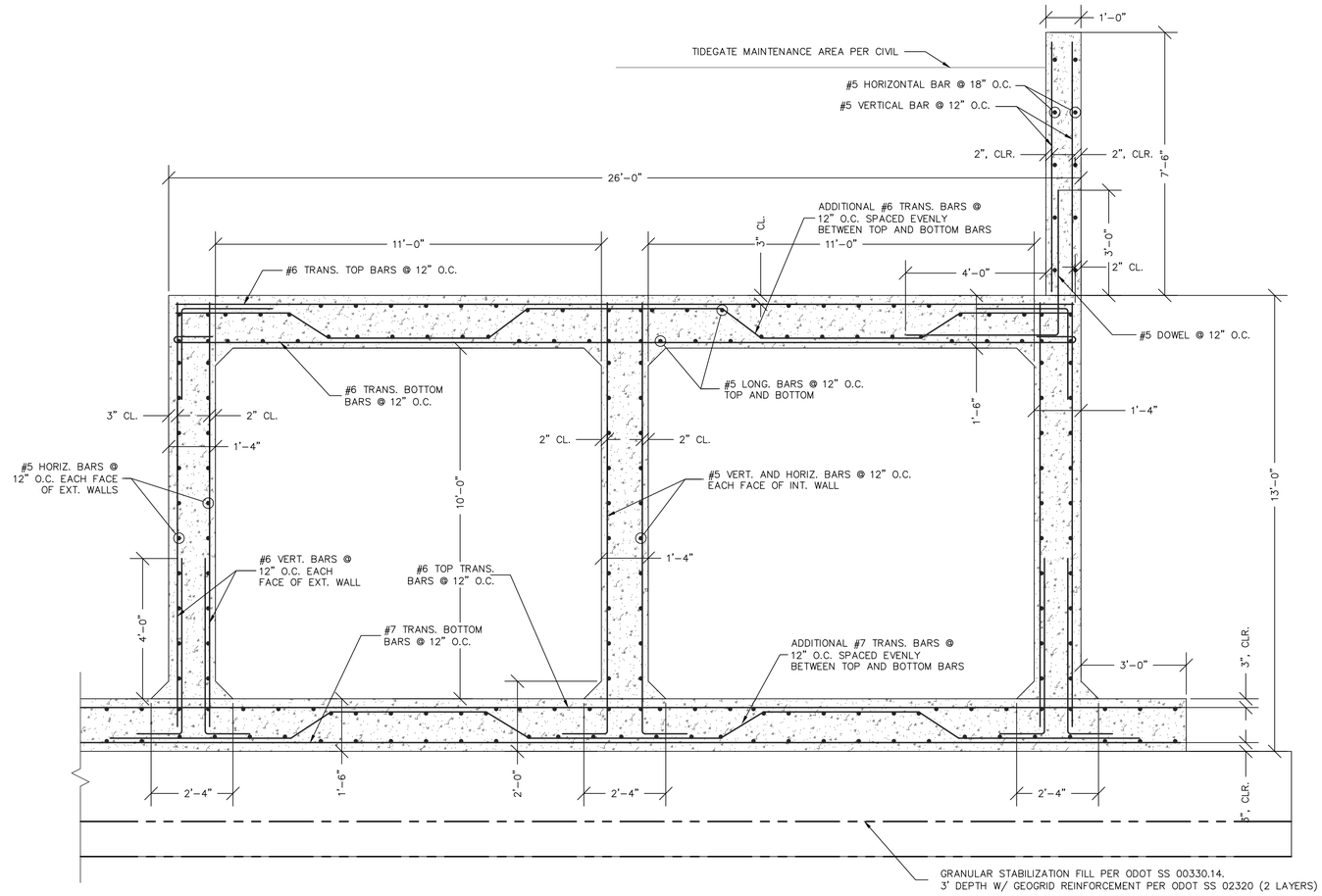
PROJECT #:
Nehalem 215-2

TITLE:
TIDE GATE DETAILS

PAGE NO:
S2.3



① NORTH CANAL CROSS SECTION @ MAINTENANCE AREA
Scale: 1/2" = 1'-0"



② EAST CANAL CROSS SECTION @ MAINTENANCE AREA
Scale: 1/2" = 1'-0"

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Project:
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TIDE GATE DETAILS

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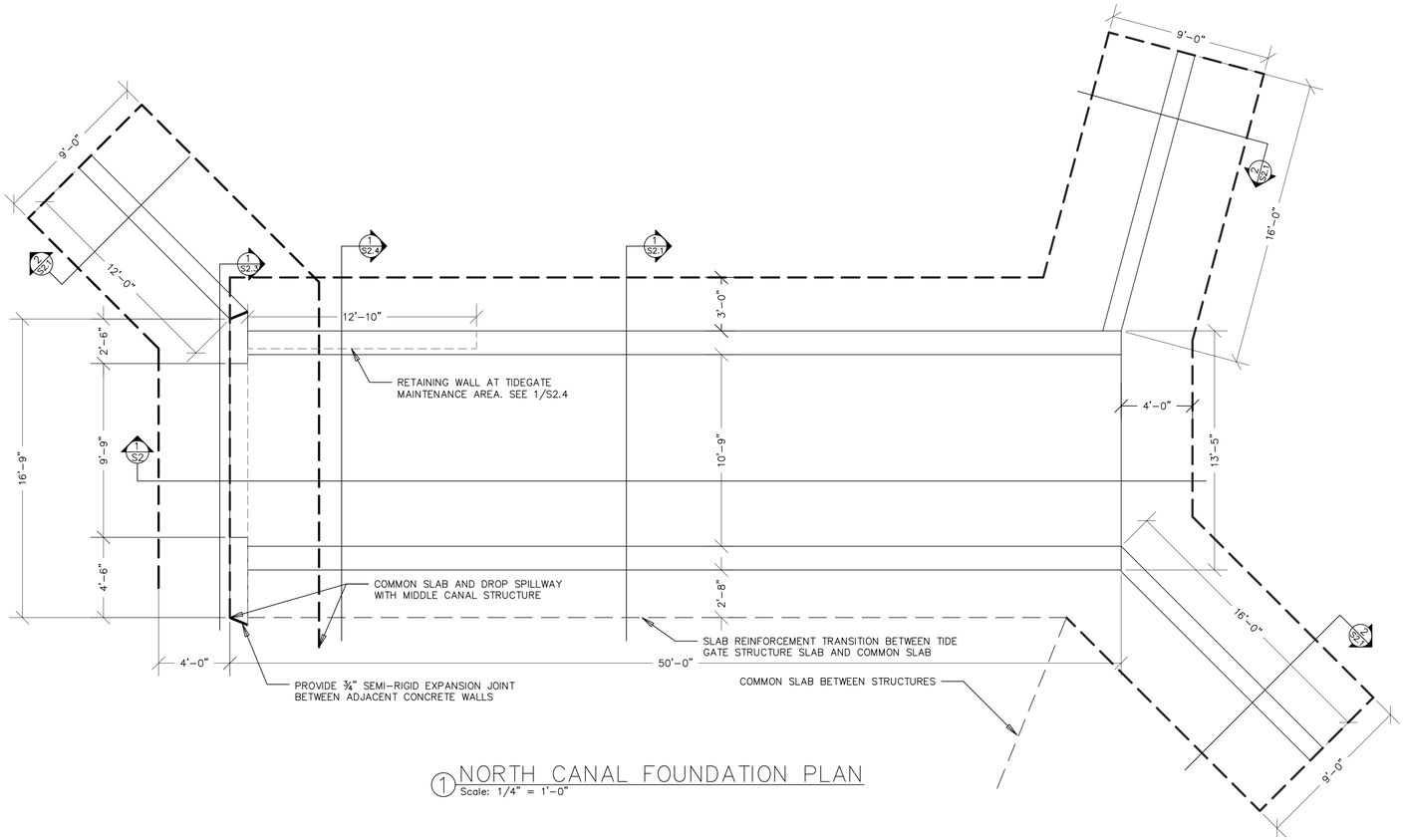
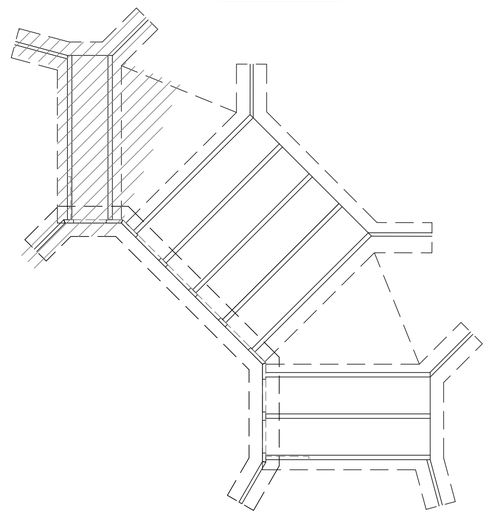


1 NORTH CANAL FOUNDATION PLAN
Scale: 1/4" = 1'-0"

KEY PLAN



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NORTH CANAL

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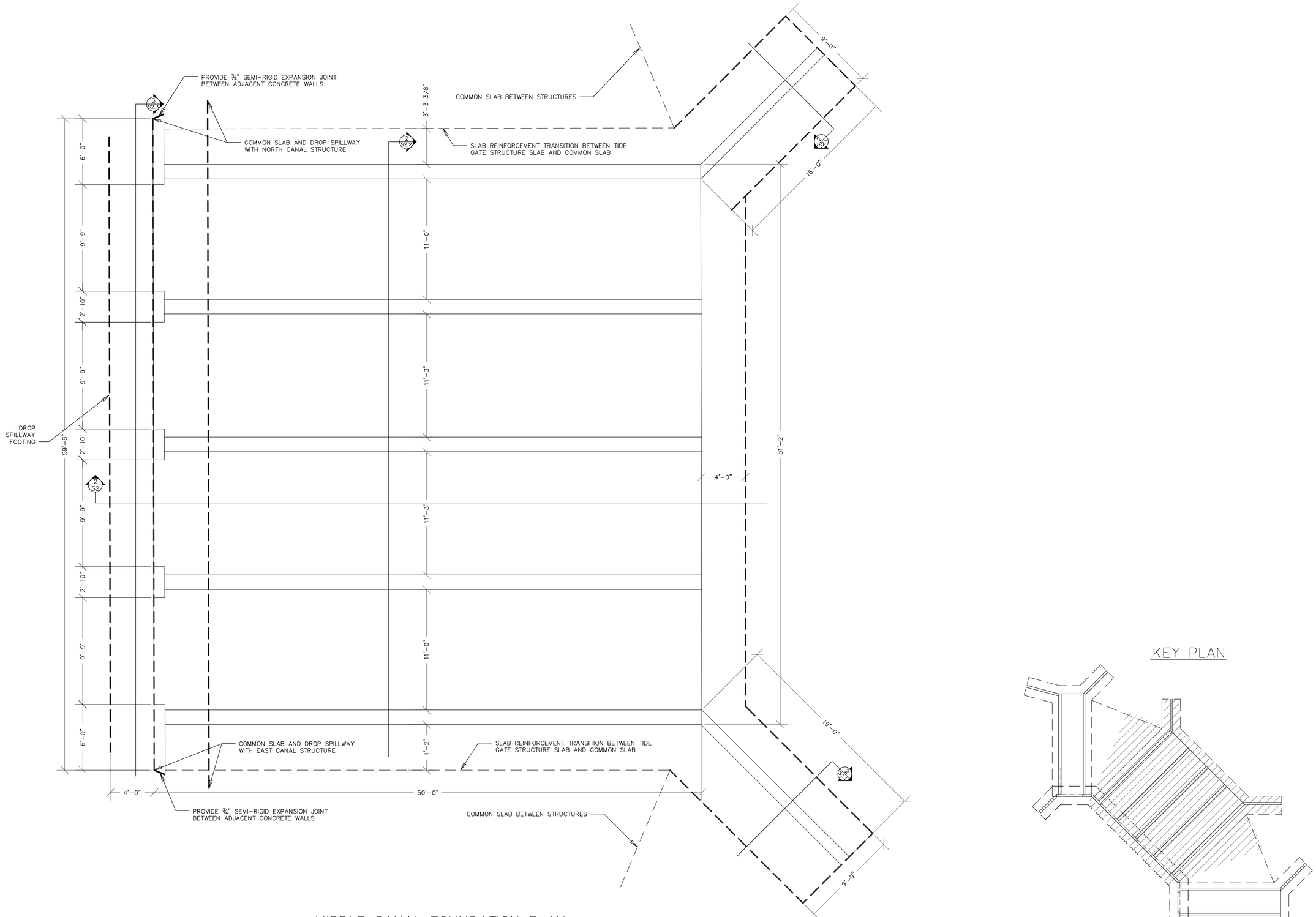

1 MIDDLE CANAL FOUNDATION PLAN
Scale: 1/4" = 1'-0"

KEY PLAN

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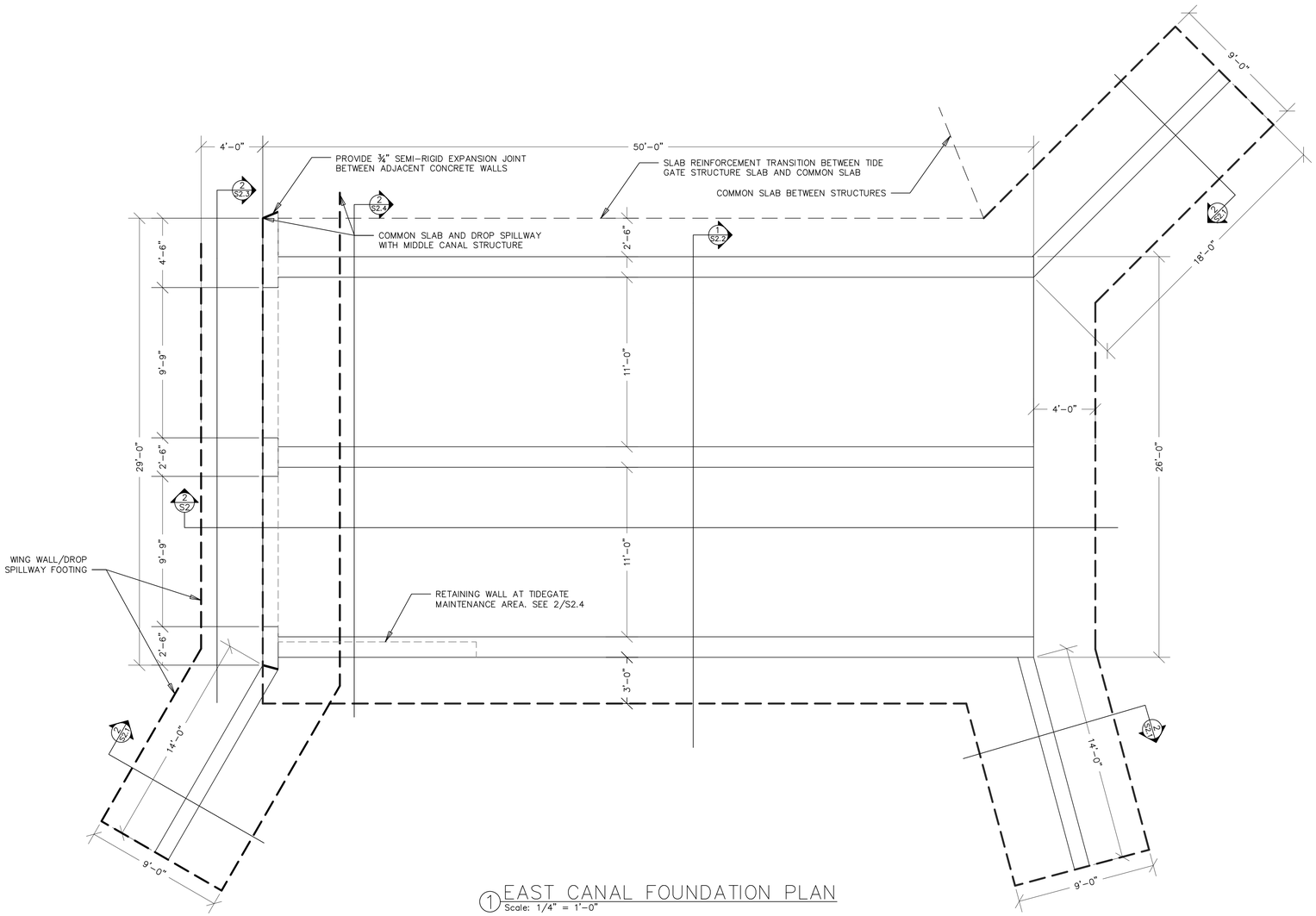
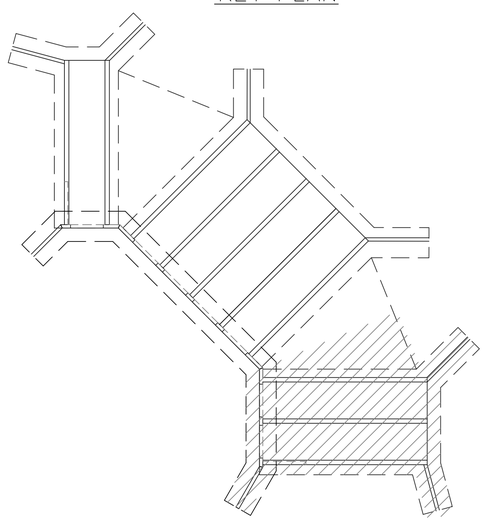


1 EAST CANAL FOUNDATION PLAN
Scale: 1/4" = 1'-0"

KEY PLAN



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