ADDENDUM 1 CHINA BRIDGE

PART 1

Bogue Building 730 Pacific Avenue Salt Lake City Utah 84104

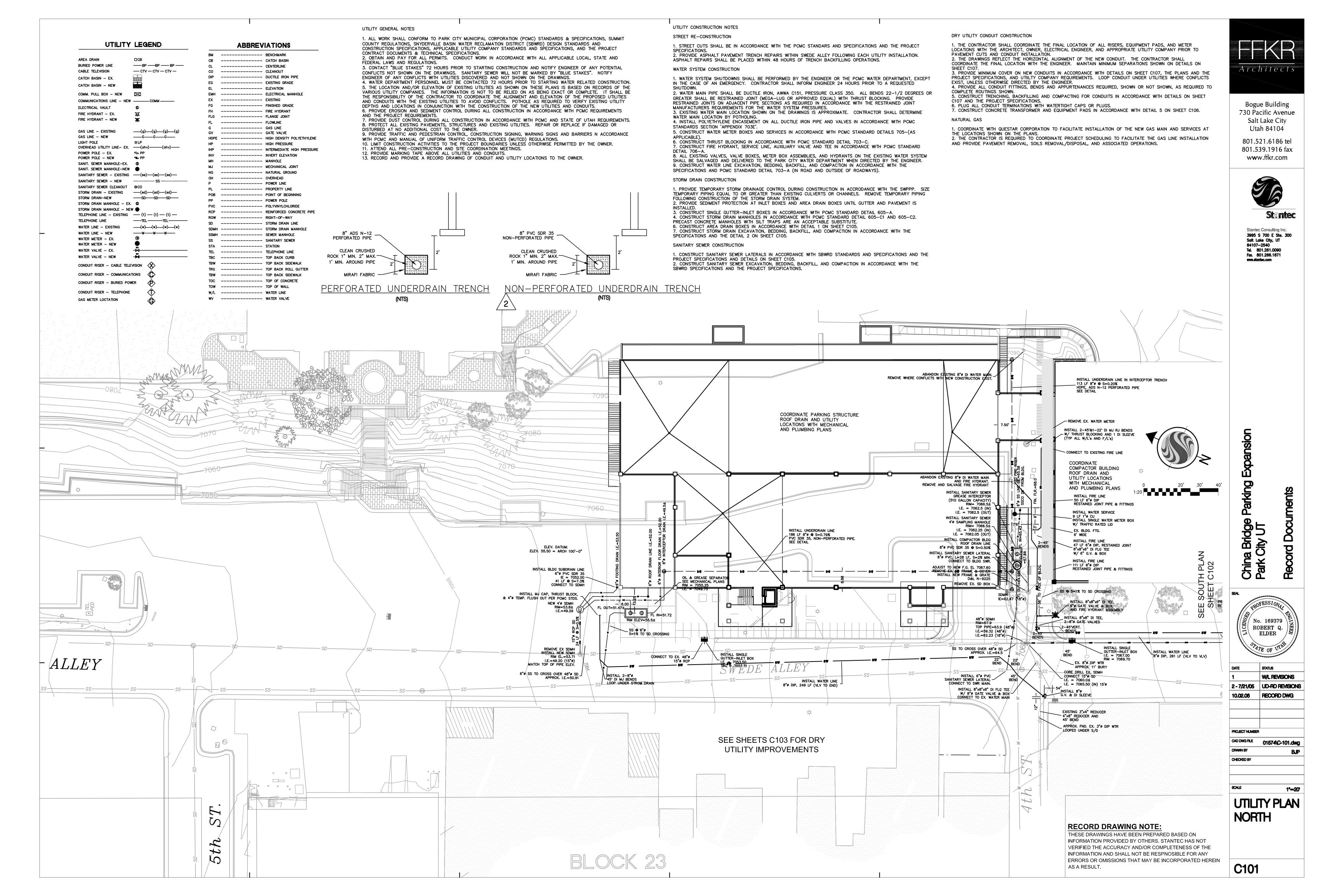
801.521.6186 tel 801.539.1916 fax www.ffkr.com

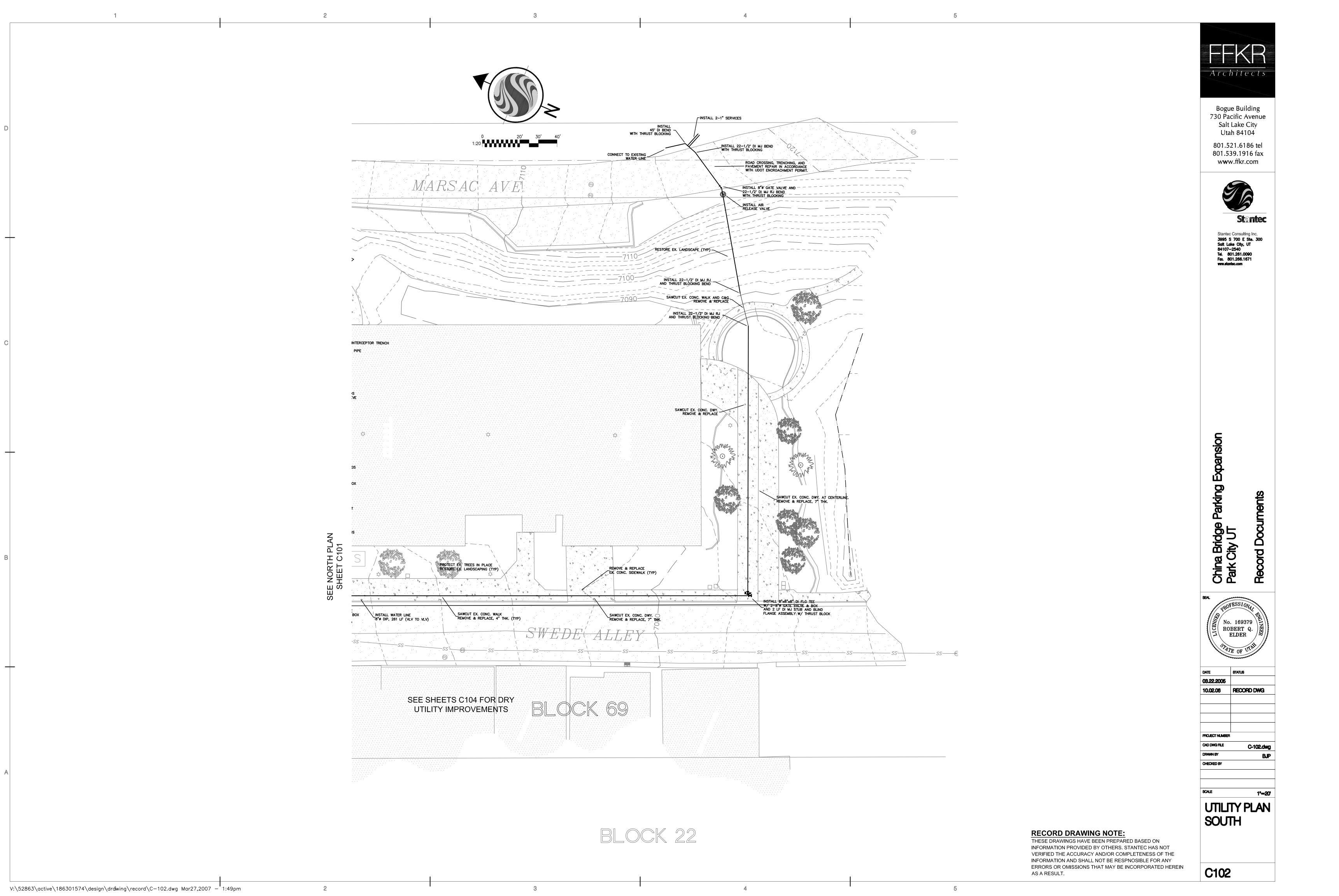
STATUS 8.02.2005 permit set

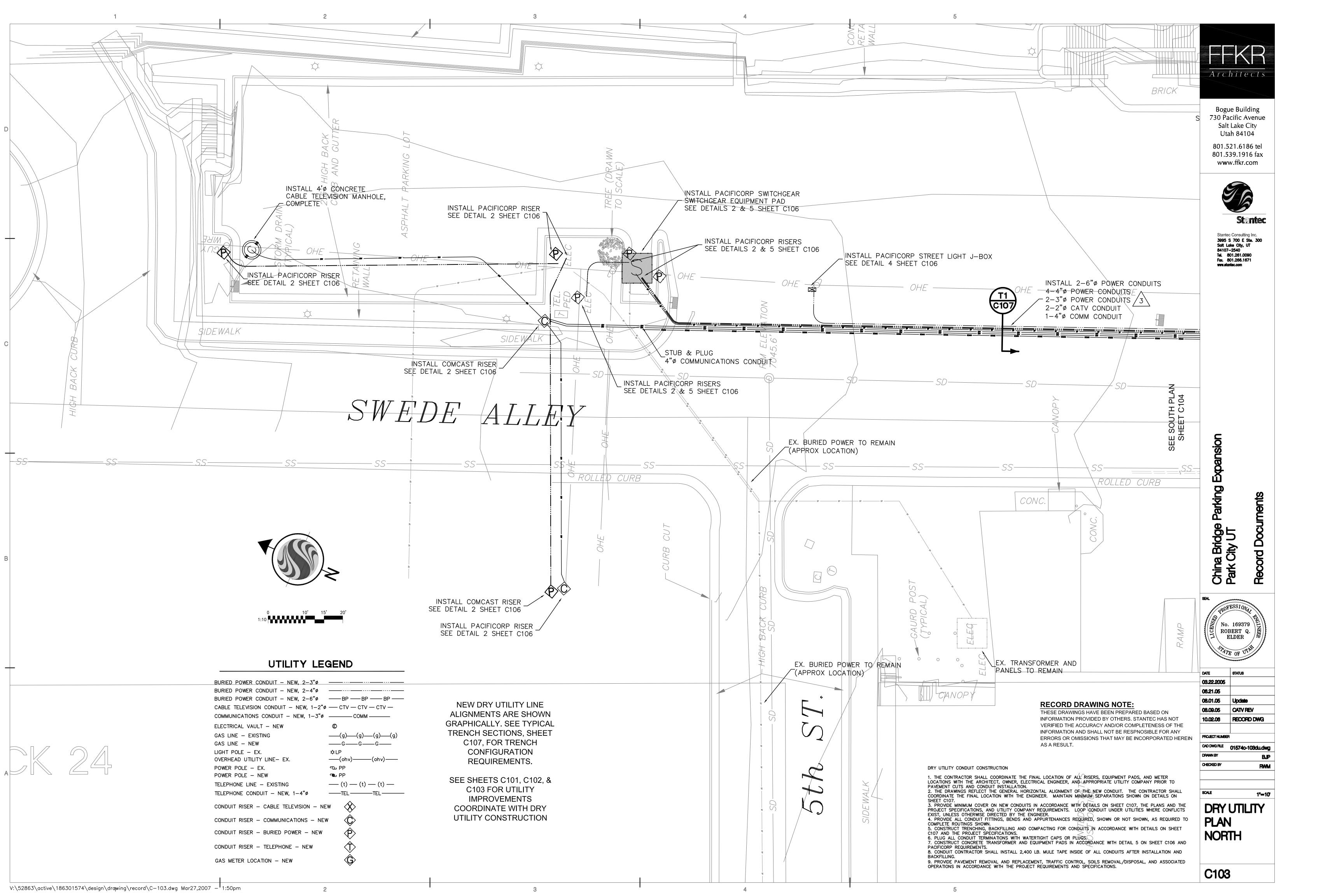
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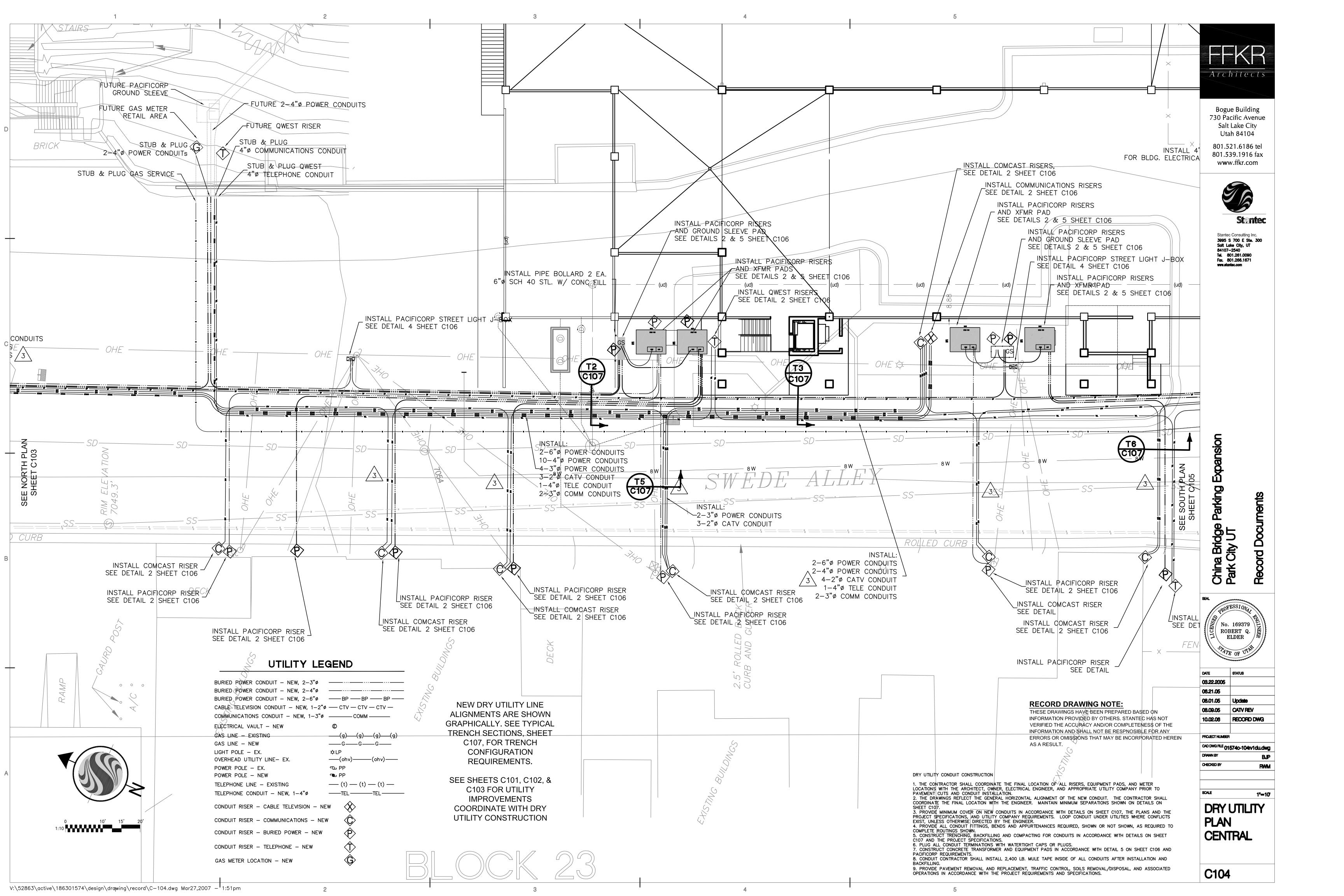
DRAWING INDEX & SUMMARY

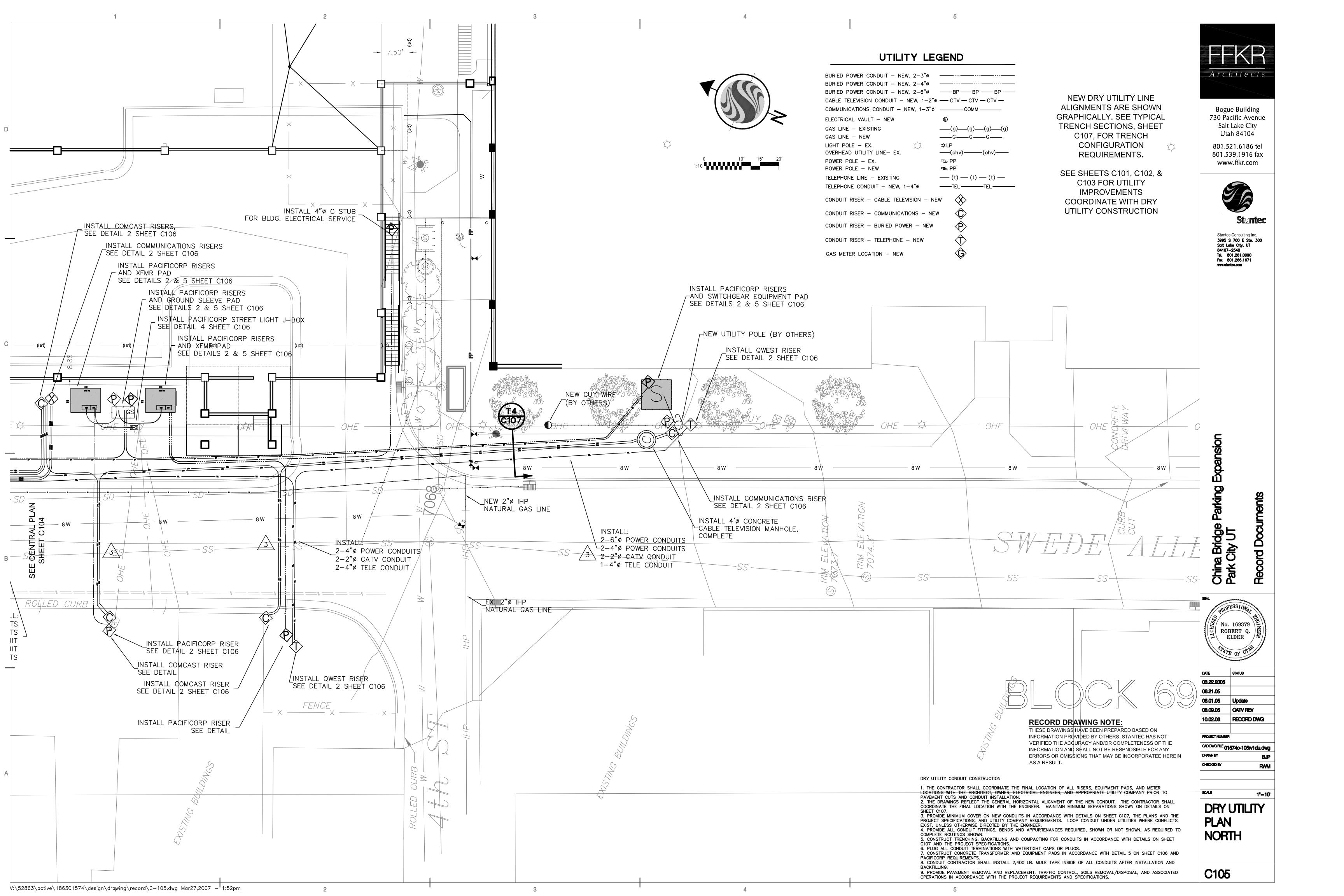
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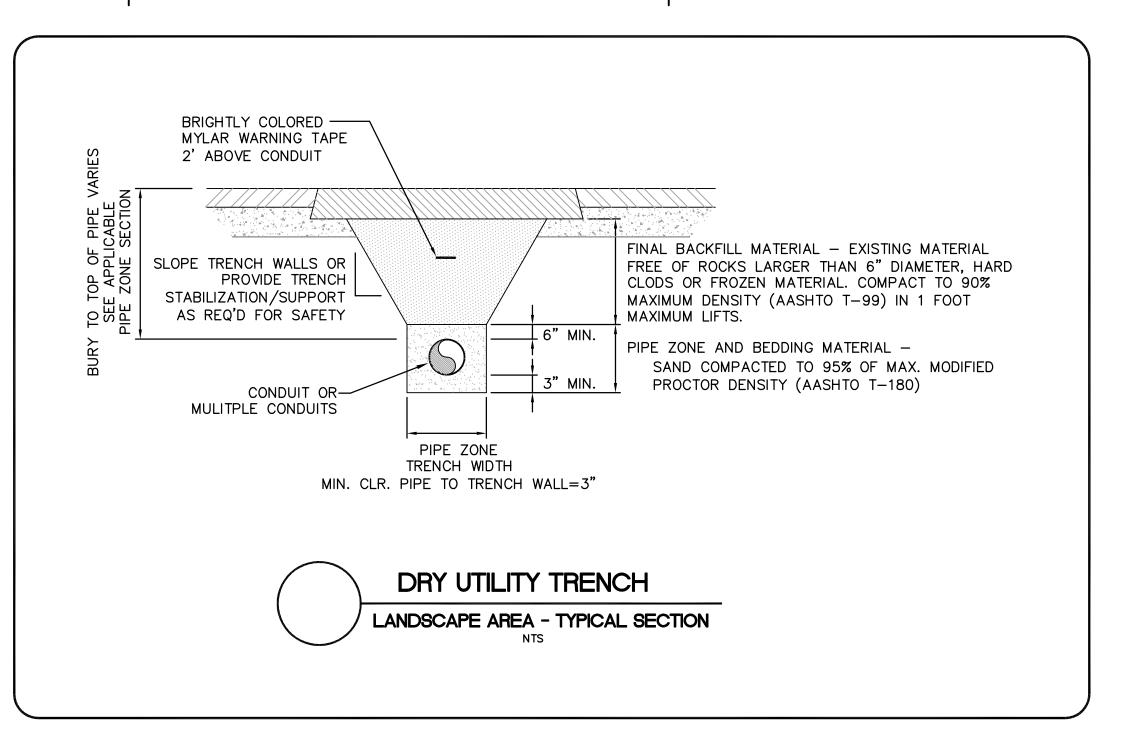


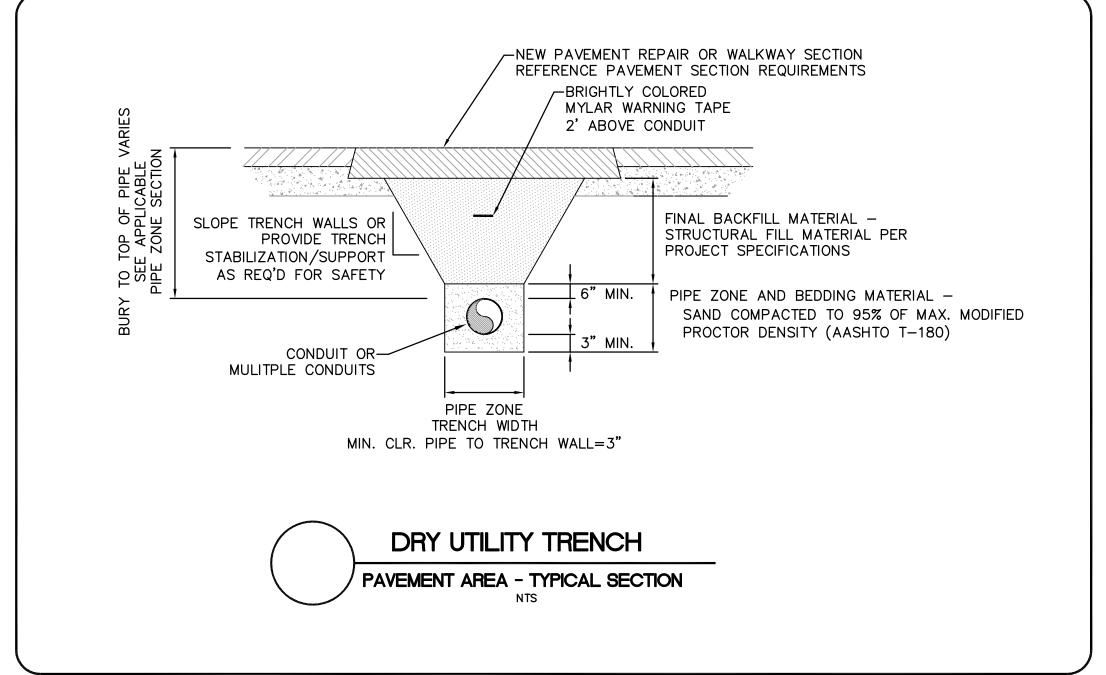








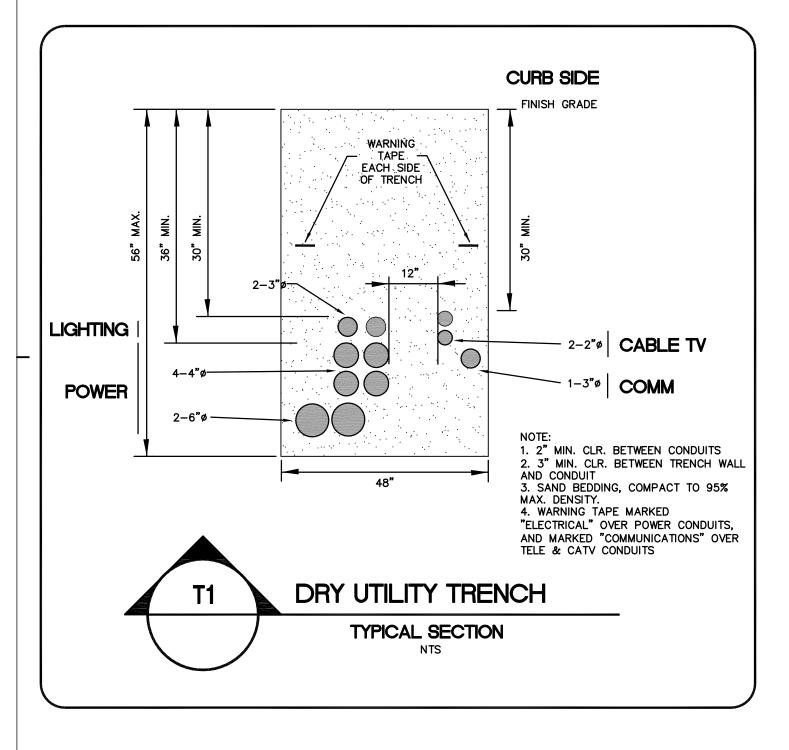


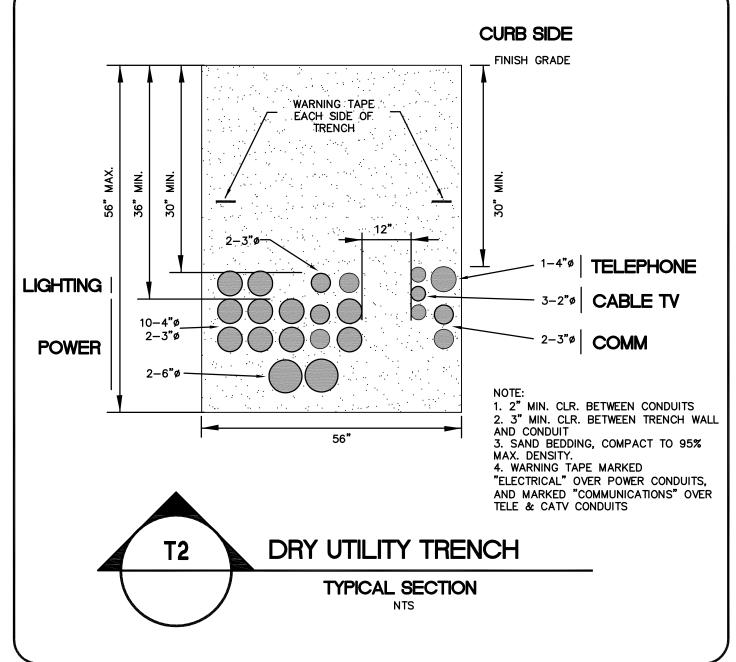


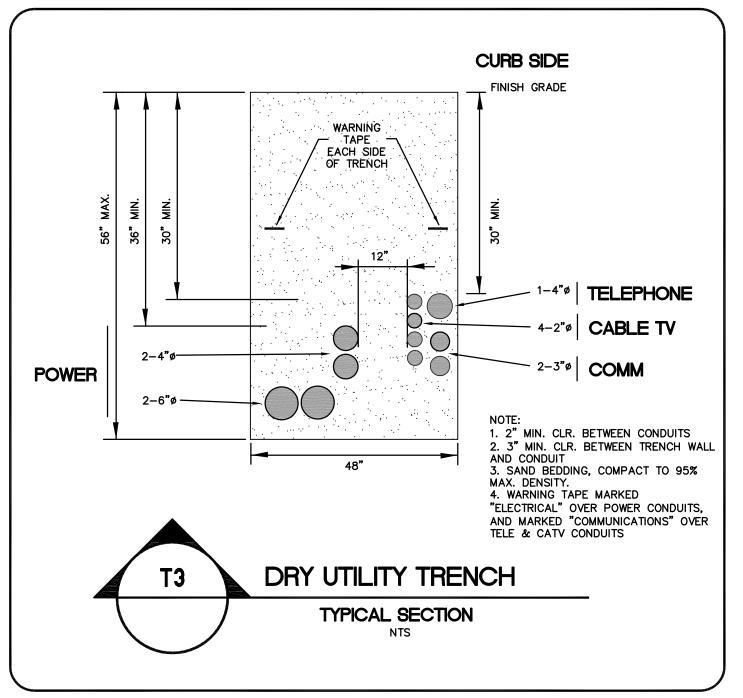


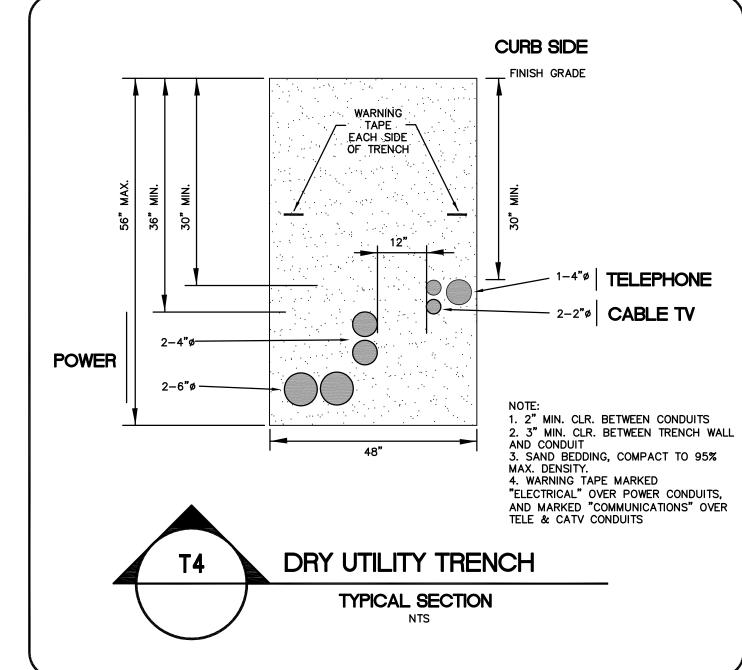
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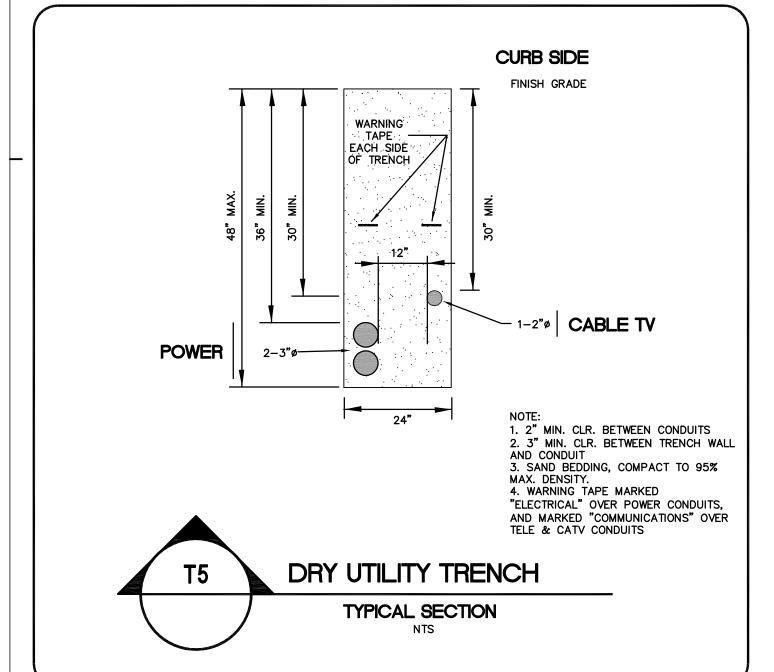


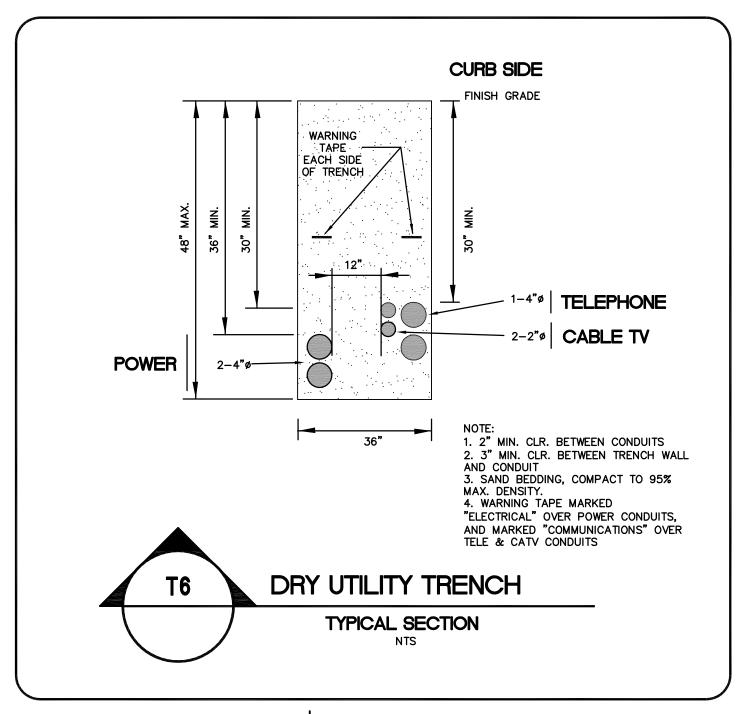


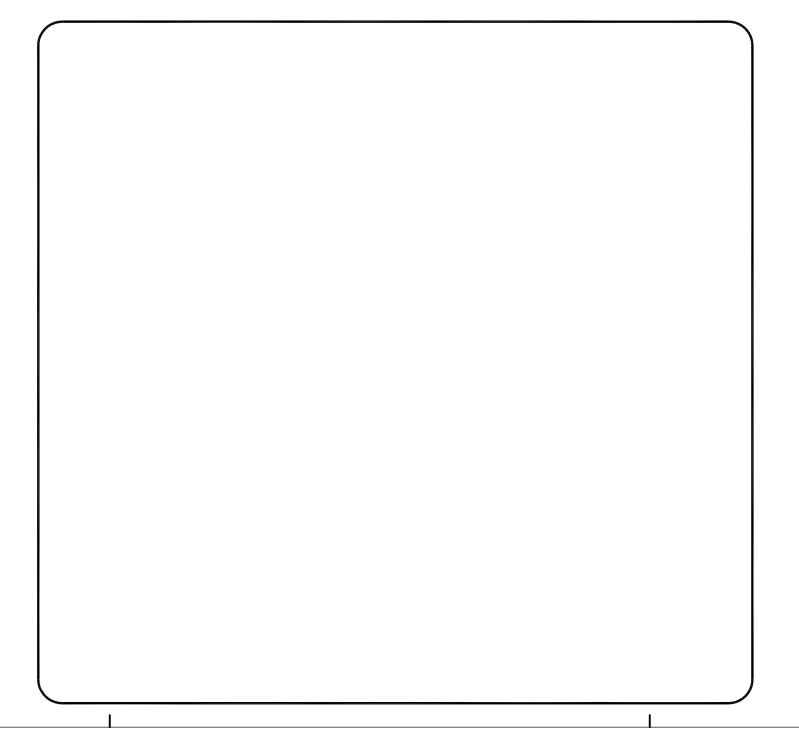


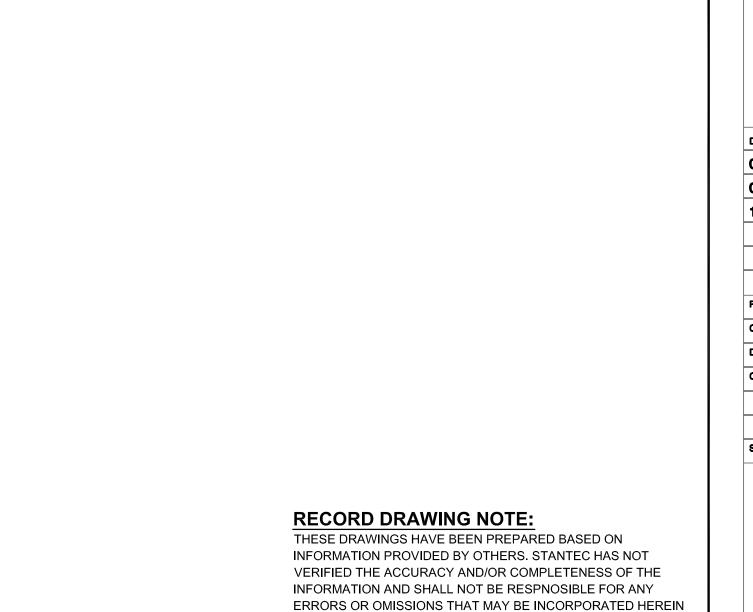




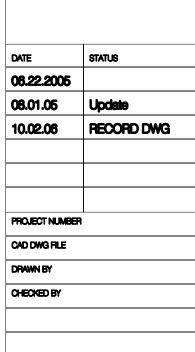








AS A RESULT.



DRY UTILITY
TRENCH
SECTIONS

C106

GENERAL STRUCTURAL NOTES

I. De	sign Criteria (Parking Structure)
	A. Governing Building Code: 2003 International Building Code (IBC) and ASCE 7—02
	3. Floor Live Loading: 1. Parking Garage:
	C. Roof Live Loading: 1. Roof Live Load:
	1. Seismic Use Group:
	E. Wind: 1. Basic Wind Speed (3-second gust): 90 mph 2. Importance Factor, Iw:
	 Foundation: Subsurface Conditions: Soils report and log of borings was obtained by the Owner for the Engineer's use in the design of the foundation, and is not a part of the Contract Documents. This report and log of borings is available for the Contractor's information, but is not a warranty of the subsurface conditions. The Contractor may use the report at his own risk. Soils Report by AMEC Earth & Environmental, Inc., dated December 9, 2004. Soil Bearing Pressure. for 3'0" square footings:
II. Ear	thwork
	A. Clearing: The entire building area shall be scraped to remove all surface vegetation, topsoil, degradable organic materials, non—engineered fills, contaminated materials, pavements, and concrete flatwork in the areas of the proposed structure.
	Near surface non-engineered fill: The depth of this material varies across the site from 8 to 14 feet. Do not place any footing on this material. Remove all non-engineered fill material from below footings and replace it with compacted structural fill. Remove an area that is at least 6" beyond the edges of the footing for each foot of fill thickness below the footing. For further information, see the soils report.
	C. Disposal of existing non—engineered fill materials off site shall be in accordance with recommendations in the environmental hazard assesment report.
	D. Proof rolling: The natural undisturbed soil below all footings shall be proof rolled prior to placing concrete. Remove all soft spots and replace with compacted structural fill.
	Compacted structural fill: All fill material shall be a well—graded granular material with a maximum size less than 4 inches and with not more than 10 percent passing a No. 200 sieve. Structural fill up to 10 feet thick shall be compacted to 95 percent of the maximum laboratory density as determined by ASTM D1557. Structural fill greater than 10 feet thick shall be compacted in 8 inch lifts to 97 percent of the maximum laboratory density as determined by ASTM D1557. All fill shall be tested (See Specifications and the Quality Assurance section of the GSN).
III. Con	crete
	A. Materials shall comply with the Standards specified in ACI 318-02, "Building Code Requirements for Structural Concrete." 1. Compressive strengths of concrete at 28 days shall be as follows: a. Footings

a. Normal weight concrete shall be approximately 145 to 155 pounds per cubic foot.

	3.	Reinforcement steel: a. ASTM A615 Grade 60, fy = 60,000 psi min. unless noted otherwise. b. Reinforcement at concrete moment frames and shear wall jambs shall be ASTM A706 or ASTM A615 Grade 60, with the following properties: (1) Actual yield strength based on mill tests shall not exceed 78,000 psi. (2) Retest shall not exceed 81,000 psi.
	4 .	 (3) Ratio of actual ultimate tensile stress to the actual yield strength shall not be less than 1.25. (4) Mill tests shall be submitted to the Engineer. Admixtures: a. Air—entraining admixtures, comply with ASTM C 260 (when used). (1) When air content of a trowel finished floor slab exceeds 3%, there is an increased risk for delaminations and blistering to occur. When this situation is present, the contractor shall pay special attention to the finishing procedures to help minimize such risks. Refer to ACI 302.1R—96 "Guide for Concrete Floor and Slab Construction" for proper finishing guidelines. b. Calcium nitrite admixture: corrosion inhibiting additive containing a minimum of 30 percent calcium nitrite. Provide at parking structure slab, wall and columns at a dosage rate of 4 gallons per cubic yard. c. Calcium chloride shall not be added to the concrete mix. Only one grade or type of concrete shall be poured on the site at any given time.
	6.	Plastic coated tie wires and chairs shall be used to support reinforcing bars, tie bars and tendons.
В.	be	mwork shall comply with ACI Standards Publication 347 and the project specifications. The contractor shall responsible for the design, detailing, care, placement and removal of the formwork and shores. Precamber forms and screeds with a camber of 1/4" per every 10'-0" of span to compensate for dead load deflection, unless noted otherwise. Post tensioned concrete slabs and beams do not require formwork to be pre-cambered.
C.	Red 1.	crete cover requirements for deformed bar reinforcing steel shall comply with ACI 318, "Building Code quirements for Structural Concrete". Cast—in—place Concrete: Clear Cover a. Cast against and permanently exposed to earth
D.		struction Joints and Control Joints: Provide a continuous 2 X 4 keyway or a surface intentionally roughened to a full amplitude of approximately 1/4" in all wall footings. Adjust the keyway as necessary to provide for proper bar placement. A continuous keyway shall not be used for concrete shear wall to footing connections, unless specifically indicated. Refer to project plans, schedules and details for the shear wall to footing connection requirements. All horizontal and vertical construction joints shall have a continuous 2 X 4 keyway along the joint or joints

or joints shall be intentionally roughened to a full amplitude of approximately 1/4, unless noted otherwise.

3. Provide reinforcement to match the member reinforcement across the joint except for shear walls, unless noted otherwise. For dowels across construction joints and wall to footing connections of concrete shear walls, refer to project plans, schedules and details.

4. Construction joints in suspended concrete pours shall be made at the center of spans.

5. Slabs on grade shall have construction or control joints spaced not to exceed 30 times the slab thickness in any direction. All discontinuous control or construction joints shall be reinforced with 2 - #4 x 48". See structural details. Construction joints shall not exceed a distance of 125'-0" o.c. in any direction.

6. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. Control joints may be installed by:

a. Saw cut a depth of 1/4 the thickness of the slab

b. Tooled joints a depth of 1/4 the thickness of the slab

7. Control joints in visually exposed walls, unless noted otherwise: (Joints shall line up with masonry and architectural joints, see drawings.)

a. Vertical control joints at 10'-0" on center.

b. Reinforcing shall be continuous through control and construction joints, unless noted otherwise.

E. Detailing: All reinforcing shall be detailed, bolstered & supported to comply with ACI 315, "Details and Detailing of Concrete Reinforcement" and the Concrete Reinforcing Steel Institute (CRSI) recommendations.

Reinforcing bars shall not be welded unless specifically shown on drawings. 1. Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings. Splices may be made with mechanical splices capable of 125% tension capacity of the bar being spliced. Mechanical splices shall be the positive connecting type coupler. They shall be covered by a current ICBO Evaluation Report. Use "Cadweld" splice sleeves with ferrous filler, "Lenton" taper threaded rebar splices, "Bar-Lock" lockshear bolt coupling sleeves, or approved equivalent. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.

2. All embedments and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the

placement of concrete. 3. Use chairs or other support devices recommended by the CRSI to support and tie reinforcement bars prior to placina concrete.

4. Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing. Unless noted otherwise, corner bar lap lengths shall conform with reinforcing bar lap splice lenaths as noted above.

5. All vertical reinforcing shall be doweled to footings, or to the structure below. Dowels shall be the same size and at the same spacing as the vertical reinforcing scheduled (or detailed) for the element above. Lap splice lengths shall comply as noted above or as shown in the drawings. Dowels extending into footings shall terminate with a 90 degree standard ACI hook and shall extend to within 4" of the bottom of the footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings.

6. Horizontal wall reinforcing shall terminate at ends of walls and openings into the far end of the jamb column with a 90 degree standard ACI hook, unless shown otherwise. Lap horizontal bar splices as noted above or as shown in the drawings. Horizontal wall reinforcing shall be continuous through construction and control joints. Splices in horizontal reinforcement shall be staggered, so the splice laps will not overlap. Splices in two curtains where used shall not occur in the same location, splice laps shall not overlap.

7. Wall Openings 8" to 36" wide: Place 2-#5 bars (or 1-#7 bar in 10" walls and thinner) around all openings 8" or larger in any direction, and extend the reinforcing bars a minimum of 24" beyond the corner of the openings, unless noted otherwise. Where 24" is not available, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI hook.

8. Wall Openings 36" wide and wider: Provide reinforced concrete lintels per Concrete Lintel Schedule over the top of, and 2-#5 bars (or 1-#7 bar in 10" walls and thinner) and on all sides and below every unscheduled opening, unless noted otherwise. Bars for all openings shall extend a minimum of 24" beyond the corners of the opening. Vertical bars shall extend from floor level below to the floor, or roof, level above. Where 24" extension is not possible, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI hook.

9. Provide $2-\#5 \times 4'-0''$ diagonal bars (or $1-\#7 \times 4'-0''$ bar in 10'' walls and thinner) at the corners of all openings. Diagonal bars shall be centered on the corner of the opening. All recesses in concrete walls that interrupt reinforcing steel shall be reinforced the same as an opening.

10. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.

11. All tied columns shall have ties spaced at one-half the required tie spacing for a distance of one-sixth of the column height above and below all floor (or beam) and roof (or beam) levels or any other point of lateral support, unless noted or detailed otherwise on the structural drawings.

12. Column crossties shall have a 135 degree hook at one end and a 90 degree hook at the other. The hooks shall engage the vertical column reinforcement. The 135 degree hooks of consecutive crossties engaging the same vertical bars shall engage alternate vertical bars.

13. Splices in vertical column reinforcing will be permitted at floor levels only, unless shown otherwise. Where changes in the cross section of the column occur, the longitudinal bars shall be offset in a region where lateral support is afforded. Where offset, the slope of the inclined portion of the bar shall not exceed 1 to 6 (horizontal to vertical). In the case of tied columns, the ties shall be spaced not over three inches on center for a distance of one foot above and one foot below the point of offset.

14. All reinforcement shall be bent cold, and shall be bent only once at the same location. All reinforcement shall be shop bent, unless otherwise permitted by the engineer.

F. Minimum Reinforcing: Wall reinforcing shall be as follows, unless noted otherwise:

Vertical Reinf. Wall Thickness Horizontal Reinf. #4 @ 18" o.c. #4 @ 13" o.c. #5 **@** 15" o.c. #4 @ 16" o.c. #5 @ 12" o.c. #4 @ 13" o.c. #4 @ 13" o.c. Each Face #4 @ 18" o.c. Each Face

Place steel in the center of the wall (except in walls thicker than 10" and where shown otherwise). Walls thicker than 10" shall have two curtains of reinforcing (placed near each face of the wall), unless otherwise shown on the structural drawings. Spacing shall not exceed three times the wall thickness nor 18". In addition to the above reinforcing, 2 - #5 (or 1 - #7 in 10" walls and thinner) x continuous horizontal bars shall be placed at the bottom of the wall (near the footing) and at each floor level, at the roof level and at the top

G. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be

H. Unless otherwise noted, all slabs on grade shall be 4" thick.

I. Post-Tensioned Concrete

1. All post—tensioned concrete reinforcing shall be designed, detailed and constructed in accordance with ACI 318. Anchorages for post—tensioning tendons shall be designed in accordance with ACI 318 and shall have ICBO approvals. A copy of the ICBO test report shall accompany the shop drawings for review.

2. Post tensioning tendons shall be 0.5" or 0.6" diameter - 7 wire strands, unbonded (sheathed), Grade 270, Low Relaxation, per ASTM A 416. Mill certificates for each reel shall be sent to the engineer upon delivery of the tendons to the site. Permissible stresses for tendons shall not exceed those specified by ACI 318, Section 18.5.

3. Tendons shall be protected from corrosion at all times by an approved coating. The coating shall remain ductile and free from cracks and shall not become brittle or fluid over the entire operating or anticipated range of temperatures, but shall be chemically stable, non-active, non-corrosive, and impervious to moisture. All strands shall be encased in a plastic sheathing to prevent bonding to the concrete. Repair all damage to sheathing with plastic tape prior to concrete placement. Plastic sheathing used in encapsulated systems shall have a minimum thickness of 40 mils.

4. Anchorages for post—tensioning tendons shall be designed in accordance with ACI 318 and shall have ICBO approvals. The anchorages for tendons shall be able to withstand the forces from jacking and anchorage. These are as follows:

Forces from jacking to overcome friction losses 0.94*fpy. Forces immediately after strand anchorage 0.70*fpu. Architects

Bogue Building 730 Pacific Avenue Salt Lake City Utah 84104

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w**w**w.ffkr.com RECORD DRAWINGS

INFORMATION PROVIDED BY CONTRACTOR SEPTEMBER 2006

û Parking China Bridge F Park City UT

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•	STATUS	
3.2005	CD	
5.2005	ADDENDUM #1	<u></u>
J.E000	ADDITION TO	
<u>5.2000</u>	7-DDLI BOIN WI	
J.E000	7-COLINGINI WI	

PROJECT NUMBER 4100 CAD DWG FILE SE001.dwg DAM/REA CP/JTM

GENERAL STRUCTURAL

SE001

NOTES

GENERAL STRUCTURAL NOTES (CONT)

L. Post-Tensioned Concrete (cont)

- 5. Prior to tendon fabrication, the contractor shall submit calculations for the items listed below. Calculations shall bear the seal of a professional engineer licensed in the State of Utah and shall be submitted with the shop drawings for review.
 - a. The contractor shall submit calculations showing the anticipated prestress losses and the resulting final anchorage stress or force. These computed values shall be used to determine the quantity of tendons to be used.
 - b. Calculations shall determine the anticipated elongation for the tendons. Elongation calculations shall be submitted for:
 - (1) Each "pull" length that varies more than 30 feet from the typical lengths.
 - (2) Every "pull" length that is over 125 feet.
 - c. If actual tendon reels have a difference greater than two percent (2%) of the product of the modulus of elasticity (E) and the area (A) of the tendon, calculations and shop drawings shall be revised to indicate proper tendon quantity and tendon elongations. Shop drawings shall reflect specific computed values for elongations when the tendons are delivered with the Mill certificates.
 - d. Calculations shall include computations for the shortening of the slab due to concrete shrinkage, creep, and elastic shortening. The contractor shall use these calculations to adjust his forms so that the columns will be "plumb" after the slab has shortened. The slab shall conform to the dimensions shown on the plans after all shortening has occurred. (The post—tensioned concrete decks can be expected to shorten approximately 3/4 inches per 100 feet of length due to shrinkage, creep and elastic shortening.)
- 6. Shop drawings shall be submitted prior to fabrication. The shop drawings shall show tendon locations, tendon spacing, inserts, and mild steel locations. They shall show all details of end anchorages, connections, blockouts or holes, inserts, stressing procedures and other related items prior to construction. The shop drawings will also show tendon forces, and anticipated tendon elongations for individual tendons. Special care must be taken to ensure that all materials and products are correctly identified and placed. (i.e. tendon materials as they relate to calculated elongations and forces).
- 7. The contract drawings indicate the effective post—tensioning forces for distributed tendons are noted on the plans by the symbol "<00.0K/Ft>". The forces for banded tendon strips are noted on the plans by the symbol "<00.0K>". The forces indicated by these numbers are minimum forces. The quantity of tendons multiplied by the final anchorage force shall not be less than the values noted on the contract drawings.
- 8. Unless otherwise noted, all slabs shall have a minimum of mild steel reinforcing equivalent to #4 bars spaced at 36" o.c. each way in bottom one third of slab. The support bars for the tendons may be included as part of this reinforcing. All bars shall be lap spliced a minimum of 18".
- 10. All pockets and anchorages shall be waterproof, so as to eliminate water leakage through the pockets.

 Tendons and tendon anchorages shall be protected with an encapsulation system equivalent to the Varitech plastic coated encapsulation system or the CP+ encapsulation system supplied by VSL, Inc. and as approved by the structural engineer in writing. All encapsulation tubes shall have a positive connection to the post—tensioned anchors and shall have a tight seal to the anchor and the sheathing of the tendon. Split encapsulation tubes are not allowed. All anchorages shall be epoxy or plastic coated. The concrete surfaces of the pockets shall be coated with a bonding agent approved by the architect. All pockets shall be grouted flush with the concrete edge.
- 11. All pockets required for anchorage shall be adequately reinforced, so as not to decrease the strength of the structure. A minimum of two #4 bars shall be placed behind all anchorages, in slabs, unless otherwise noted on the drawings. Reinforcing steel adequate to control primary and secondary stresses under other bearing plates shall be provided to suit the system employed.

12. Tendon placement and detailing:

- a. Slab tendons shall not be spaced more than 6 times the slab thickness. In no case shall the tendon spacing exceed 48". Twisting or entwining of individual strands within a bundle or a beam shall not be permitted.
- b. Slight deviation in spacing of tendons is permitted where required to avoid openings and inserts, specifically located. Radius of curvature of horizontal deviation shall not be less than 21 feet. Tendons shall clear all openings or sleeves by a minimum of 3 inches. No sleeves shall be located within end quarter of the span near the supports or through shear heads. All sleeves shall be coordinated with the structural engineer prior to placement.
- c. Drape tendons to a parabolic profile as shown on drawings between supports and conform to control points shown in the profiles. Dimensions locate the center of gravity of the tendon or group of tendons. Support bars and chairs shall be furnished to adequately hold tendons in place during concrete placement. Low points of tendons are at mid—span unless otherwise shown or noted.
- d. The minimum vertical radius of curvature of tendons shall not be less than ten times the depth of the concrete section. Chairs for tendons are to be located at column lines (high points) and at the mid-span (low points). After a natural parabolic drape is achieved, provide additional chairs at 1/4 points for computing chair heights. Vertical deviations of tendon location at the high and low points shall be kept to within +/- 1/4 inch for slabs thickness dimensions less than 8", to +/- 3/8 inch for concrete member thickness dimensions between 8" and 24" and to +/- 1/2 inch for concrete member thickness dimensions greater than 24".
- e. Placing contractor shall apply sufficient pull to tendon to give the proper draping effect. Edge forms shall be braced and anchored to resist the draping force.
- f. Proper tendon location shall have priority over all other materials. Sufficient "Support Bars" (reinforcing steel not shown on plans) equivalent to #4 bars at 4'-0" maximum shall be provided to maintain the tendons in proper alignment. Bars in note #III.L.8 may be used as support bars.
- g. There shall be a minimum of four tendons within each column cage in the banded tendon strips and two tendons within each column cage in the distributed tendon strips. A minimum of two tendons shall be located at all slab edges. The banded strips for tendon placement shall not be wider than 8 times the slab thickness. Banded strips are noted on the drawings.
- h. Unless otherwise noted, banded strips (tendons) shall be centered on columns. Banded tendon placement location shall take precedence over distributed tendon placement location where a
- i. Mark position of tendons on bottom of finished slabs with 4" long quarter—round wood trim within formwork at each end of slab and 50 ft. o.c. maximum in between, as directed by Architect.
- 13. The stressing operation shall be under the immediate control of a person experienced in post—tension concrete construction. He must exercise close control of the quality assurance methods and all other operations. His work will be independent of the owner's representative. If provided, the owner's representative will observe the placement of tendons prior to the placement of concrete, and stressing operations.

- 14. Jacking forces and elongations records shall be made by the contractor during the stressing operations. Calibrated gauge readings and tendon elongations shall be concurrently recorded during the stressing operations. Certified copies of the recorded gauge readings and elongations shall be promptly submitted to the architect.
 - a. The tendons shall be stressed according to the calibrated gauge readings. The measured tendon elongations shall be compared with the computed elongations during stressing and shall not vary by more than 7% of the calibrated values from the computed elongation value. If any comparisons exceed 7%, the cause for the difference shall be determined by the contractor and corrected to the engineer's satisfaction prior to proceeding with additional stressing.
 - b. No additional concrete shall be stressed until records of the concrete tests and the elongation records are reviewed by the architect for all previous floors.
 - c. Post—tension tendons shall be stressed within 96 hours after concrete placement. Full stressing of post—tension tendons shall not be performed until the concrete has attained a minimum compressive strength of 3,000 psi. If concrete has not attained sufficient strength within 96 hours after placement, each tendon shall be stressed to 50% of the design tendon force. The post—tension tendons shall be stressed to 100% of the required force when sufficient concrete strength has been attained. Stressing shall not begin until evidence of adequate concrete strength has been reviewed by the architect/engineer.
 - d. Stressing sequence shall be determined by the post—tensioning supplier, unless noted otherwise. The post—tensioning supplier shall submit the stressing sequence, methods and procedures for stressing the tendons to their required force with the shop drawings.
 - e. The contractor shall submit jack calibrations with each jack. Jacks shall be clearly marked for identification of the calibrated gauge pressure. Jacks shall be recalibrated for each 50,000 square feet of slab area that is tensioned.
- 15. Grouts containing chloride shall not be used in the vicinity of the tendons, reinforcing steel or embedded
- 16. Provide adequate shoring and bracing during casting of concrete members. Reshore to four stressed
- 17. The contractor shall employ construction methods that allow for slab shortening where walls, columns or other rigid elements that would otherwise restrict shortening. Structural integrity of all elements shall be maintained. Particular care shall be taken to prevent cracking at all levels.
- 18. Grounding of welding equipment to tendons or reinforcing steel is not permitted.

IV. Structural Steel

A. Material:

- 1. W-Shapes: ASTM A992 (Fy = 50 ksi), except as noted otherwise.
- 2. All Other Shapes and Plates: ASTM A36 (Fy = 36 ksi), except as noted otherwise.
- 3. Rectangular and Square Hollow Structural Sections (HSS): ASTM A500. Grade B (Fy = 46 ksi).
- 4. Round HSS: ASTM A500, Grade B (Fy = 42 ksi).
- 5. Steel Pipe: ASTM A53, Grade B (Fy = 35 ksi).
- 6. Deformed Bar Anchors (DBA): ASTM A496.
- 7. Headed Stud Anchors (HSA): ASTM A108, with dimensions complying with AISC specifications.

 8. Anchor Rods: ASTM F1554, Grade 36 with ASTM A563 heavy hex nuts and ASTM F436 hardened washers, unless noted otherwise.
- B. Fabrication and construction shall comply with the following Codes and Standards:
- 1. American Institute of Steel Construction (AISC) 335—89s1, "Specification for Structural Steel Buildings Allowable Stress Design and Plastic Design," including Supplement No. 1, 2001.
- 2. AISC LRFD 1999, "Load and Resistance Factor Design Specification for Structural Steel Buildings."
- 3. AISC 341-02, "Seismic Provisions for Structural Steel Buildings," dated May 21, 2002.
- 4. AISC HSS 2000, "Load and Resistance Factor Design Specification for Steel Hollow Structural Sections."
- 5. AISC 2000, "Code of Standard Practice," excluding the following: Section 3.3 (last sentence), Section 3.4, Section 4.4.1, Section 4.4.2, Section 4.5, and Section 7.13.3.
 - a. The architectural drawings are the prime contract drawings. Consultants' drawings by other disciplines are supplementary to the architectural drawings. The structural drawings shall be used in conjunction with the architectural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in architectural, structural, and/or other consultants' drawings. Refer to VI. Special Instructions, notes VI.B and VI.C on this sheet.
- 6. AISC/RCSC 2000, "Specification for Structural Joints Using ASTM A325 or A490 Bolts"
- 7. American Welding Society (AWS) D1.1-00, "Structural Welding Code Steel." (specific items do not apply when they conflict with the AISC requirements).
- 8. Steel Joist Institute (SJI) 1994, "Standard Specification, Load Tables and Weight Tables for Steel Joists and Joist Girders," and "Recommended Code of Standard Practice".
- 9. American Iron and Steel Institute (AISI) 2001, "North American Specification for the Design of Cold-Formed Steel Structural Members."
- C. Structural shapes and plates shall be fabricated from newly rolled (milled) one piece sections without splices, unless specifically noted otherwise on the structural drawings. Connections for structural steel shall comply with the structural drawings, unless written approval is given by the structural engineer.

D. Welding:

- Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the type of work to be performed. Certification shall be considered current if dated within the past 12 months. Welders will be considered certified if they have been certified under AWS and their work records are current within every six month period thereafter as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the architect prior to beginning work.
- Electrodes: E-70 XX or as noted otherwise. E60 XX may be used for welding steel floor and roof decks.
 Minimum Welds: All intersecting steel shapes that are not bolted shall be connected by a fillet weld all
- around, unless noted otherwise. Fillet weld sizes that are not shown shall be 1/16" less than the thinnest of the connected parts for thicknesses 1/4" and larger. Fillet welds on plates less than 1/4" shall be of the same size as the thinnest of the connected parts.

 4. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only
- AWS standards. Do not substitute reinforcing bars for deformed bar anchors (DBAs), machine bolts, or headed stud anchors(HSAs).

 5. Bolts: Do not apply any welds, including "tack" welds to bolts, including anchor bolts, except as specifically
- 6. It is recommended the steel erection contractor and steel fabricator contact the Quality Assurance Agency prior to beginning any of the above welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds will be made from the beginning.
- 7. Headed Stud Anchor (HSA) welding and Deformed Bar Anchor (DBA) welding shall conform to the manufacturer's specifications. Welding shall comply with AWS D1.1 Section 7.6 through 7.8 and Annex IX.

E. Bolted Connections:

- 1. Use ASTM A325N bolts for steel to steel connections, as noted herein or as noted on the drawings. A325N bolts shall be used in connections for simple span framing and beam (or girder) to bearing plate connections. Tighten bolts to a snug tight condition. A snug tight condition is usually attained by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench. Bolts shall be tightened until all plies of the joint are in firm contact.
- 2. Use ASTM A325SC bolts for all steel to steel connections as noted in drawings and connections subject to vibrations, unless noted otherwise. Tighten bolts by the turn of the nut, calibrated wrench, or direct tension indicator method. Alternate fastener designs as defined by AISC shall be submitted to the engineer for review and acceptability prior to installation.
- 3. Provide hardened washers beneath the turned element of all bolts or nuts. Provide hardened beveled washers, to compensate for the lack of parallelism, where the outer face of the bolted parts has a slope greater than one in twenty with respect to the plane normal to the bolt axis. Hardened washers or plates installed over oversized holes or slotted holes shall be at least 5/16" thick and shall conform to ASTM F436. Plates or bars installed at slotted holes shall have a size sufficient to completely cover the slot after installation.
- 4. Where a steel to steel beam connection is not detailed in the drawings, provide a standard AISC framed connection with the capacity to support one half of the total uniform load capacity of the given shape for the span and for the steel specified.
- 5. Bolts, nuts and washers shall not be reused.

F. Beam Web Stiffener Plates:

Provide full height web stiffener plates to each side of all beams above all bearing points. Stiffener plates shall be the thickness noted below unless noted otherwise and shall be welded on both sides of the stiffener plate with fillet welds (noted below) all around.

Beam Web stiffener thickness	For beams with flange widths between	Weld Size
1/4 inch thick	0" and less than 8 1/4"	3/16
3/8 inch thick	8 1/4" and less than 12 1/4"	1/4"
1/2 inch thick	12 1/4" and less than 16 1/2"	5/16 "
5/8 inch thick	16 1/2" and less than 20 3/4"	3/8"

G. Steel Floor Deck:

- 1. Steel floor deck shall comply with the latest requirements of the Steel Deck Institute, SDI. Submit ICBO report with load and lateral shear capacities with shop drawings.
- 2. Steel floor deck shall be 3" deep X 20 gauge minimum galvanized (G90) type "W" vented deck with interlocking side seams with the following properties:

Minimum S (in3/ft) = 0.534 0.767
Minimum I (in4/ft) = 0.896 1.203

- 3. A 4 1/2" thick $(7^{'}1/2^{''})$ overall) normal weight concrete slab shall be poured over the steel deck. Reinforce slab as per drawings
- 4. Weld deck to supporting framing members with 3/4" diameter puddle welds at the following spacing
- (Closer spacings may be used to develop minimum shear requirements.):
 a. 12" o.c. to supports perpendicular to deck corrugations (4 welds per 36" wide sheet).
- b. 12" o.c. to all supports parallel to deck corrugations.
- c. All welded surfaces shall be dry before welding deck or studs to supports.
- 5. Attach interlocking seams with 3/16" button punch at 18" o.c. or 1 1/2" top seam weld at 36" o.c. between adjacent pieces of deck. Crimp seams before button punching or welding interlocking seams. Closer spacings may be used to develop minimum shear requirements.
- 6. Where possible, all deck shall be 3-span continuous minimum. In areas where 3-span conditions are not possible, the deck shall meet the above loading criteria for the span condition. The contractor shall provide heavier gauge deck as required for one or two span conditions to meet the equivalent loading of the above deck under a three span condition.
- 7. Deck shall have a minimum bearing length of 2".

H. Steel Roof Deck:

- 1. Steel roof deck shall comply with the latest requirements of the Steel Deck Institute (SDI). Submit ICBO report with load and lateral shear capacities with shop drawings.
- 2. Steel roof deck shall be 3" deep X 18 Gauge minimum galvanized (G60), type "N" deck with interlocking side seams with the following properties:

18 Gauge 16 Gauge Minimum S (in3/ft)= 0.731 0.950 Minimum I (in4/ft)= 1.223 1.647

- 3. Minimum allowable deck diaphragm shear values shall be 1096 lb/ft. for a 6'0" deck span.
- 4. Weld steel roof deck to supporting framing members with 3/4" diameter puddle welds at the following spacings (Closer spacings may be used to develop minimum shear requirements.):
- a. 6" o.c. to all supports perpendicular to deck corrugations (4 welds per 24" sheet).
- b. 6" o.c. to the following supports parallel to deck corrugations: All perimeter supports, all concrete or masonry shear/bearing walls, all joists or joist girders with a "T/C" designation, and all steel beams that are on a grid line with braced frames or moment frames.
 c. 12" o.c. to all other supports parallel to deck corrugations
- d. All welded surfaces shall be dry before welding deck to supports.
- 5. Attach interlocking seams with 1 1/2" long top seam welds at 12" o.c. minimum between adjacent pieces of decking. Crimp side seams before welding. Closer spacings may be used to develop minimum shear requirements.
- 6. Alternate means of deck attachment and fastening using screws, pins or other mechanical fastening methods are permitted with approval of the engineer. The contractor shall submit the proposed attachment system and the code evaluation report demonstrating the system has the strength to meet the required deck shears specified above (in item 3) and on the plans. The flexibility factor of the proposed deck attachment system shall be equal to or less than the flexibility factor for the specified welded deck attachment system. If the alternate attachment method is approved, it is the responsibility of the contractor to ensure that the deck type and profile is compatible with the fastening system being used.
- 7. Provide a 3" minimum bearing and a 4-inch lap at the splice points of all pieces of deck.
- 8. All deck shall be 3—span continuous minimum where possible. The contractor shall provide heavier gauge deck as required for one or two span conditions to meet equivalent loading of the above deck under a three span condition.
- 9. Steel roof deck shall not be used to support loads from plumbing, HVAC ducts, light fixtures, architectural elements or equipment of any kind, unless specifically noted otherwise. Lightweight suspended acoustical ceilings with a total weight per wire not exceeding 50# may be hung from the steel roof deck. The hangers should be staggered to distribute the load over multiple deck flutes.



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INFORMATION PROVIDED
BY CONTRACTOR
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DATE	STATUS
3.23.2005	CD

PROJECT NUMBER

CAD DWG FILE

CHECKED BY CP/JTM

SCALE NONE

GENERAL

STRUCTURAL

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SE002

NOTES

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GENERAL STRUCTURAL NOTES (CONT)

V. Wood

A. Materials:

- 1. Framing Lumber: Number 2 Douglas Fir-Larch or better or as noted otherwise.
- 2. Glued Laminated Timber (Glulam): Visually graded Western Species DF/DF combination symbol 24F-V4 for simple span beams, 24F-V8 for continuous and/or cantilever beams, and DF combination symbol #9 for columns, unless noted otherwise.

 3. Heavy Timber: DF-S #1 or better, dried to moisture content less than 19% at time of erection.
- 4. Wood Structural Panel Sheathing: All panels shall be rated by the American Plywood Association (APA). Panels shall be interior grade with exterior glue with the fallowing panel span rating, unless noted otherwise:
 - 48/24 Roof
- 5. Nails: Standard Common with the following properties:

Nail Size	Shank Diameter	Min. Penetration into Supp	ort Member
6d	0.113"	1.25"	
8d	0.131"	1.50 "	
10d	0.148"	1.63"	
12d	0.148"	1.63"	
16d	0.162"	1.75"	

- 6. Bolts for connections: ASTM A307 with ASTM A563 heavy hex nuts and hardened washers, Grade A, unless noted otherwise.
- B. Special Treatments (American Wood Preservers Institute Standards):
- 1. All wood in contact with concrete, masonry or soil: Pressure treat with Wolman CCA preservative or equal as approved by the Architect.
- 2. Fire Retardant: Pressure treat with Dricon or equal as approved by the Architect.
- C. Minimum Nailing Requirements (See drawings for areas with greater requirements):
- 1. Roof: Nail all sheathing panels with 8d common nails at 6" o.c. at all supported edges and at 12" o.c. at all intermediate supports. Use two plyclips between each support for spans of 48" o.c. and one plyclip between each support for lesser spans at all unsupported plywood panel edges.
- 2. General Framing and Carpentry: Connect all items as per IBC Table 2304.9.1, "Fastening Schedule", unless noted otherwise.
- D. Framing Connections
 - All Framing connections not shown or otherwise indicated on the drawings shall be connected in a manner similar to the connections shown in the drawings or with approved Simpson Strong-Tie Connectors or ICBO Equal. (The following notations refer to Simpson Strong—Tie Connectors):
 - 1. Joist and Rafters: "U" or "F" hangers as required.
 - 2. Beams: "EG" Hangers and "HGLB" Beam Seats
 - 3. Hinge connectors: "HCCT"
 - 4. Columns: "CC" Caps and "CB" Column Bases
 - 5. Hold Down Anchors: "HDA" and "FTA"
- E. Blocking, Bridging, and Bracing:

Provide solid shaped blocking at least 3 in.(nominal) thick and full depth of joist at ends and at each support of joist. Provide approved bridging at a 8'-0" o.c. maximum between joist end supports. Solid blocking between joists shall be nailed to the wood plate at the top of the wall with one Simpson "A35" framing anchor per each piece of blocking. Fill all holes in the framing anchors with 8-d short nails.

VI. Special Instructions

- A. The project specifications are not superseded by the General Structural Notes but are intended to be complementary to them. Consult the specifications for additional requirements in each section. Notes and specific details on the drawings shall take precedence over General Structural Notes and typical details.
- B. The architectural drawings are the prime contract drawings. Consultant drawings by other disciplines are supplementary to the architectural drawings. All omissions or conflicts, including dimensions, between the various elements of the consultants' drawings and/or specifications shall be brought to the attention of the Architect before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the Architect without additional cost to the owner. Any work done by the contractor after discovery of such discrepancy shall be done at the contractor's risk.
- C. The structural drawings shall be used in conjunction with the architectural drawings. Primary structural elements and overall structural layout are indicated within the structural plans and details. Some secondary elements, architectural layouts, alcoves, elevations, slopes, depressions, curbs, mechanical equipment and electrical equipment, are not indicated within the structural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings.
- D. Shoring and Bracing Requirements:
- 1. Floor and Roof Structures The General Contractor is responsible for the method and sequence of all structural erection. He shall provide temporary shoring and bracing as his method of erection requires to provide adequate vertical and lateral support. Shoring and bracing shall remain in place as the chosen method requires until all permanent members are in place and all final connections are completed, including all roof and floor attachments. The building shall not be considered stable until all connections are complete.
- 2. Foundation walls must be braced until the complete floor or roof systems is completed. Do not backfill until floor or roof systems are in place.
- 3. Walls above grade shall be braced until the structural system is complete. Walls shall not be considered to be self supporting.
- E. All expansion joints (E.J.) shown in the structural drawings shall be considered seismic separation joints, unless noted otherwise.

- F. Submittals: A copy of all shop drawings that have been submitted for review must be kept at the construction site for reference. These drawings must bear the appropriate review stamps. The shop drawing review shall not relieve the contractor of the responsibility of completing the project according to the contract documents. The general contractor shall review and mark all shop drawings prior to submitting them to the Architect for his review. Shop Drawings made from reproductions of (these) contract drawings will be rejected.
- G. Project Coordination: It shall be the responsibility of the general contractor to coordinate with all trades any and all items that are to be integrated into the structural system. Openings or penetrations through, or attachments to the structural system that are not indicated on these drawings shall be the responsibility of the general contractor and shall be coordinated with the Architect/Engineers. The order of construction is the responsibility of the general contractor. It is the contractor's obligation to provide all items necessary for his chosen procedure.
- H. Contractor shall field verify all dimensions, and conditions. If the contract drawings do not represent actual conditions, contractor shall notify architect/engineer prior to fabrication or construction within that area.
- I. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers and Associates, Inc., All Rights reserved. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the project is not to be construed as publication in derogation of Regueley Engineers & Associates, Inc.'s reserved rights. The documents defining the structure are instruments of service prepared by Regyelev Engineers and Associates, Inc. for one use only. Furthermore, these documents shall not be reproduced, or copied, in whole or in part by the contractor or his subcontractors for preparation of shop drawings or other submittals.

VII. Quality Assurance

- A. Quality Assurance Agency Requirements:
 - 1. The owner shall engage a qualified Quality Assurance Agency (QAA) to provide all special inspection and quality assurance testing for the project. All quality assurance personnel assigned to the project shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.
 - 2. Prior to construction, the QAA shall prepare a written Quality Assurance Implementation Plan (QAIP) for the project. The QAIP shall include a list of personnel assigned to the project including management personnel, inspection procedures and frequency, proposed testing methods and frequency of testing, and reporting procedures. The QAIP shall also outline methods of documenting deficiencies and reporting corrections. A copy of the QAIP shall be given to the contractor for review and coordination with subcontractors.
 - 3. Prior to construction, the QAA shall submit the following information to the Architect and Engineer of Record
 - a. A copy of the Quality Assurance Implementation Plan for the project.
 - b. A copy of the appropriate certification and training records for each individual performing inspections or
 - c. A list of the testing equipment designated for the project and recent calibration records for the equipment. d. Sample inspection and testing reports and the distribution list for the reports.
 - 4. The special inspector shall inspect the work per Chapter 17 of the IBC for conformance with the contract documents. The special inspector shall send reports to the owner, building official, architect, engineer, and contractor. All discrepancies shall be brought to the immediate attention of the contractor for correction. The QAA shall submit a final signed report stating that the special inspection work was, to the best of their knowledge, in conformance with the plans, specifications and applicable workmanship provisions of the IBC.
- B. Seismic Force Resisting Systems
 - 1. Elements that are a part of the Main Seismic Force Resisting System for the structure may require increased quality assurance inspection and testing. The Main Seismic Force Resisting system for the structure includes the following
 - a. Concrete shear walls.
 - b. Footings and foundation systems that directly support walls, columns and braces referenced above.

 - d. Floor decking and/or slab systems.
 - e. All elements labeled as "drag struts" or "chords."
 - f. Connections between the elements referenced above.
- C. Special Inspection: Special Inspection shall be provided for the following elements per IBC sections 1704 and 1707: I. Concrete and elements embedded in concrete shall be special inspected prior to and during placement of concrete. Special inspection of concrete shall include the following:
 - a. Reinforcina steel size and placement.
 - b. Post-tensioned strand placement and stressing.
 - c. Surface preparation at cold joints including placement of keyways.
 - d. Bolt and embed size, configuration and placement.
 - e. Concrete shall receive continuous special inspection during placement, and periodic inspection after placement to ensure proper curing and weather protection procedures.
 - 2. Structural steel fabrication and erection shall be special inspected, including the following:
 - a. High strength bolts per IBC 1704.3.3 and IBC section 2209.
 - b. Fillet welds smaller than 5/16" per AWS D1.1.
 - c. Fillet welds larger than 5/16, multiple pass welds, and all groove welds shall receive continuous special inspection during weld placement per AWS D1.1. d. Welding of reinforcing steel shall receive continuous special inspection during weld placement per AWS D1.1.
 - e. Welding of Headed Stud Anchors (HSA) and Deformed Bar Anchors (DBA) shall be inspected to comply with AWS D1.1 Section 7.6 through 7.8 and Annex IX.
 - 3. Post—installed anchors, including but not limited to expansion anchors, adhesive anchors and rebar dowels, and low velocity fasteners. shall receive special inspection per the code evaluation reports for the anchors.
 - a. Continuous special inspection is required during the installation of all adhesive anchors and rebar dowels. Special inspector shall verify the following:
 - (1) Anchor size and steel grade.
 - (2) Hole diameter, location, and type of drill bit.
 - (3) Cleanliness of hole and anchor. (4) Adhesive application.
 - (5) Anchor embedment.
 - 4. Wood: Nailing of wood floor and roof diaphragms, nailing of wood shearwalls and installation of anchor bolts, hold down anchors, seismic straps and other elements of the main seismic force resisting system shall recieve special inspection per IBC 1707.3.
 - 5. Piling, drilled pier and caisson construction shall receive continuous special inspection during installation and testing.

- D. Structural Testing: The following materials shall be tested per IBC sections 1704 and 1708. The owner reserves the right to test any and all materials using any appropriate non-destructive procedure. Any items found to be deficient shall be corrected and retested at no additional cost to the owner.
- 1. Earthwork: All compacted structural fill shall be tested to verify soil gradation, lift thickness, and compaction requirements. See the specifications and earthwork section of the GSN for testing frequency and acceptability criteria.
- 2. Concrete Strength Verification and Testing. All concrete shall be tested to verify strength, slump, unit weight, air content, and temperature. See the specifications for testing criteria, testing frequency and acceptability criteria.
- 3. Welded connections shall be tested for compliance according to IBC Table 1704.3, AWS D1.1 and the contract specifications and plans. As a minimum, the testing shall include the following:
- a. All complete penetration groove welds shall be tested 100 percent either by ultrasonic testing or by radiography. b. Any material discontinuities shall be accepted or rejected on the basis of the defect rating in accordance with the testing in AWS D1.1 Chapter 6, excluding Sections 6.1 through and including 6.6. All deficient welds shall be corrected and retested at no additional cost to the owner.
- 4. Post—installed anchors, including but not limited to expansion anchors, adhesive anchors, and low velocity fasteners, shall be tested per the code evaluation reports for the anchors.
- E. Structural Observations by the Engineer of Record.
- 1. The Engineer of Record may perform structural observations at critical phases of the project. Copies of the engineer's report will be distributed to the architect, contractor, owner, and QAA.
- 2. Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval
- 3. Notification of Engineer: The contractor shall notify the engineer twenty—four hours prior to:
- a. Placing concrete in any footing.
- b. Closing any wall forms.
- c. Placing concrete in any column, beam or suspended slab.
- d. Completing the nailing of any plywood wall or deck
- F. Contractor Responsibility: The contractor shall prepare and submit a written statement of responsibility to the building official and the owner prior to commencement of work on the project. As a minimum the statement shall contain the following information:
 - 1. Acknowledgement of the quality assurance requirements for the structure.
 - 2. Acknowledgement of receipt of the Quality Assurance Implementation Plan (QAIP) from the testing agency.
- 3. Acknowledgement that control will be exercised to obtain conformance to the Contract Documents and the QAIP. 4. Quality control procedures within the contractors organization, methods and frequency of reporting, and distribution of
- 5. Identification and qualifications of the person(s) responsible for quality control and their position(s) in the

AB	ANCHOR BOLT (S)	F.D	FLOOR DRAIN	NIC	NOT IN CONTRACT
ABV @	ABOVE AT	FDTN	FOUNDATION FINISH FLOOR	NTS	NOT TO SCALE
ey ALT	ALTERNATE	F.F. FIN	FINISH FLOOR FINISH	OPNG	OPENING
	APPROXIMATE	FL	FLOOR	OPP	OPPOSITE
ARCH	ARCHITECT(URAL)	FT	FOOT	0.C.	ON CENTER
		FTG	FOOTING	0.F.	OUTSIDE FACE
BM	BEAM	FV	FIELD VERIFY	OWSJ	OPEN WEB STEEL JOIST
BLW	BELOW	C4	CALICE	PCF	POUNDS/CUBIC FOOT
BRG	BEARING	ga Galv	GAUGE GALVANIZED	PL	PLATE
BTWN	BETWEEN	GLB	GLU-LAMINATED BEAM	PLF	POUNDS/LINEAL FOOT
BLDG	BUILDING	GR	GRADE	PNL	PANEL
BOT	BOTTOM	GSN	GENERAL STRUCTURAL	PSF	POUNDS/SQ FOOT
0.1	CONCERNATION IONE		NOTES	PSI	POUNDS/SQ INCH
C.J.	CONSTRUCTION JOINT OR CONTROL JOINT	LID	LIODIZONTAL DDIDOINO	PT	POINT
CJP	COMPLETE JOINT	HB HT	HORIZONTAL BRIDGING HEIGHT	REINF	REINFORCING
CUI	PENETRATION	HORIZ	HORIZONTAL	R.D.	ROOF DRAIN
CMU	CONC MASONRY UNIT	HSA	HEADED STUD ANCHORS	REQ'D	REQUIRED
COL	COLUMN				
CONC	CONCRETE	IBC	INTERNATIONAL BUILDING	SHT	SHEET
CONST	CONSTRUCTION	1000	CODE	SI	SPECIAL INSPECTION
CONT CONTR	CONTINUOUS CONTRACTOR	ICB0	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	SOG STD	SLAB ON GRADE STANDARD
CONTR	CENTER	ICC	INTERNATIONAL CODE	STIFF	STIFFENER
OII	CLIVIER	100	COUNCIL	STL	STEEL
DB	DECK BEARING	IN.	INCH	SQ	SQUARE
DBA	DEFORMED BAR ANCHORS	INSUL	INSULATION	SIM	SIMILAR
001	0.01101.5	INT	INTERIOR	STR	STRUCTURAL
DBL DET	DOUBLE	I.F.	INSIDE FACE	STAG	STAGGERED
DIA	DETAIL DIAMETER	JT	JOINT	T&B	TOP AND BOTTOM
DIM	DIMENSION	JST	JOIST	TEMP	TEMPERATURE
DN	DOWN	KLF	KIPS PER LINEAL FOOT	THDS	THREADS
DWG	DRAWING	KSF	KIPS PER SQUARE FOOT	T.O.	TOP OF
DWL	DOWEL	KSI	KIPS PER SQUARE INCH	TOC	TOP OF CONCRETE
ГА	FACIL	K	KIPS - 1,000 POUNDS	TOF TOS	TOP OF FOOTING TOP OF SLAB
EA E.J.	EACH EXPANSION JOINT	LF	LINEAL FOOT	TOW	TOP OF SLAB
∟.∪.	(SEISMIC SEPARATION JOINT)	LBS	POUNDS	TYP	TYPICAL
ELEV	ELEVATION	LLH	LONG LEG HORIZONTAL		
ELEC	ELECTRICAL	LLV	LONG LEG VERTICAL	UNO	UNLESS NOTED OTHERWIS
EQUIP	EQUIPMENT	MAC	MACONDV	VEDT	VEDTICAL
EQ EVICT	EQUAL	MAS MAX	MASONRY MAXIMUM	VERT W/	VERTICAL WITH
exist Exp	EXISTING EXPANSION / EXPOSED	MCJ	MASONRY C.J.	w <i>/</i> WWF	WELDED WIRE FABRIC
EXT	EXTERIOR	MECH	MECHANICAL	*****	HELDED WINE INDINO
E.F.	EACH FACE	MFR	MANUFACTURER		
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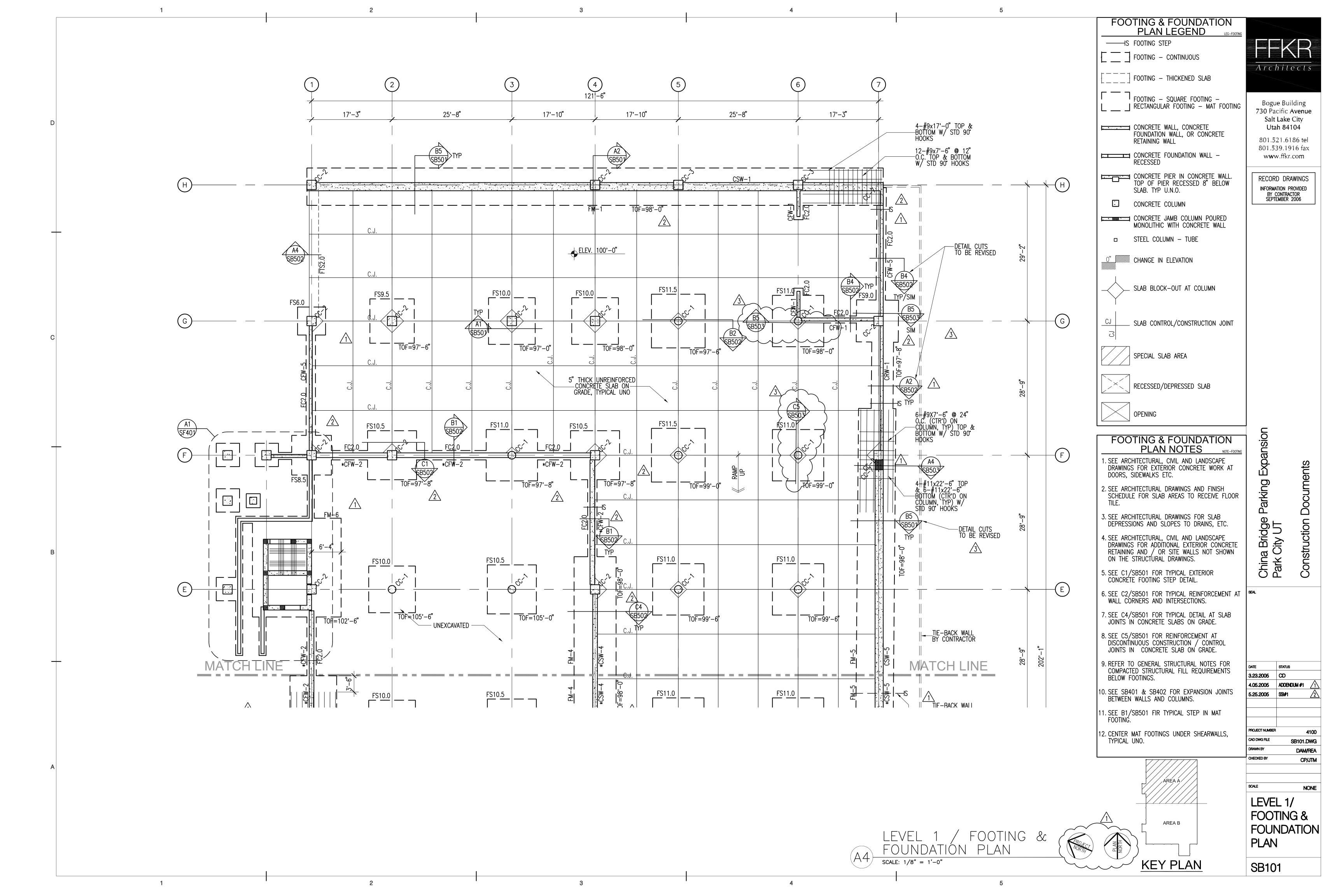
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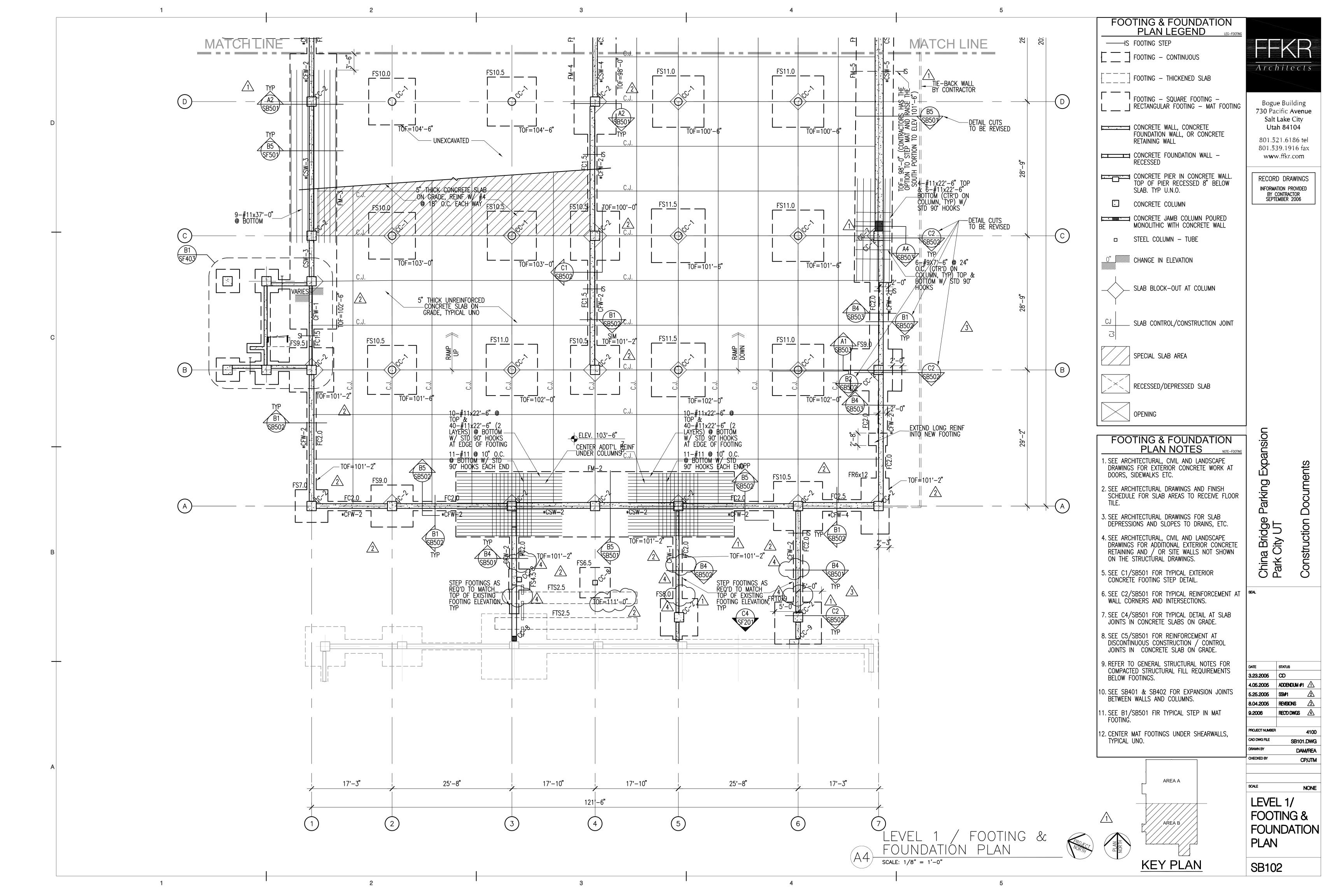
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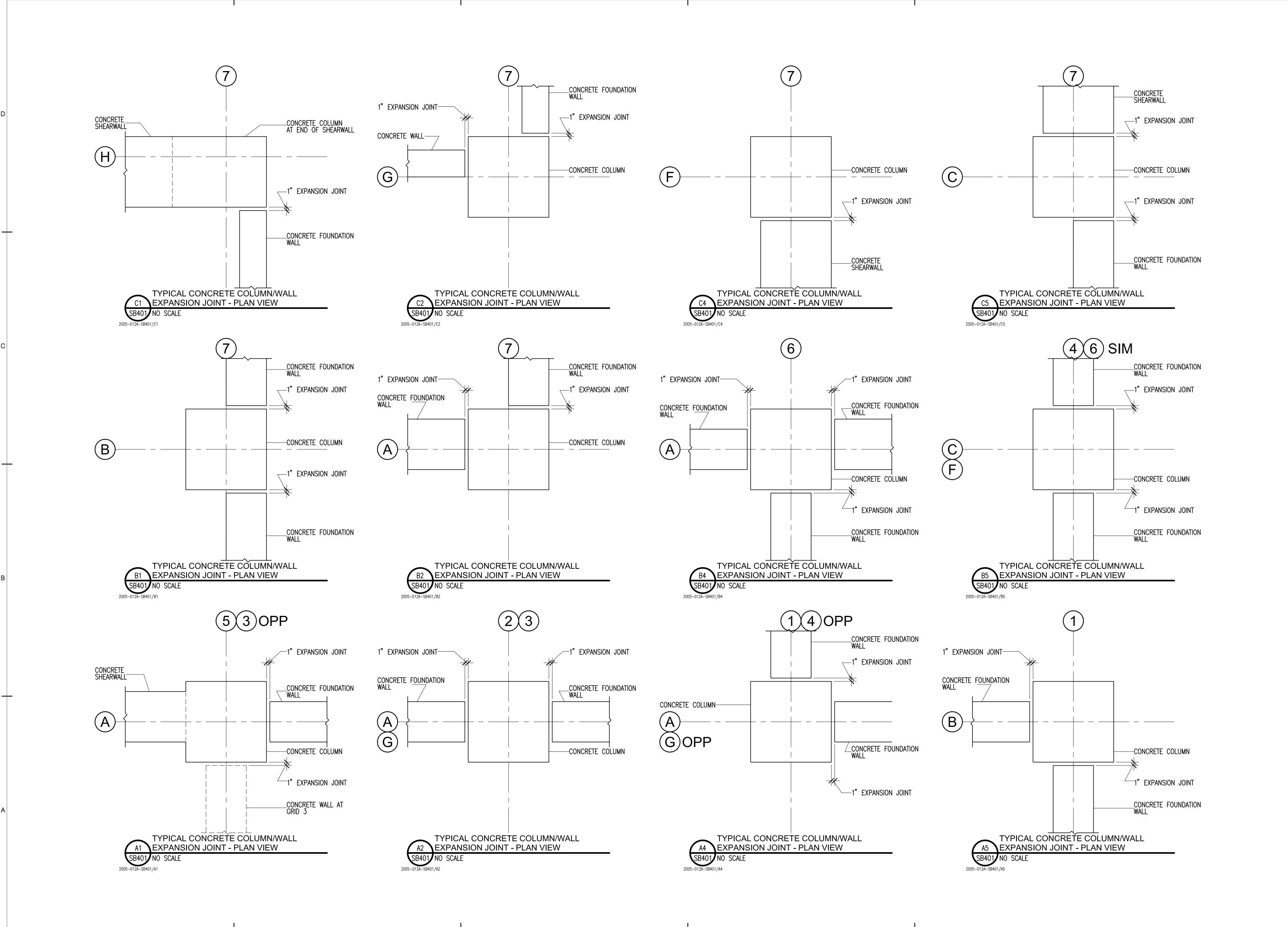
GENERAL STRUCTURAL NOTES

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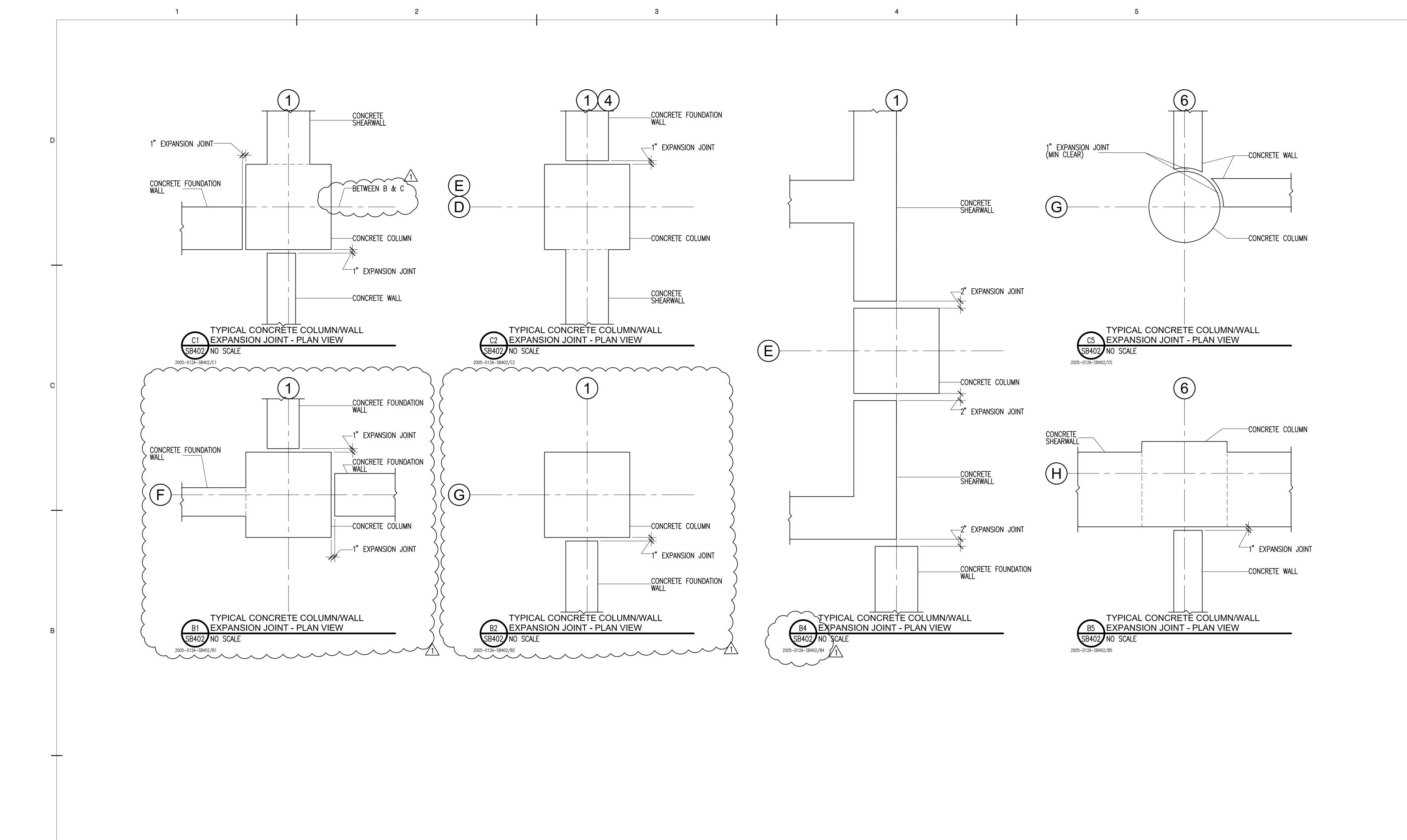
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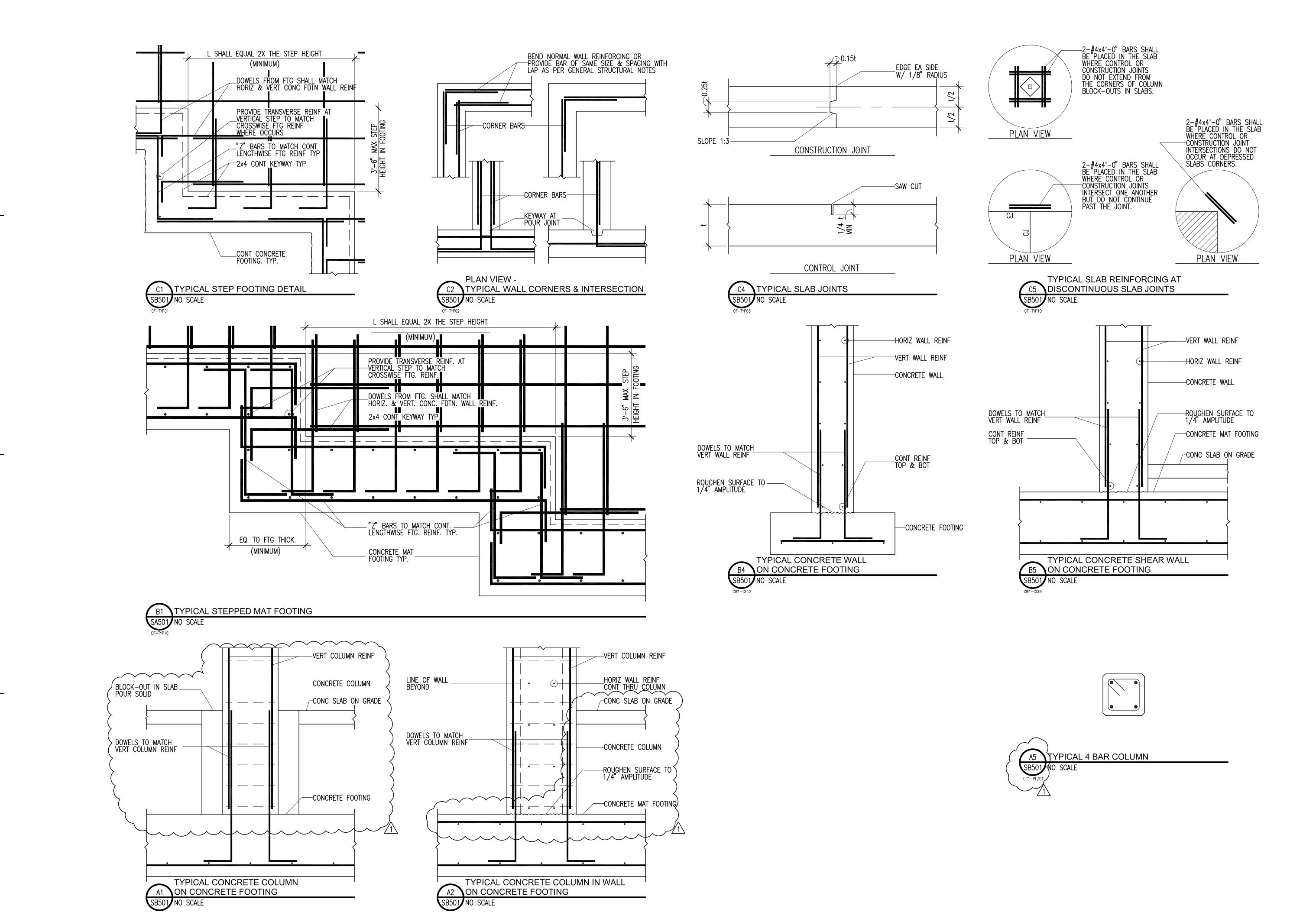
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> **ELARGED** CONCRETE

JOINT **PLANS**

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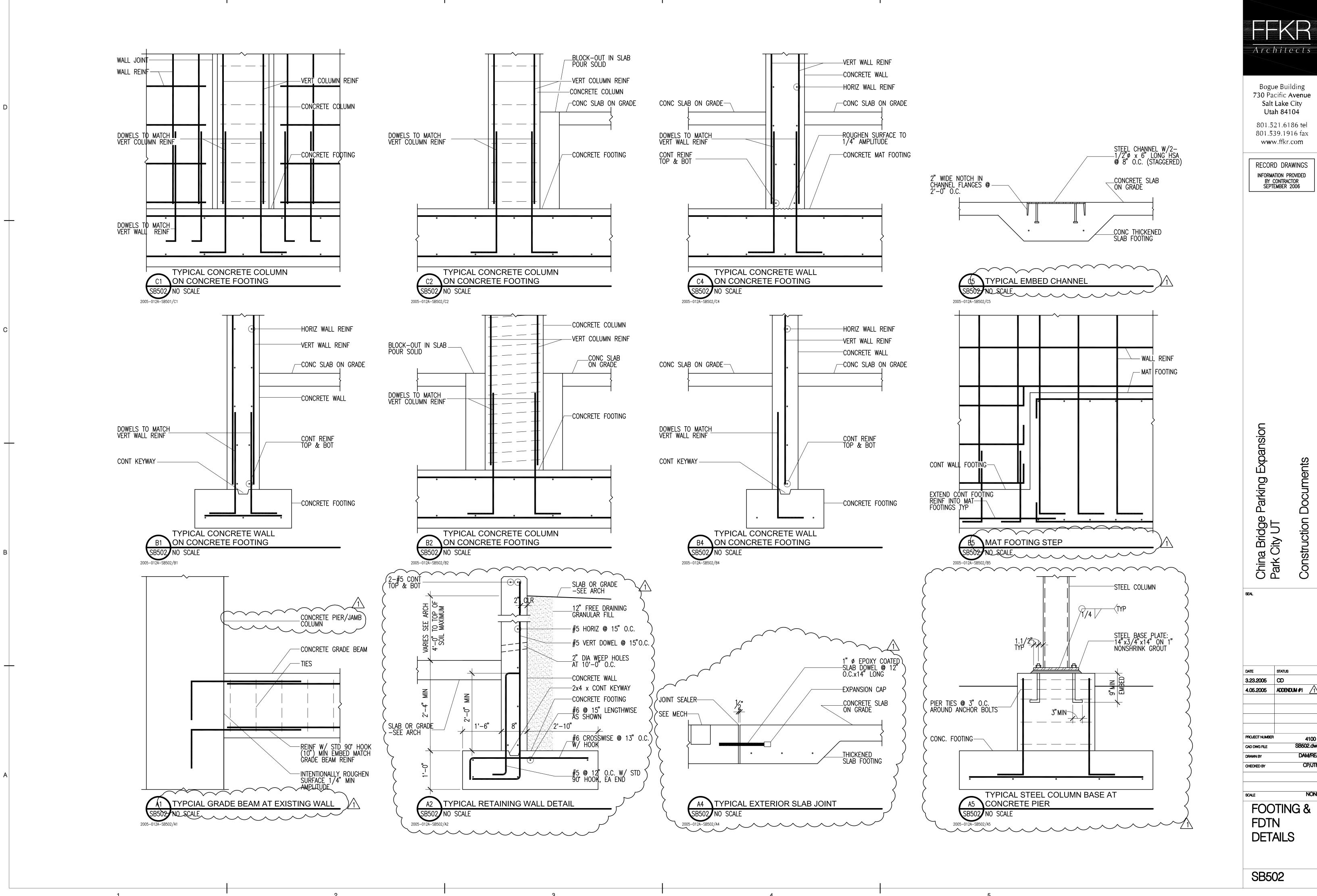
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FOOTING & **FDTN DETAILS**

SB501



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