CONTACT INFORMATION

OWNER

OWNER: City of Camdenton

REPRESENTATIVE: Jeff Hooker

ADDRESS: 437 W. US Hwy 54 PHONE: (573) 346-3600

CIVIL | ARCHITECTURAL



530A E. Independence Drive Union, Missouri 63084 (636) 584-0540 (636) 584-0512 FAX Contact: Brian Gentges

CITY OF CAMDENTON CAMDENTON WELCOME WALL HWY 5 & HWY 54 Intersection Camdenton, MO 65020

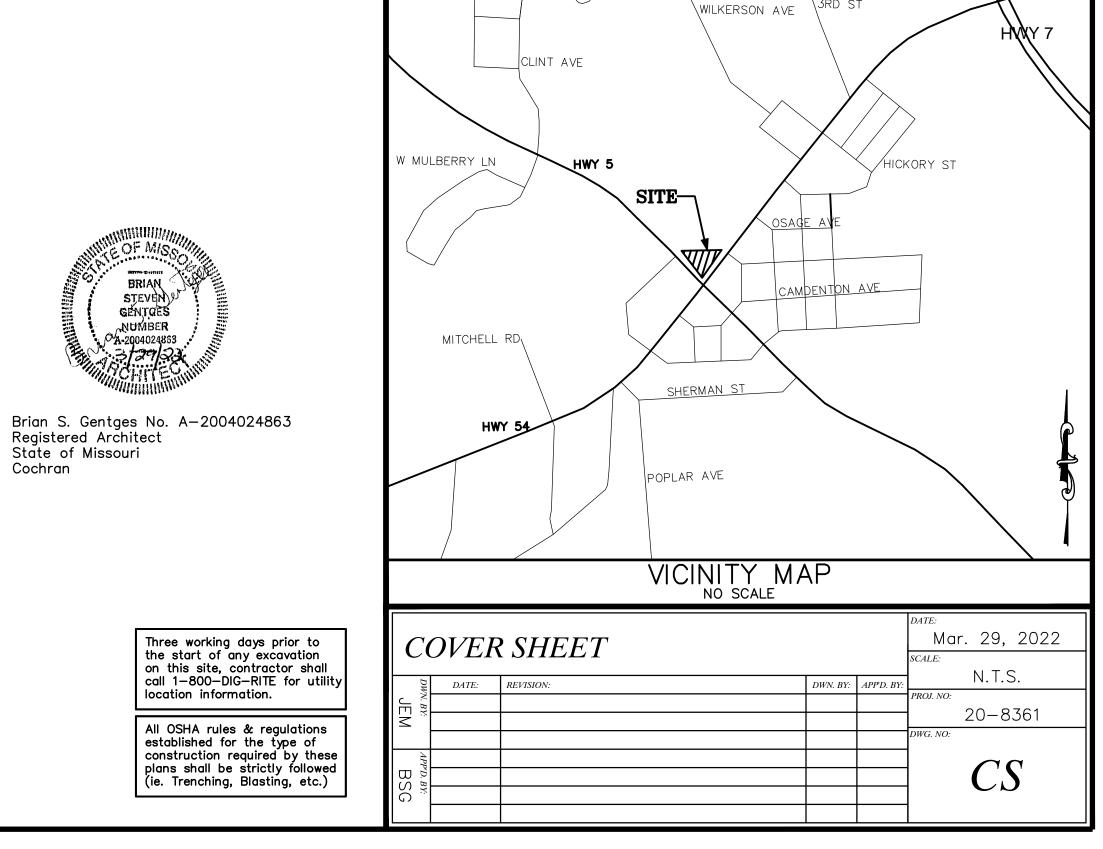
DRAWING INDEX

- T1 TOPOGRAPHIC SURVEY / DEMOLITION PLANC1 GRADING / SITE PLAN
- D1 DETAIL SHEET A1.1 WALL PLAN AND ELEVATION
- A1.2 ELECTRICAL AND PIPING PLANS A2.1 SECTIONS
- A3.1 SPECIFICATIONS SHEET



- CIVIL ENGINEERING
- LAND SURVEYING
- ARCHITECTURE
- SITE DEVELOPMENT
- MASTER PLANNING
- GENERAL CONSULTING

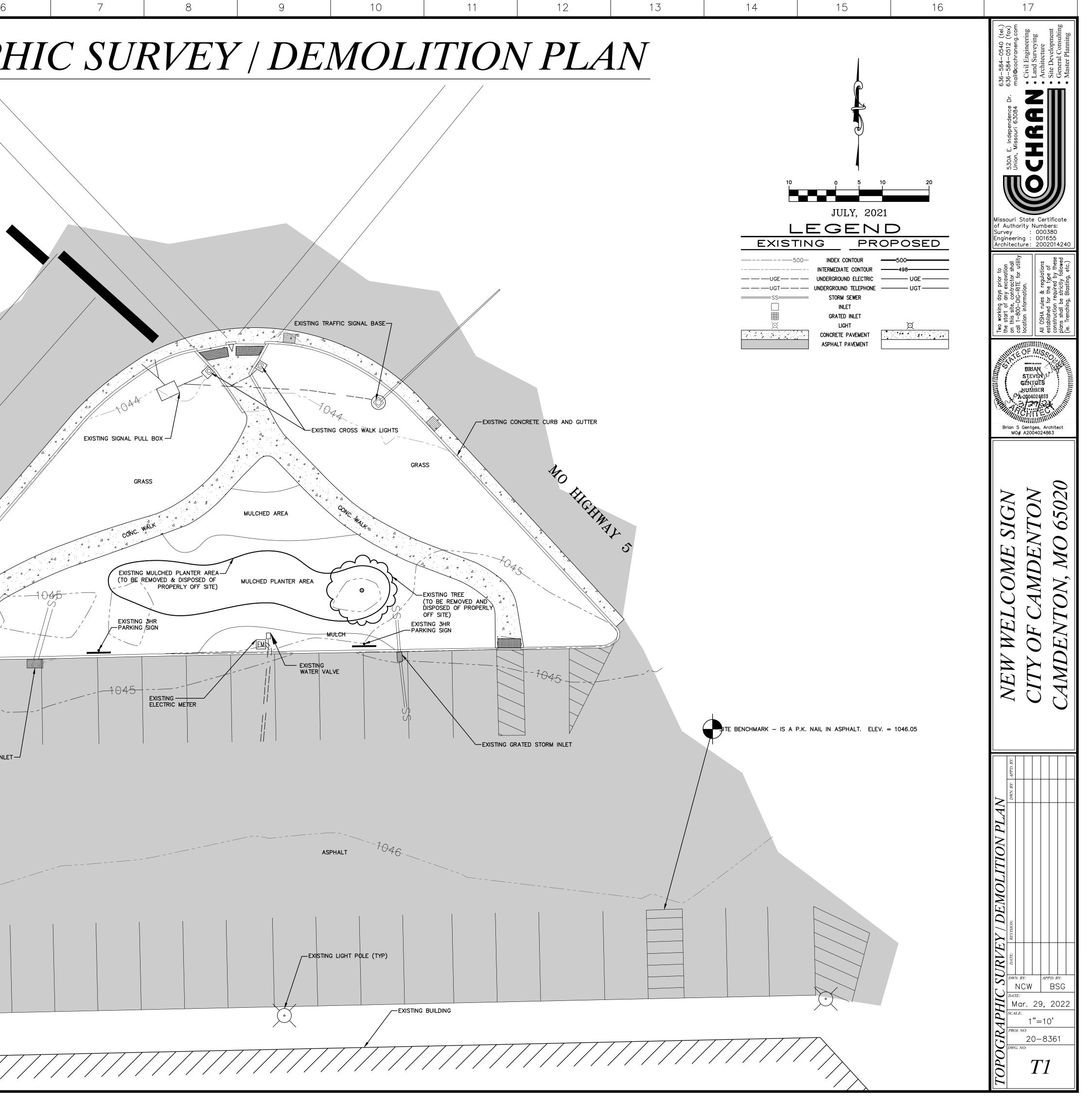
530A E. INDEPENDENCE DRIVE, UNION, MISSOURI 63084 TELEPHONE (636) 584-0540 FAX (636) 584-0512 mail@cochraneng.com

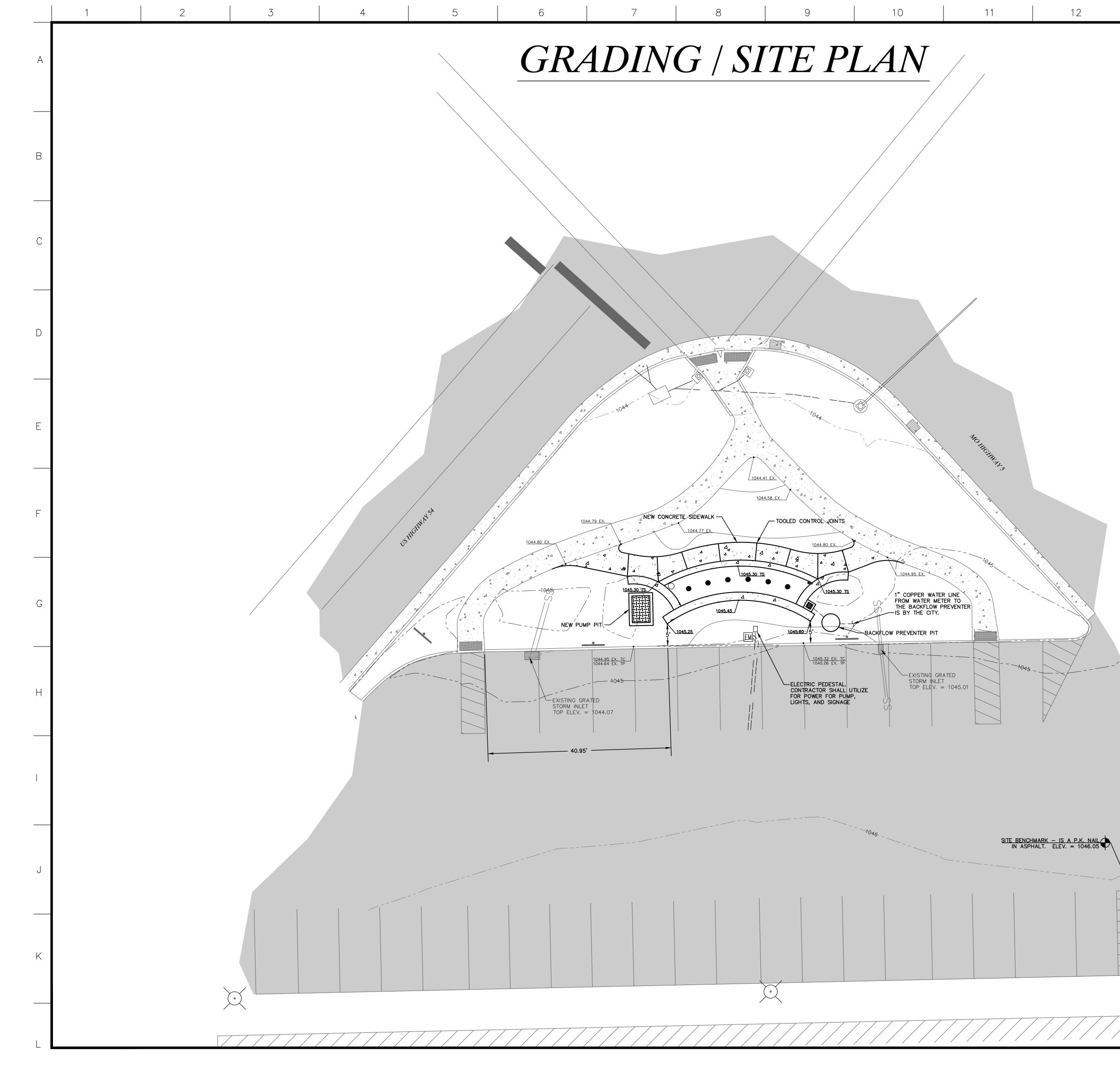


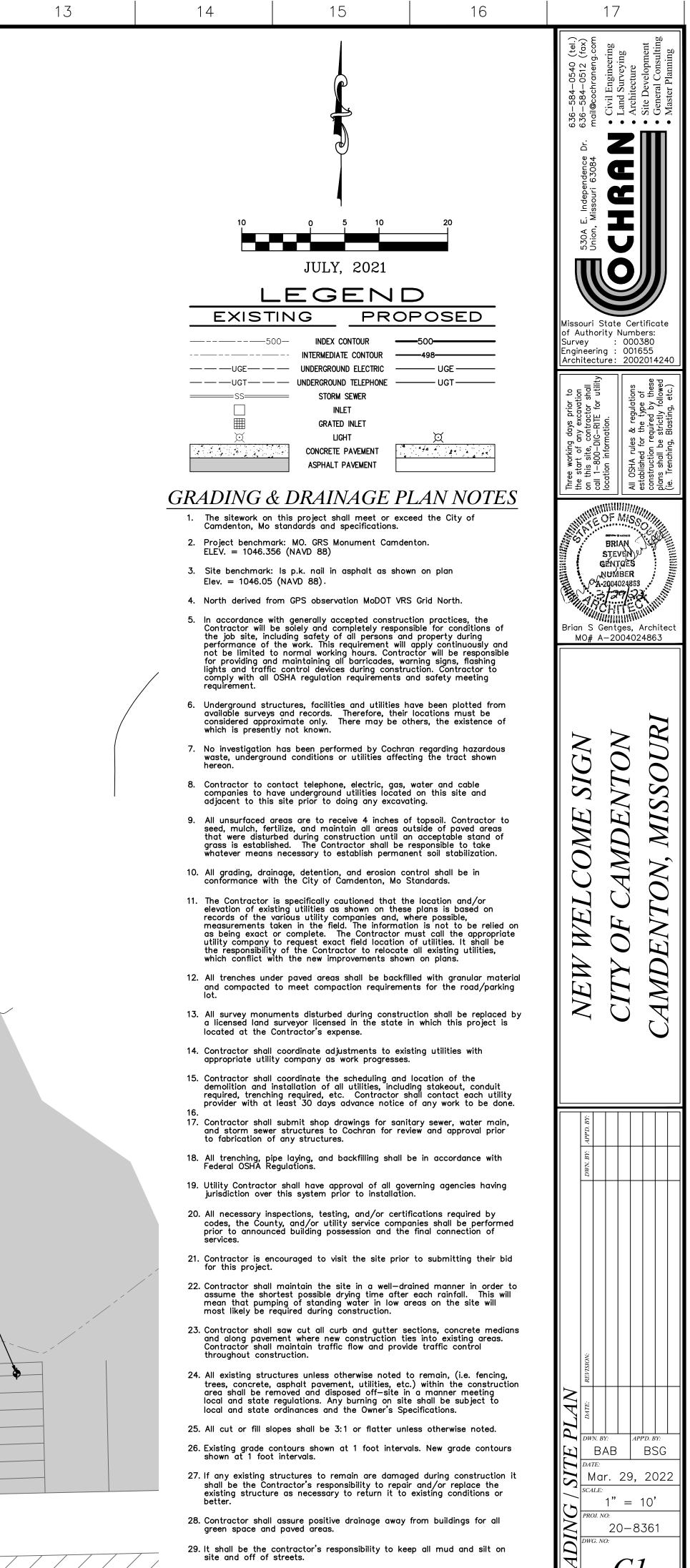
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F	MONUMENT (1046.356 (N	CAMDENTON. ELEV. =	I			
E	ASPHALT AS ELEV. = 104	S SHOWN ON PLAN 6.05 (NAVD 88). WAS PERFORMED BY				
F	R.S.N. ON SI	EPTEMBER 29, 2020.			HIGHMA	15 ¹
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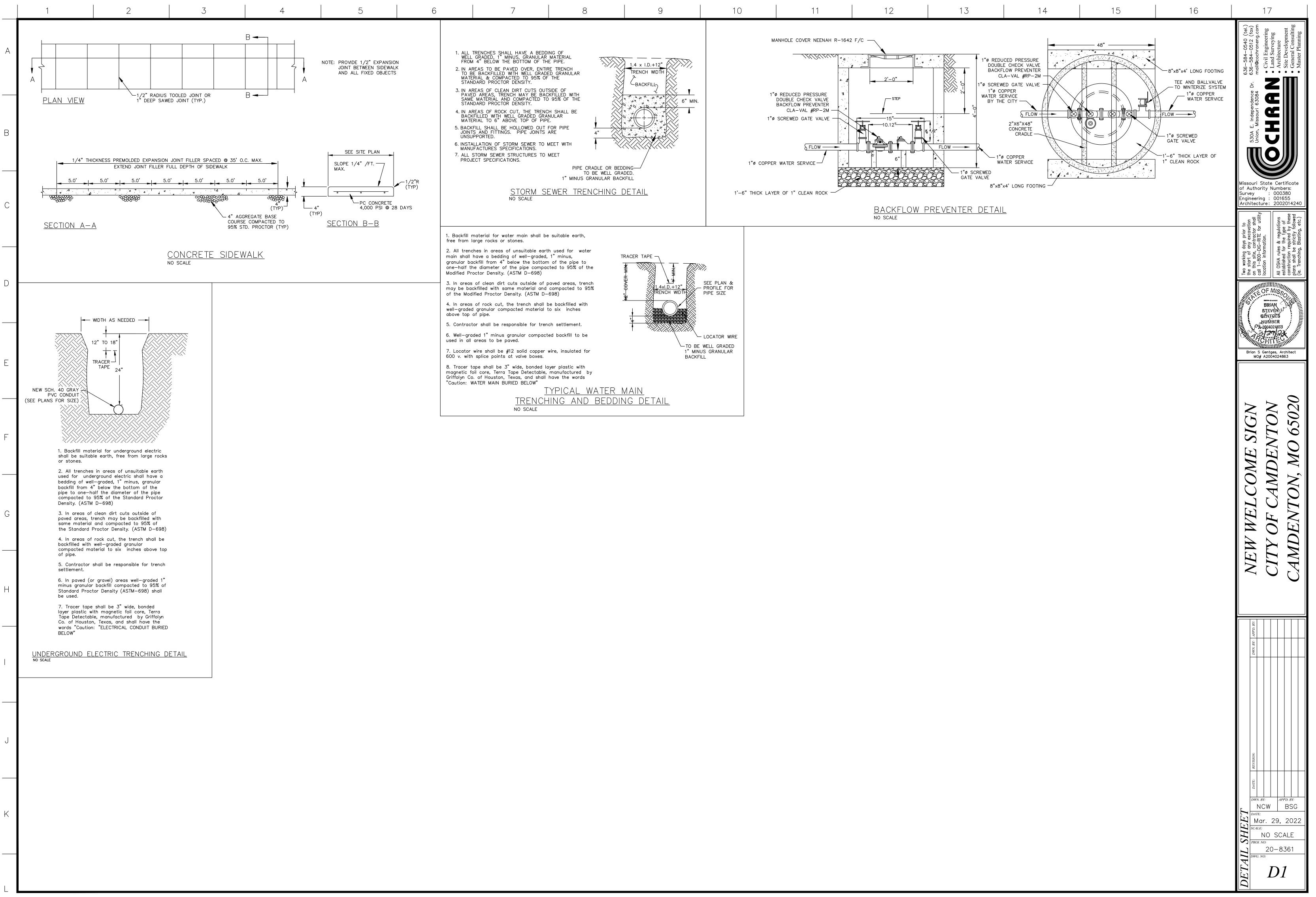


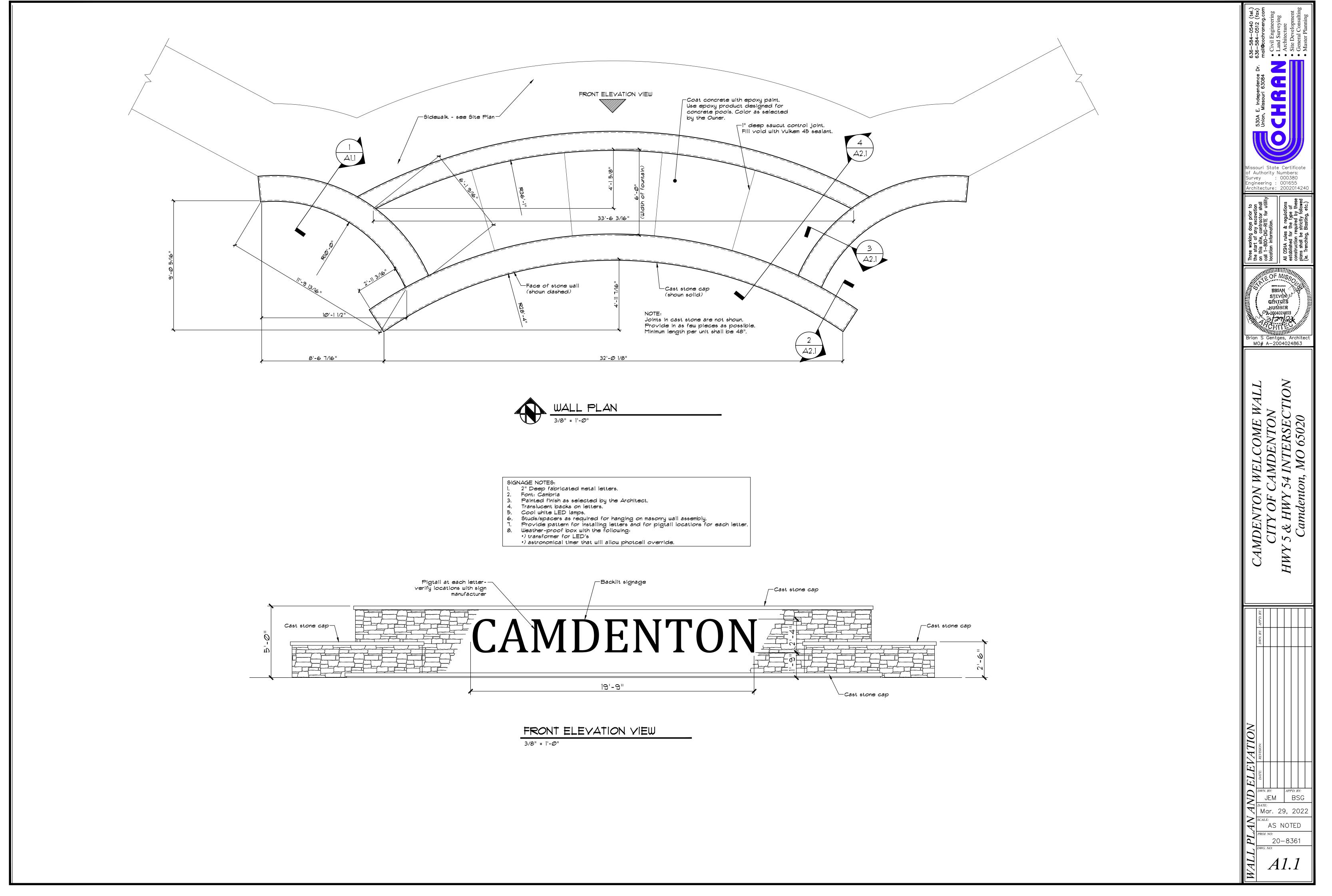


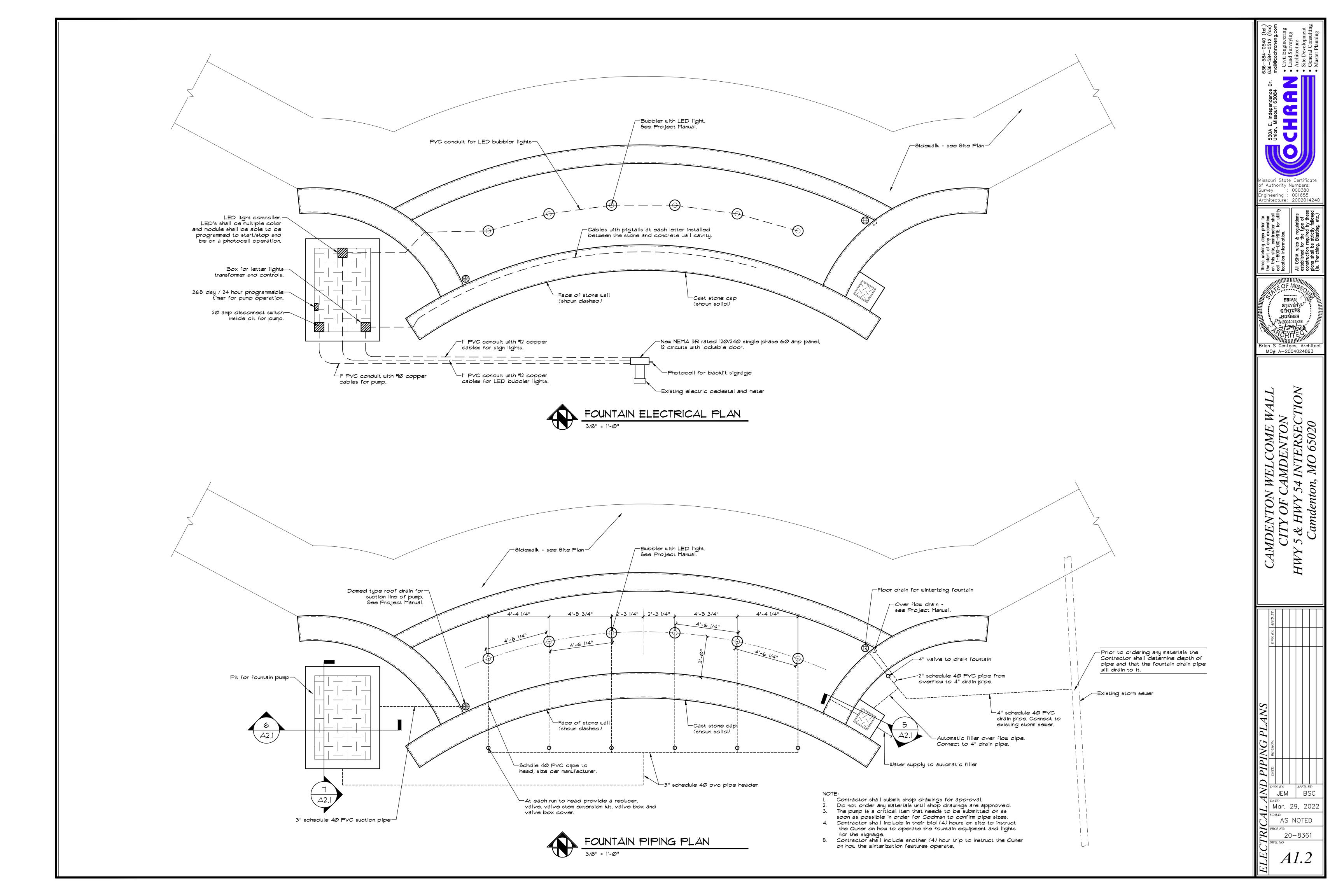


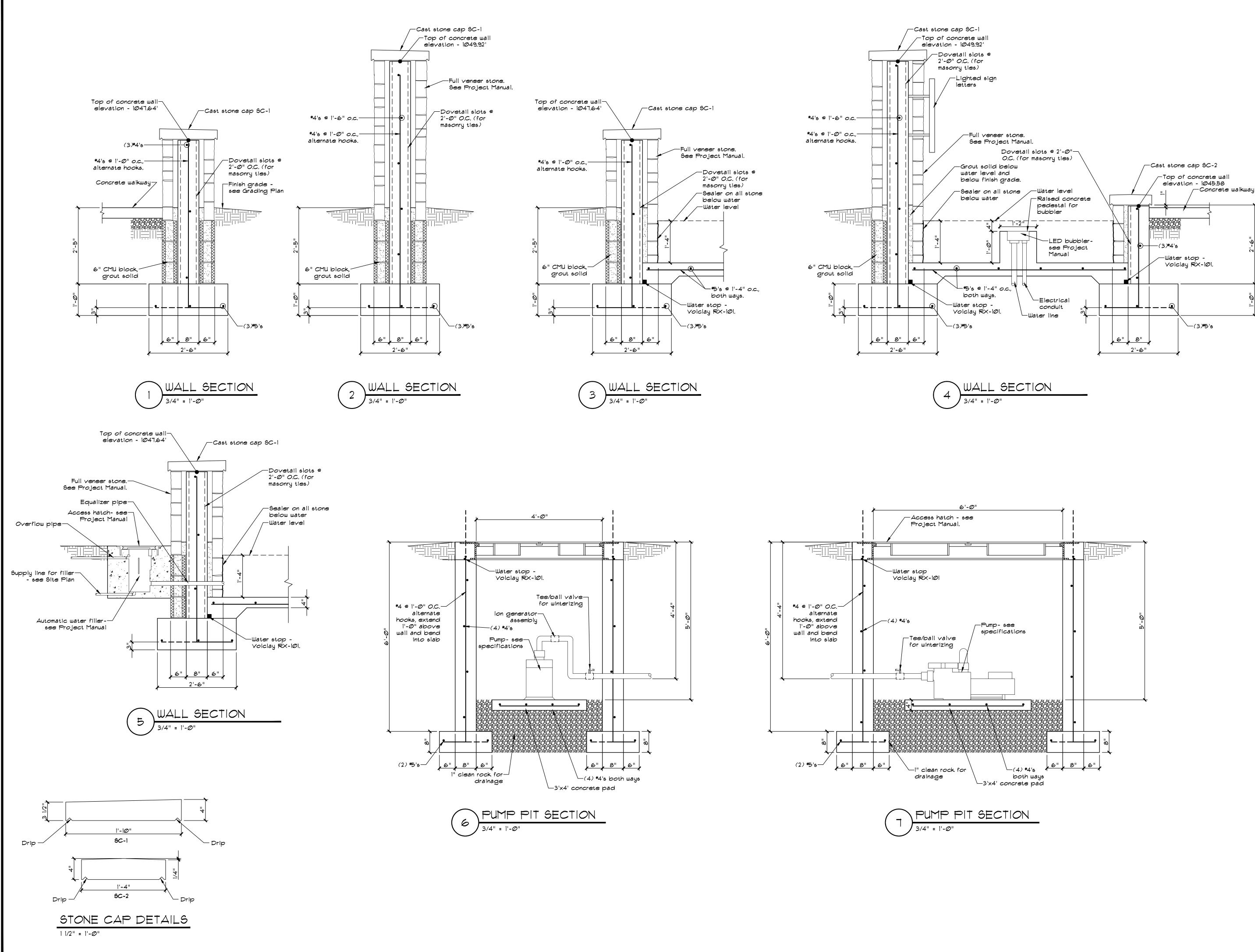
^{30.} Land disturbing activities shall not commence until approval to do so has been received by governing agencies and until all erosion control measures have been taken.

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SECTION 03300 CAST-IN-PLACE CONCRETE

PART 1 - GENERAL 1.1 SUMMARY

- A. Provide cast-in-place concrete for general building construction, including, without limitation: 1. Footings and foundations.
- 2. Slabs on grade. B. Requirements (materials, mixes, finishes) apply to concrete work specified in other sections, such as 1.2 SUBMITTALS
- sidewalk paving.
- 1.2 SUBMITTALS A. Product Data: Submit manufacturer's product data and installation instructions for each material and B. Shop Drawings: Submit shop drawings indicating material characteristics, details
- product used. B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction,
- connections, and relationship with adjacent construction.
- 1. Shop drawings shall be prepared and stamped by a qualified engineer licensed in the jurisdiction of the project. C. Mix Design: Prepare concrete design mixes for each type and strength of concrete by laboratory trial 1.3 QUALITY ASSURANCE
- batch method as specified in ACI 301 and ACI 318. Submit concrete mix designs and written test reports of each proposed mix of concrete to Architect and Structural Engineer at least fifteen (15) days prior to start of work. Do not begin concrete production until mixes have been reviewed and approved by Architect and Structural Engineer. 1.3 QUALITY ASSURANCE
- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Testing: 1. Employ an independent testing agency acceptable to perform material evaluation tests. Provide 7 PART 2 - PRODUCTS and 28 day cylinder tests. Comply with ASTM C 143, C 173, C 31 and C 39. (Submit all test reports 2.1 MATERIALS to the Architect and Engineer.
- 2. Make one set of four cylinders for each major pour or each 50 cubic yards.
- 3. Concrete slump at point of placement to be not less than 2" and not greater than 4". C. Standards.
- 1. ACI 301, Specifications for structural Concrete for Buildings.
- 2. ACI 318, Building Code Requirements for Reinforced Concrete, and CRSI Manual of Standard Practice.

PART 2 - PRODUCTS 2.1 MATERIALS

- A. Concrete Design Mixes, ASTM C 94, 28 Day Compressive Strength:
- 1. Foundations:
- a. Compressive Strength: 4000 psi.
- 2. Slabs on Grade and Footings:
- a. Compressive Strength: 4000 psi. 3. Exterior Site Concrete and Pads Exposed to Weather:
- a. Compressive Strength: 4000 psi.
- B. Formwork: Plywood or metal panel formwork sufficient for structural and visual requirements. C. Reinforcing Materials:
- 1. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
- 2. Steel Wire: ASTM A182. D. Concrete Materials: ASTM C 150, Type I, Portland cement; potable water.
- 1. Normal weight aggregates, ASTM C 33.
- 2. Fly ash not permitted.
- E. Concrete Admixtures: Containing less than 0.1 percent chloride ions. 1. Air-Entraining Admixture: ASTM C 260, for exterior exposed concrete and foundations exposed to
- freeze-thaw. 2. Water-Reducing Admixture: ASTM C 494, Type A, for placement and workability.
- 3. High-Range Water-Reducing Admixture, Super Plasticizer: ASTM C 494, Type F or G for placement and workability.
- 4. Water-Reducing, Accelerating Admixture: ASTM C 494, Type E for placement and workability. 5. Water-Reducing, Retarding Admixture: ASTM C 494, Type D for placement and workability.
- F. Auxiliary Materials:
- 1. Vapor Retarder: ASTM D 4397 polyethylene sheet, 10 mils.
- G. Concrete Finishes For Formed Surfaces:
- 1. Surfaces Not Exposed To View: As-cast form finish. 2. Surfaces Exposed To View: Smooth form finish.
- H. Concrete Finishes for Monolithic Slabs:
- 1. Trowel finish for surfaces to be exposed to view.
- 2. Nonslip broom finish for exterior concrete walks and pads. PART 3 - EXECUTION
- 3.1 INSTALLATION
- A. Comply with ASTM C 94. Do not change mix design without approval. Calcium chloride admixtures are not permitted.
- B. Chamfer exposed edges/corners to provide straight lines.
- C. Tolerance: Plus 1/8" in 10' for grade, alignment, and straightness.
- D. Construction Joints: Use keyways, continue reinforcement through joint.
- E. Expansion Joints: For exterior work locate 30' o.c. at approved locations. Provide smooth dowels across joint which permit 1" horizontal movement and no vertical shear movement.
- F. Isolation Joints: Provide between slabs and vertical elements such as columns and structural walls.
- G. Control Joints: Provide sawn or tooled joints or removable insert strips; depth equal to 1/4 slab
- thickness. Spacing per plan.
- H. Wall Finishes: As-cast and patched for concealed work; rubbed smooth, filled and cement paste coated for exposed work.
- Slab Finishes:
- 1. Broom: After trowel finishing, roughen surface by fine brooming perpendicular to traffic direction for exposed exterior walks, steps and ramps.
- 2. Hardener Finish: For exposed interior concrete floors. Follow manufacturer's directions. J. Cure and protect work. Report defective work in writing.

END OF SECTION

SECTION 04720 CAST STONE

- PART 1 GENERAL
- 1.1 SUMMARY A. Provide cast stone items
- 1. Wall Caps.
- 2. Coping.
- A. Product Data: Submit manufacturer's product data and installation instructions for product used.
- connections, and relationship with adjacent construction. 1. Shop drawings shall be prepared and stamped by a qualified engineer licensed the project
- C. Samples: Submit two representative samples of each material specified indicating characteristics and finish. Include range samples if variation of finish is anticipated
- A. Comply with governing codes and regulations. Provide products of acceptable mar have been in satisfactory use in similar service for three years. Use experienced in handle, and store materials in accordance with manufacturer's instructions. B. Standard: Manufacturer is a producing member of the Cast Stone Institute or has written quality-control plan that includes all elements of the Cast Stone Institute's "
- Procedures Required for Plant Inspection." C. Testing: Independent testing laboratory.
- D. Mock-Ups: Provide mock-up as required to demonstrate quality of workmanship.
- 1. Full-size typical unit.
- A. Concrete Materials: 1. Portland Cement: Portland cement, ASTM C 150, Type I.
- 2. Fine Aggregate for Facing Mixes: ASTM C 33 and colors as needed to produce
- colors
- 3. Coarse Aggregate: Granite, quartz, or limestone complying with ASTM C 33; g to produce required textures and colors as needed to produce required cast sto 4. Pigments: ASTM C 979, synthetic mineral-oxide pigments, color stable, nonfadir
- lime and other alkalis.. B. Concrete Admixtures: Containing less than 0.1 percent chloride ions.
- 1. Air-Entraining Admixture: ASTM C 260.
- 2. Water-Reducing Admixture: ASTM C 494, Type A.
- 3. Water-Reducing, Retarding Admixture: ASTM C 494, Type D.
- 4. Water-Reducing, Accelerating Admixture: ASTM C 494, Type E.
- C. Reinforcement: Deformed steel bars complying with ASTM A 615; galvanized or en reinforcement when covered with less than 1-1/2 inches of cast stone material.
- 1. Epoxy Coating: ASTM A 775.
- 2. Galvanized Coating: ASTM A 767.
- D. Embedded Anchors and Inserts: 1. Stainless Steel: ASTM A 240, Type 304.
- 2. Steel: ASTM A 36 and hot-dip galvanized: ASTM A 123.
- E. Provide mortar materials that comply with Division 4 Section "Masonry Assemblies." F. Provide cast stone units complying with ASTM C 1364 using the vibrant dry tamp w G. Fabrication Tolerances:
- 1. Tolerances in subparagraphs below are based on recommendations of the Cas
- 2. Variation in Cross Section: Do not exceed 1/8 inch.
- 3. Variation in Length: Do not exceed 1/360 of the length of unit or 1/8 inch. 4. Warp, Bow, and Twist: Not to exceed 1/360 of the length of unit or 1/8 inch.
- 5. Location of Grooves or Anchorages: Not greater that 1/8 inch on formed surface unformed surfaces.
- PART 3 EXECUTION
- 3.1 INSTALLATION A. Install materials and systems in accordance with manufacturer's instructions and a Install materials and systems in proper relation with adjacent construction and with
- appearance. Coordinate with work of other sections.
- B. Tolerance: 1/8" in 10' or 1/4" in 20' for plumb and level.
- C. Variation in Plane between Adjacent Surfaces (Lipping): 1/16".
- D. Replace damaged units. Clean and protect work from damage.

END OF SECTION

		CTION 042000 IT MASONRY	5–584–0540 (tel.) 5–584–0512 (fax) ii@cochraneng.com Civil Engineering Land Surveying Architecture Site Development General Consulting Master Planning
		RT 1 - GENERAL SUMMARY	6–584–0540 (tel 6–584–0512 (fox ail@cochraneng.co Civil Engineering Land Surveying Architecture Site Development General Consultir Master Planning
	А.	This Section includes unit masonry assemblies consisting of the following: 1. Concrete masonry units (CMUs).	6–584– 6–584– 6–584– C ivil E Land S Archite Archite Genera Master
		SUBMITTALS Product Data: For each type of product indicated.	636–58 636–58 mail@con • Civi • Arch • Arch • Site • Gend
or each material and		Shop Drawings: For reinforcing steel. Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."	ы Z П
s of construction,		Samples for each type and color of exposed masonry units and colored mortars. Material Certificates: For each type of product indicated. Include statements of material	63084
ed in the jurisdiction of	υ.	properties indicating compliance with requirements including compliance with standards and type designations within standards.	
ng visual ed.	F	 For masonry units include material test reports substantiating compliance with requirements. Mix Designs: For each type of mortar and grout. Include description of type and proportions of 	
nanufacturers, which		ingredients.	30A E.
d installers. Deliver,		PROJECT CONDITIONS Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice	
as on file and follows a s "Quality Control		or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in	
	В.	ACI 530.1/ASCE 6/TMS 602. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in	
	PAR	ACI 530.1/ASCE 6/TMS 602. RT 2 - PRODUCTS	Nicesuri State Contificate
		COLORS, TEXTURES, AND PATTERNS Exposed Masonry Units: As selected from manufacturer's full range.	Missouri State Certificate of Authority Numbers: Survey : 000380
		CONCRETE MASONRY UNITS (CMUs) Shapes: Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers,	Engineering : 001655 Architecture: 2002014240
uce required cast stone		bonding, and other special conditions. Integral Water Repellent: Provide units made with liquid polymeric, integral water-repellent	
; gradation as needed stone colors	Β.	admixture that does not reduce flexural bond strength for exposed units and where indicated. 1. Available Products:	prior to ccavation inctor shall F for util egulations type of ting, etc.)
fading, and resistant to		a. Addiment Incorporated; Block Plus W-10.	ys prior excavat NTE for on. regulat rired by rictly fo asting.
	_	 b. Grace Construction Products, a unit of W. R. Grace & Co Conn.; Dry-Block. c. Master Builders, Inc.; Rheopel. 	ng da Pice da from the for the be stimution ng, Bic
	C.	Concrete Masonry Units: ASTM C 90. 1. Unit Compressive Strength: Provide units with minimum average net-area compressive	workir a site B00- MA ru shal enction enction
		strength of 1900 psi (13.1 MPa). 2. Weight Classification: Normal weight.	All Os and the state of the sta
r epoxy-coated		MORTAR AND GROUT MATERIALS Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather	
		construction. Hydrated Lime: ASTM C 207, Type S.	MULE OF MISSO
	C.	Aggregate for Mortar: ASTM C 144.	BRIAN
es."	D.	1. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16	GENTQES
p wet-cast method.		sieve Aggregate for Grout: ASTM C 404. Cold Maathan Adminture. Nanchlarida, papagraphic, papalareting, adminture, completing, with	A-2004024863
ast Stone Institute.	H.	Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of	CHIECHING
	I.	composition indicated. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with	Brian S Gentges, Architect MO# A-2004024863
faces or 3/8 inch on	J.	concrete masonry units, containing integral water repellent by same manufacturer. Water: Potable.	M0# A-2004024803
		REINFORCEMENT Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.	
l approved submittals. ith uniform		Masonry Joint Reinforcement: ASTM A 951; mill galvanized, carbon-steel wire for interior walls and hot-dip galvanized, carbon-steel wire for exterior walls.	
		MISCELLANEOUS MASONRY ACCESSORIES Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1;	
		compressible up to 35 percent; formulated from neoprene.	WAL. V CTIO
	D.	Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 and designed to fit standard sash block and to	
	C.	maintain lateral stability in masonry wall. Bond-Breaker Strips: Asphalt-saturated, organic roofing felt complying with ASTM D 226, Type I	
		(No. 15 asphalt felt). MORTAR AND GROUT MIXES	OME NTOI 5RSEC 65020
	A.	General: Do not use admixtures, unless otherwise indicated. 1. Do not use calcium chloride in mortar or grout.	EF C
		Limit cementitious materials in mortar for exterior and reinforced masonry to portland cement and lime.	
		Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.	W IN E
		Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Mortar for Unit Masonry: Comply with ASTM C 270, Property Specification.	V A A
		1. For reinforced masonry, use Type S. RT 3 - EXECUTION	V_{5}
	3.1	INSTALLATION, GENERAL	DF VV VV
	D.	Use full-size units without cutting if possible. If cutting is required, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of	
	E.	units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and	DENTON ITY OF C, & HWY 5. Camdentor
		textures. Comply with tolerances in ACI 530.1/ASCE 6/TMS 602 and with the following:	CAMD CT CT C
		1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet maximum.	$\overline{\gamma}$
		 For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet maximum. 	T C
		LAYING MASONRY WALLS Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint	
	<i>,</i> \.	thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other	
	P	locations.	
	D.	Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 8-inch horizontal face dimensions at corners or iambs	
	C.	jambs. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill	APPD.
		in solidly with masonry around built-in items. Fill space between steel frames and masonry solidly with mortar, unless otherwise indicated.	N. BY:
		MORTAR BEDDING AND JOINTING Lay hollow concrete masonry units as follows:	N/M/I
		 With face shells fully bedded in mortar and with head joints of depth equal to bed joints. With webs fully bedded in mortar in all courses of piers, columns, and pilasters. 	
		 With webs fully bedded in mortar in grouted masonry, including starting course on footings. With entire units, including areas under cells, fully bedded in mortar at starting course on 	
	R	footings where cells are not grouted. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint	
		thickness, unless otherwise indicated. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than	
		paint), unless otherwise indicated.	
		FIELD QUALITY CONTROL Inspectors: Owner will engage qualified independent inspectors to perform inspections and	
		prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform inspections.	
		 Place grout only after inspectors have verified compliance of grout spaces and grades, sizes, and locations of reinforcement. 	
	В.	Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections indicated below and prepare test reports:	REVISION
	C	 Payment for these services will be made by Owner. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof. 	
	D.	Concrete Masonry Unit Test: For each type of unit provided, per ASTM C 140. Grout Test (Compressive Strength): For each mix provided, per ASTM C 1019.	DATE:
	3.5	MASONRY WASTE DISPOSAL	DWN. BY: APP'D. BY:
	A.	Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.	BSG BSG
		material as fill is placed. 1. Do not dispose of masonry waste as fill within 24 inches of finished grade. 2. Demove evenes clean measure waste that connect be used as fill as described above, and	P Mar. 29, 2022
		2. Remove excess clean masonry waste that cannot be used as fill, as described above, and	SCALE:

2. Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property. END OF SECTION 042000

AS NOTED

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