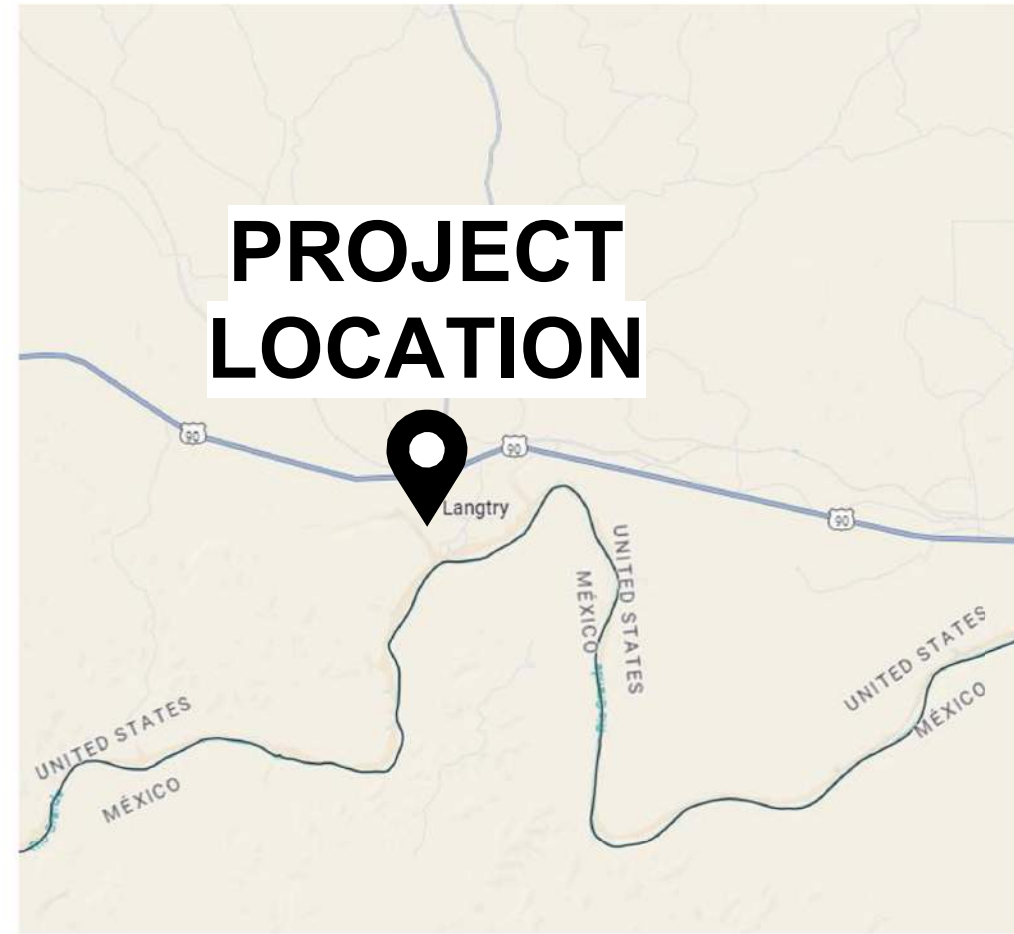


# TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATION

**PROJECT:**  
**SITE # 229888**  
**BUILDING # 568056**  
LANGTRY, TX  
**LAREDO DISTRICT**  
CSJ: 6473-05-001  
PROJECT No.: RMC 647305001



## PROJECT LOCATION

VICINITY MAP



### SCOPE OF WORK:

THE TxDOT LANGTRY TRAVEL INFORMATION CENTER RENOVATION PROJECT WILL RENOVATE MULTIPLE SITE AMENITIES TO IMPROVE GUEST MOBILITY AROUND THE SITE AND MEET CURRENT TEXAS ACCESSIBILITY STANDARD (TAS) REQUIREMENTS. THIS WILL INCLUDE, BUT NOT LIMITED TO REMOVING EXISTING FLAGSTONE SIDEWALKS, PROVIDING NEW TAS-COMPLIANT PATHS TO LINK THE SITES FEATURES TOGETHER WITH THE USE OF NEW CONCRETE SIDEWALKS WITH AN ARCHITECTURAL FINISH, AND A NEW ACCESSIBLE WALK FROM THE PARKING LOT TO THE TRAVEL INFORMATION CENTER. EXISTING HANDRAILS AT THE BRIDGE TO THE CACTUS GARDEN WILL BE REPLACED WITH A TAS-COMPLIANT PREFINISHED ALUMINUM GUARDRAIL SYSTEM INCLUDING AN INTEGRAL HANDRAIL. THE BRIDGES EXISTING FLAGSTONE SURFACE IS TO BE REMOVED AND REPLACED WITH A NEW CONCRETE SURFACE WITH AN ARCHITECTURAL FINISH.

IN ADDITION TO SIDEWALK REPLACEMENT, IMPROVEMENTS TO LANDSCAPING AND IRRIGATION SYSTEM WILL BE PROVIDED. NEW NATIVE PLANTS ARE TO BE PROVIDED AND INSTALLED IN DISTURBED AREAS AND SEVERAL EXISTING PLANTS ARE TO BE REPLACED AS INDICATED. A NEW IRRIGATION SYSTEM IS TO BE PROVIDED THROUGHOUT THE SITE. SITE IMPROVEMENTS ALSO INCLUDE A NEW ASPHALT DRIVE BETWEEN THE TRAVEL INFORMATION CENTER AND BUTTERFLY GARDEN AND OTHER WORK INDICATED IN THE CONTRACT DOCUMENTS.

THIS PROJECT INCLUDES SEVERAL BID OPTION ITEMS AS NOTED IN THE CONTRACT DOCUMENTS.



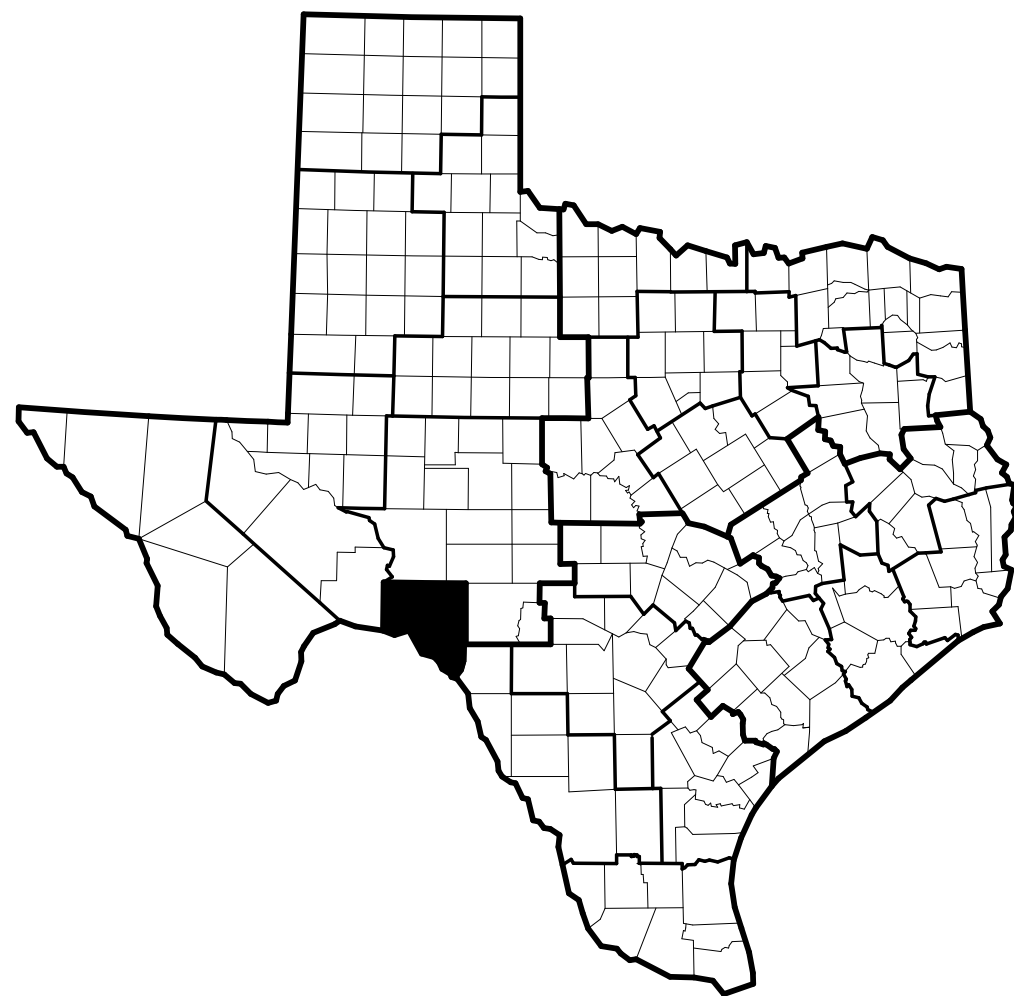
**Support Services Division / Facilities Planning & Management**

**125 E 11th Street  
Austin, Texas 78701-2483  
(512) 416-3341**

**Project Manager:  
JIM TATE  
(512) 552-7045  
JIM.TATE@TXDOT.GOV**

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VAL VERDE COUNTY, TX



### CIVIL:

**DERREK ECKERMANN, P.E.**

ECKERMAN ENGINEERING, INC.  
P.O. BOX 388  
202 SPRING HO AVE  
LAMPASAS, TX 76550

### ARCHITECTURE:

**DANNY RICHARDSON JR, AIA LEED AP BD+C**  
SLA ARCHITECTS  
2004 QUAIL CREEK DR.  
SUITE #200  
WICHITA FALLS, TX 76308

### LANDSCAPE:

**JAIME SIMS, PLA**

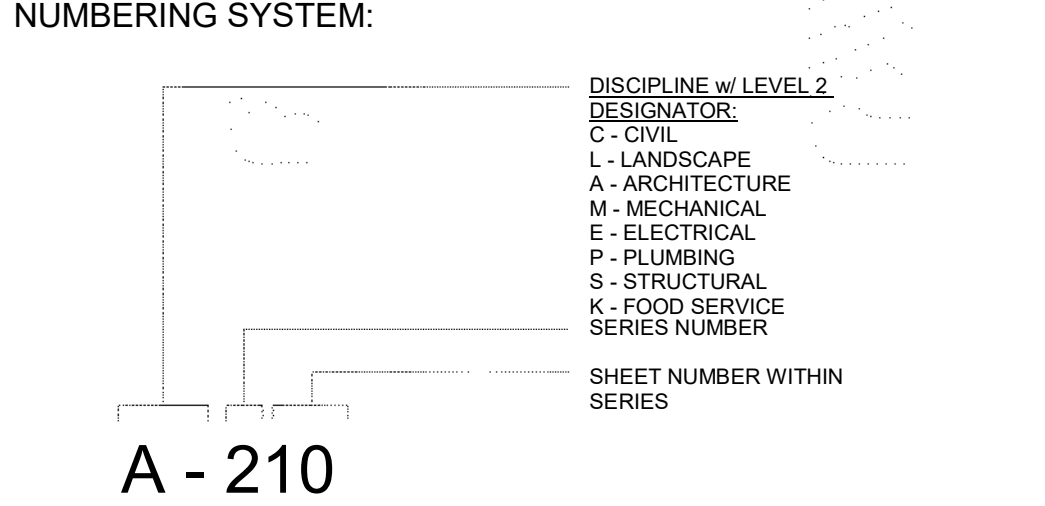
CIRCLE V LANDSCAPE ARCHITECTURE  
P.O. BOX 170822  
AUSTIN, TX 78717

TXDOT LANGTRY TRAVEL INFORMATION CENTER - SITE RENOVATION  
CSJ: 6473-05-001

# DRAWING ABBREVIATIONS

<b>A</b> A LABEL CLASS A DOOR AC AIR CONDITION AUC UNIT AIR CONDITIONING UNIT AE ARCHITECT/ENGINEER AB ANCHOR BOLT ACC ACCESSIBLE ACS AUTOMATIC CONTROL SYSTEM ACS DR ACCESS DOOR ACS PNL ACCESS PANEL ACT ACOUSTICAL CEILING TILE ADA AMERICANS WITH DISABILITIES ACT ADMIN ADMINISTRATION AFC ABOVE FINISHED COUNTER AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AFS ABOVE FINISHED SLAB AGGR AGGREGATE AHU AIR HANDLING UNIT AIB AIR INFILTRATION BARRIER ALT ALTERNATE ALUM ALUMINUM ANOD ANODIZE APC ACOUSTICAL PANEL CEILING APPROX APPROXIMATE AR AS REQUIRED ARCH ARCHITECT ASC ABOVE SUSPENDED CEILING ASSY ASSEMBLY ATC ACOUSTICAL TILE CEILING AVG AVERAGE AW ARCHITECTURAL WOODWORK AWT ACOUSTICAL WALL TREATMENT	<b>F</b> F FIRE ALARM FAAP FIRE ALARM ANNUNCIATOR PANEL FAS BD FACIA BOARD FC BRK FACE BRICK FCD FLOOR CLEANOUT FDO FLOOR DRAIN FOUN FOUNDATION FE FIRE EXTINGUISHER FEC FIRE EXTINGUISHER CABINET FED FEDERAL FF FINISH FACE FF EL FINISH FLOOR ELEVATION FF INSUL FOIL BACKED INSULATION FGL FIBERGLASS FH FIRE HOSE FHP FULL HEIGHT PARTITION FIN FINISH FIN BS FINISH BOTH SIDES FIN FLR FINISH FLOOR FIN GR FINISH GRADE FIXT FIXTURE FLDG FOLDING FLEX FLEXIBLE FLG FLOORING FLMT FLUSH MOUNT FLR FLOOR FM FACTORY MUTUAL FAC FACE OF CONCRETE FOM FACE OF MASONRY FR FIRE RESISTANT FRG FIBER REINFORCED GYPSUM FRMG FRAMING FRP FIBERGLASS REINFORCED PLASTIC FRTW FIRE RETARDANT TREATED WOOD FS FEDERAL SPECIFICATION FSTNR FASTENER FT FEET FTG FOOTING FWC FABRIC WALLCOVERING	<b>OPQ</b> OPAQUE OWSJ OPEN WEB STEEL JOIST OPR OPERABLE ORD OVERFLOW ROOF DRAIN ORIG ORIGINAL	<b>P</b> PUBLIC ADDRESS PAR PARAPET PAT PATTERN PB PULL BOX PBD PARTICLE BOARD PCC PRECAST CONCRETE PCF POUNDS PER CUBIC FOOT PCT PERCENT PERF PERFORATED PERIM PERIMETER PH PHASE PIL PLASTER PL PROPERTY LINE PL GL PLATE GLASS PLAM PLASTIC LAMINATE PLAS PLASTER PLBG PLUMBING PLNG PLING PLYWD PLYWOOD PNL PANEL PP PL PUSH/PULL PLATE PR AIR PRCST PRECAST PRKG PARKING PS CONC PRESTRESSED CONCRETE PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PT PRESSURE TREATED PTD PAPER TOWEL DISPENSER PTDR PAPER TOWEL DISPENSER AND RECEPTACLE PTN PARTITION PWR POWER	<b>Q</b> QUARRY TILE QTY QUANTITY	<b>R</b> RESILIENT BASE RBM REINFORCED BRICK MASONRY RBR RUBBER RC REINFORCED CONCRETE RCP REFLECTED CEILING PLAN RD ROOF DRAIN RDG INS RIGID INSULATION, SOLID REC RECESSED REC ROOM RECREATION ROOM REF REFERENCE REM REMOVABLE REP REPAIR REPL REPLACE REQ REQUIRE REQD REQUIRED RESIL RESILIENT REST RESTROOM RF RESILIENT FLOORING RFG ROOFING RH ROOF HATCH RHR RIGHT HAND REVERSE RL ROOF LEADER RLG RAILING RM ROOM RO ROUGH OPENING RSD ROLLING STEEL DOOR RV ROOF VENT RVL REVEAL	<b>S</b> SPLASH BLOCK SCHED SCHEDULE SD SMOKE DETECTOR SF SQUARE FOOT (FEET) SFTWD SOFTWOOD SGL SINGLE SHT MTL FLASH SHEET METAL (FLASHING) SHTHG SHEATHING SHV SHELIVING SIM SIMILAR LSJ SCORED JOINT SKLT SKYLIGHT SLNT SEALANT SMK SMOKE SMLS SEAMLESS SP EL SPOT ELEVATION SPEC SPECIFICATION SQ SQUARE SQ IN SQUARE INCH SQ YD SQUARE YARD SST STAINLESS STEEL ST STAIRS STD STANDARD STL JUST STEEL JOIST STL RF DK STEEL ROOF DECK STR STORAGE STR STRINGERS STRB/HRN STROBE/HORN SUB FL SUBFLOOR SV SHEET VINYL SW SIDEWALK	<b>T</b> TREAD T/S TUB/SHOWER TC TERRA COTTA TD TRENCH DRAIN TEL TELEPHONE TEMP TEMPORARY TER TERRAZZO MOD MODIFY TFF TOP OF FINISH FLOOR THK THICKNESS TK BD TACKBOARD TMFD GL TEMPERED GLASS TN TRUE NORTH TOF TOP OF FOOTING TOM TOP OF MASONRY TOP TOP OF PARAPET TOPO TOPOGRAPHY TOS TOP OF SLAB TRANS TRANSPARENT TRTD TREATED TV TELEVISION	<b>U</b> UNLESS NOTED OTHERWISE	<b>W</b> WOOD
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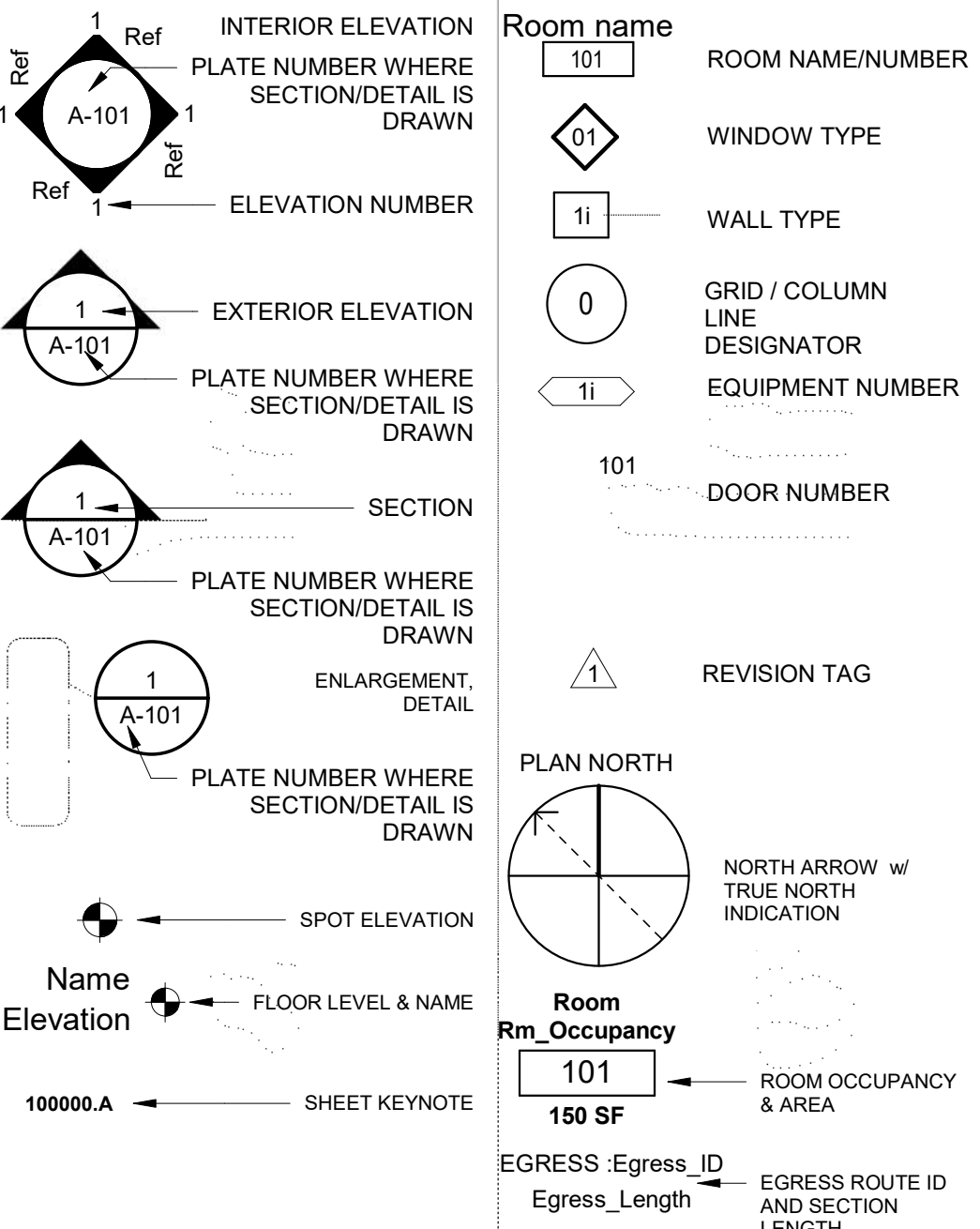
# GENERAL LEGEND



# LEGEND

	CONCRETE/PRECAST CONCRETE		GYPSUM BOARD
	SOIL		EXTERIOR GYPSUM SHEATHING
	SAND, EFS FINISH COAT, OR CEMENT PLASTER		EXTERIOR CEMENT BOARD
	BRICK		COATED GLASS MAT WATER RESISTANT GYP BD
	CMU		PLYWOOD
	STONE		COVER BOARD
	FIBERGLASS BATT INSULATION		FIRE RATED WALL SYMBOLS: ◆ 1 HR FIRE ◆◆ 2 HR FIRE ◆◆◆ 3 HR FIRE ◆◆◆◆ 4 HR FIRE ◆◆◆ S 1 HR FIRE/SMOKE WALL ◆◆◆ S 2 HR FIRE/SMOKE WALL ◆◆◆ S 3 HR FIRE/SMOKE WALL ◆◆◆ S 4 HR FIRE/SMOKE WALL
	FIBERGLASS SEMI RIGID INSULATION		
	MINERAL WOOL SEMI RIGID INSULATION		
	EXPANDED POLYSTYRENE RIGID INSULATION		
	EXTRUDED POLYSTYRENE RIGID INSULATION		
	POLYISOCYANURATE RIGID INSULATION		

# ANNOTATION CALLOUTS/DRAWING SYMBOLS



# CEILING SYMBOLS

	2' x 2' ACT CEILING		RETURN AIR GRILLE
	4' x 4' ACT CEILING		SUPPLY AIR GRILLE
	1' x 1' ACT CEILING		EXHAUST AIR GRILLE
	GYP. BD. CEILING		EXIT LIGHT
	2 X 4 LIGHT FIXTURE		2 X 2 LIGHT FIXTURE
			SUSP. FLUORESCENT LIGHT

# BUILDING SUMMARY

- BUILDING CODE SUMMARY**
- A. TEXAS ADOPTED INTERNATIONAL CODE BY THE INTERNATIONAL CODE COUNCIL**  
1. INTERNATIONAL BUILDING CODE (IBC) - 2021
- B. NATIONAL FIRE PROTECTION ASSOCIATION ADOPTED BY STATE FIRE MARSHAL**  
1. FIRE CODE NFPA-1 2021  
2. LIFE SAFETY CODE NFPA- 101 2021
- C. ACCESSIBILITY CODES**  
1. AMERICANS WITH DISABILITIES ACT (ADA) - 2010  
2. TEXAS ACCESSIBILITY STANDARDS (TAS) - 2012

# GENERAL NOTES

- CONTRACTOR TO VERIFY EXISTING CONSTRUCTION AND CONDITIONS. IN THE EVENT THAT CONDITIONS DIFFER SUBSTANTIALLY FROM THOSE SHOWN IN THESE DRAWINGS AND SPECIFICATIONS CONTACT THE CONTRACTING AUTHORITY IMMEDIATELY.
  - WORK SHALL CONFORM TO THE CONSTRUCTION DOCUMENTS & ALL APPLICABLE BUILDING CODES (INCLUDING FEDERAL & STATE CODES, ORDINANCES, REGULATIONS, ETC.) CONSTRUCTION DOCUMENTS INCLUDE CIVIL & LANDSCAPE DRAWINGS & SPECIFICATIONS PLUS ANY ADDENDA TO THE AFOREMENTIONED.
  - CONSTRUCTION DOCUMENTS ARE INTENDED TO INCLUDE ITEMS NECESSARY TO CONVEY DESIGN INTENT OF THE WORK. MANUFACTURERS' INSTRUCTIONS SHALL BE CONSIDERED AS PART OF THE SPECIFICATIONS WHETHER INCLUDED OR NOT IN THE SPECIFICATION MANUAL.
  - PERIODIC SITE VISITS BY OWNER'S REPRESENTATIVE SHALL NOT BE CONSTRUED AS SUPERVISION OF MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES FOR CONSTRUCTION. NOR IMPLY RESPONSIBILITY FOR PROVIDING A SAFE PLACE FOR PERFORMANCE OF WORK BY CONTRACTOR OR CONTRACTOR'S EMPLOYEES, OR EMPLOYEES OF SUPPLIERS, OR FOR ACCESS, VISITS, USE, WORK, TRAVEL, OR OCCUPANCY BY ANY PERSON.
  - CONTRACTOR SHALL:
    - NOTIFY ARCHITECT OF FIELD CONDITIONS REQUIRING DEVIATIONS FROM CONSTRUCTION DOCUMENTS BEFORE THE CONSTRUCTION OF ANY MODIFICATION.
    - PROVIDE ADEQUATE BRACING & SHORING AS NECESSARY UNTIL PERMANENT SUPPORTS & STIFFENERS ARE INSTALLED.
    - IMMEDIATELY REPAIR OR REPLACE DAMAGED OR DEFECTIVE WORK TO THE APPROVAL OF (AND AT NO ADDITIONAL COST TO) THE OWNER.
    - NOTIFY ARCHITECT & APPROPRIATE INSPECTORS AT CRITICAL CONSTRUCTION MILESTONES IN ORDER TO OBTAIN NECESSARY APPROVALS & INSPECTIONS PRIOR TO COMMENCEMENT OF SUBSEQUENT WORK.
    - TAKE REASONABLE PRECAUTIONS FOR THE SAFETY OF, AND PROVIDE REASONABLE PROTECTION TO PREVENT DAMAGE, INJURY OR LOSS TO:
      - EMPLOYEES & ALL OTHER AFFECTED PERSONS
      - ALL WORK, MATERIALS & EQUIPMENT
      - OTHER PROPERTY AT SITE OR ADJACENT THERET
- UPON COMPLETION OF THE WORK, REMOVE MATERIALS, TOOLS & EQUIPMENT AND LEAVE SITE IN A CONDITION ACCEPTABLE TO OWNER.

Texas Department of Transportation  
125 E. 11th Street  
Austin, Texas 78701-2483  
(512) 416-3341  
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**TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATION LANGTRY, TX**

Revisions

Drawn by: DAB  
CSJ NO.: 6473-05-001  
Date: 07/31/2024  
Sheet No. **G-002** of Sheets



07/31/2024

# GENERAL NOTES & ABBREVIATIONS

NOTE: THIS DRAWINGS WAS CREATED FOR PRODUCTION ON 22" X 34" SHEET SIZE. DO NOT SCALE PRINTS.

# 2010 ADA Standards for Accessible Design for Public Accommodations and Commercial Facilities: Title III

## CHAPTER 3: BUILDING BLOCKS

301 General  
301.1 Scope. The provisions of Chapter 3 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

302 Floor or Ground Surfaces  
302.1 General. Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with 302.

EXCEPTIONS:  
1. Within animal containment areas, floor and ground surfaces shall not be required to be stable, firm, and slip resistant.  
2. Areas of sport activity shall not be required to comply with 302.

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed edge. Carpet edge trim shall comply with 303.

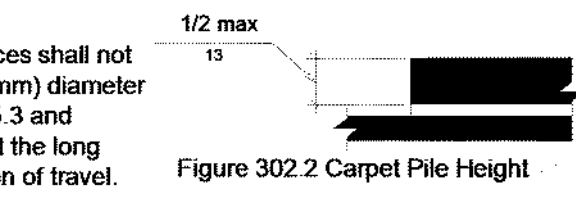


Figure 302.2 Carpet Pile Height

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

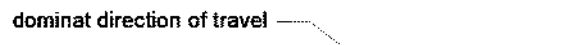


Figure 302.3 Elongated Openings in Floor or Ground Surfaces

303 Changes in Level  
303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.

EXCEPTIONS:  
1. Animal containment areas shall not be required to comply with 303.  
2. Areas of sport activity shall not be required to comply with 303.



Figure 303.1 Changes in Level

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.



Figure 303.2 Vertical Change in Level

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

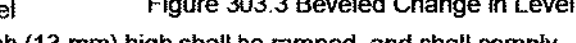


Figure 303.3 Beveled Change in Level

303.4 Ramps. Changes in level greater than 1/2 inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

304 Turning Space  
304.1 General. Turning space shall comply with 304.

304.2 Floor or Ground Surfaces. Floor or ground surfaces of a turning space shall comply with 302. Changes in level are not permitted. EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

304.3 Size. Turning space shall comply with 304.3.1 or 304.3.2.

304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.



Figure 304.3.1 Circular Space

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.



Figure 304.3.2 T-Shaped Turning Space

304.4 Door Swing. Doors shall be permitted to swing into turning spaces.

305 Clear Floor or Ground Space  
305.1 General. Clear floor or ground space shall comply with 305.

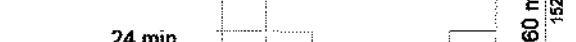


Figure 305.1 Clear Floor or Ground Space

305.2 Floor or Ground Surfaces. Floor or ground surfaces of a clear floor or ground space shall comply with 302. Changes in level are not permitted. EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

305.3 Size. The clear floor or ground space shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.



Figure 305.3 Size of Clear Floor or Ground Space

305.4 Knee and Toe Clearance. Unless otherwise specified, clear floor or ground space shall be permitted to include knee and toe clearance complying with 306.



Figure 305.4 Knee and Toe Clearance

305.5 Position. Unless otherwise specified, clear floor or ground space shall be positioned for either forward or parallel approach to an element.

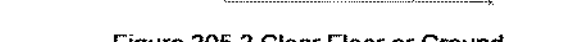


Figure 305.5 Position of Clear Floor or Ground Space

305.6 Approach. One full unobstructed side of the clear floor or ground space shall adjoin an accessible route or adjoin another clear floor or ground space.

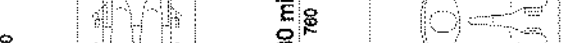


Figure 305.6 Approach

305.7 Maneuvering Clearance. Where a clear floor or ground space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance shall be provided in accordance with 305.7.1 and 305.7.2.



Figure 305.7.1 Maneuvering Clearance in an Alcove, Forward Approach



Figure 305.7.2 Maneuvering Clearance in an Alcove, Parallel Approach

305.7.1 Forward Approach. Alcoves shall be 36 inches (915 mm) wide minimum where the depth exceeds 24 inches (610 mm).

305.7.2 Parallel Approach. Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).

306 Knee and Toe Clearance  
306.1 General. Where space beneath an element is included as part of clear floor or ground space or turning space, the space shall comply with 306. Additional space shall not be prohibited beneath an element but shall not be considered as part of the clear floor or ground space or turning space.

306.2 Toe Clearance.  
306.2.1 General. Space under an element between the finish floor or ground and 9 inches (230 mm) above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an element.

306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches (430 mm) minimum under the element.

306.2.4 Additional Clearance. Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) wide minimum.

306.3 Knee Clearance.  
306.3.1 General. Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.

306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the finish floor or ground.

306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) wide minimum.

307 Protruding Objects  
307.1 General. Protruding objects shall comply with 307.

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path. EXCEPTION: Handrails shall be permitted to protrude 4 1/2 inches (115 mm) maximum.

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finish floor or ground. EXCEPTION: The sloping portions of handrails serving stairs and ramps shall not be required to comply with 307.3.

307.4 Vertical Clearance. Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground. EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for accessible routes.

308 Reach Ranges  
308.1 General. Reach ranges shall comply with 308.

308.2 Forward Reach.  
308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

308.2.2 Obstructed High Forward Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.3 Obstructed Low Forward Reach. Where a low forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The low forward reach shall be 15 inches (380 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the low forward reach shall be 11 inches (280 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.4 Side Reach. Where a side reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.5 Children's Reach Ranges. Children's reach ranges shall comply with 308.2.1 through 308.2.4, except that the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

308.2.6 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.7 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.8 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.9 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.10 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.11 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.12 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.13 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.14 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.15 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.16 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.17 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.18 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.19 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.20 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.21 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.22 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.23 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.24 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.25 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.26 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.27 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.28 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.29 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.30 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.31 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.32 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.33 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.34 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.35 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.36 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.37 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.38 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.39 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.40 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.41 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.42 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.43 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.44 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.45 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.46 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.47 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.48 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.49 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.50 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.51 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.52 Children's Side Reach. Children's side reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the side reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.2.53 Children's Forward Reach. Children's forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach

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## CHAPTER 4: ACCESSIBLE ROUTES (cont.)

404.2.4.4 Floor or Ground Surface. Floor or ground surface within required maneuvering clearances shall comply with 302. Changes in level are not permitted.  
EXCEPTIONS:

- Slopes not steeper than 1:48 shall be permitted.
- Changes in level at thresholds complying with 404.2.5 shall be permitted.

404.2.5 Thresholds. Thresholds, if provided at doorways, shall be 1/2 inch (13 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with 302 and 303.  
EXCEPTION: Existing or altered thresholds 3/4 inch (19 mm) high maximum that have a beveled edge on each side with a slope not steeper than 1:2 shall not be required to comply with 404.2.5.

404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

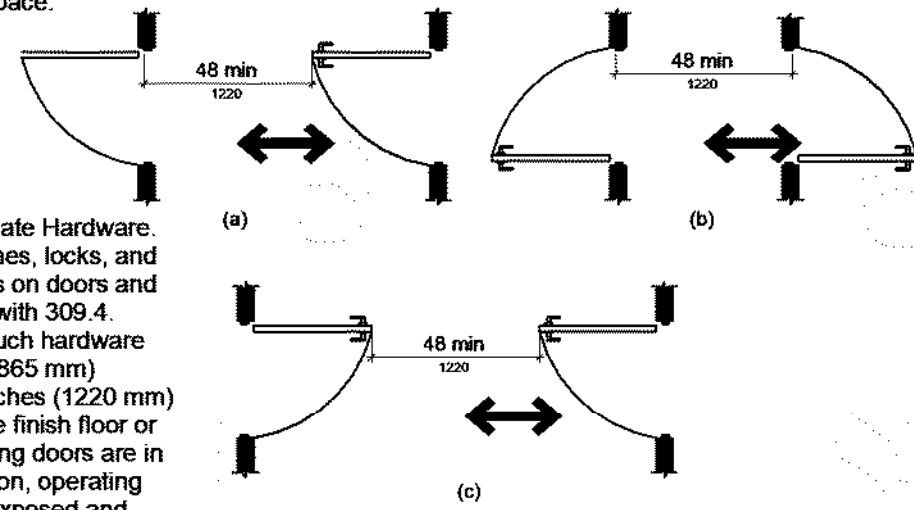


Figure 404.2.6 Doors in Series and Gates in Series

### 404.2.7 Door and Gate Hardware

Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

### EXCEPTIONS:

- Existing locks shall be permitted in any location at existing glazed doors without stiles, existing overhead rolling doors or grilles, and similar existing doors or grilles that are designed with locks that are activated only at the top or bottom rail.
- Access gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release of latch or self-latching device at 54 inches (1370 mm) maximum above the finish floor or ground provided the self-latching devices are not also self-locking devices and operated by means of a key, electronic opener, or integral combination lock.

404.2.8 Closing Speed. Door and gate closing speed shall comply with 404.2.8.

404.2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.

404.2.8.2 Spring Hinges. Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows:

- Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
- Sliding or folding doors: 5 pounds (22.2 N) maximum.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

### EXCEPTIONS:

- Sliding doors shall not be required to comply with 404.2.10.
- Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (255 mm) bottom smooth surface height requirement.
- Doors and gates that do not extend to within 10 inches (255 mm) of the finish floor or ground shall not be required to comply with 404.2.10.
- Existing doors and gates without smooth surfaces within 10 inches (255 mm) of the finish floor or ground shall not be required to provide smooth surfaces complying with 404.2.10 provided that if added kick plates are installed, cavities created by such kick plates are capped.

404.2.11 Vision Lights. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finish floor.

EXCEPTION: Vision lights with the lowest part more than 66 inches (1675 mm) from the finish floor or ground shall not be required to comply with 404.2.11.

404.3 Automatic and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1). Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

404.3.1 Clear Width. Doorways shall provide a clear opening of 32 inches (815 mm) minimum in power-on and power-off mode. The minimum clear width for automatic door systems in a doorway shall be based on the clear opening provided by all leaves in the open position.

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with 404.2.4.

EXCEPTION: Where automatic doors and gates remain open in the power-off condition, compliance with 404.2.4 shall not be required.

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with 404.2.5.

404.3.4 Doors in Series and Gates in Series. Doors in series and gates in series shall comply with 404.2.6.

404.3.5 Controls. Manually operated controls shall comply with 309. The clear floor space adjacent to the control shall be located beyond the arc of the door swing.

404.3.6 Break Out Opening. Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (815 mm) minimum when operated in emergency mode.

EXCEPTION: Where manual swinging doors and gates comply with 404.2 and serve the same means of egress compliance with 404.3.6 shall not be required.

404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

### 405 Ramps

405.1 General. Ramps on accessible routes shall comply with 405.

EXCEPTION: In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with 405.

405.2 Slope. Ramp runs shall have a running slope not steeper than 1:12.

EXCEPTION: In existing sites, buildings, and facilities, ramps shall be permitted to have running slopes steeper than 1:12 complying with Table 405.2 where such slopes are necessary due to space limitations.

Slope (A slope steeper than 1:8 is prohibited.)	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)

405.3 Cross Slope. Cross slope of ramp runs shall not be steeper than 1:48.

405.4 Floor or Ground Surfaces. Floor or ground surfaces of ramp runs shall comply with 302. Changes in level other than the running slope and cross slope are not permitted on ramp runs.

405.5 Clear Width. The clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.

EXCEPTION: Within employee work areas, the required clear width of ramps that are a part of common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

405.6 Rise. The rise for any ramp run shall be 30 inches (760 mm) maximum.

405.7 Landings. Ramps shall have landings at the top and the bottom of each ramp run. Landings shall comply with 405.7.

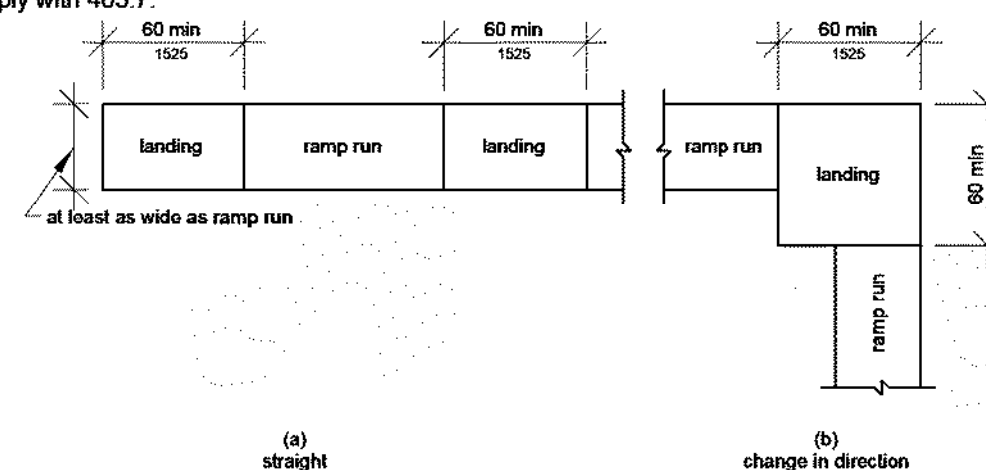


Figure 405.7 Ramp Landings

405.7.1 Slope. Landings shall comply with 302. Changes in level are not permitted.  
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

405.7.2 Width. The landing clear width shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. The landing clear length shall be 60 inches (1525 mm) long minimum.

405.7.4 Change in Direction. Ramps that change directly on between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum.

405.7.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 404.2.4 and 404.3.2 shall be permitted to overlap the required landing area.

405.8 Handrails. Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505.

EXCEPTION: Within employee work areas, handrails shall not be required where ramps that are part of common use circulation paths are designed to permit the installation of handrails complying with 505. Ramps not subject to the exception to 405.5 shall be designed to maintain a 36 inch (915 mm) minimum clear width when handrails are installed.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

EXCEPTION: Edge protection shall not be required on ramps that are not required to have handrails and have sides complying with 406.3.

- Edge protection shall not be required on the sides of ramp landings serving an adjoining ramp run or stairway.
- Edge protection shall not be required on the sides of ramp landings having a vertical drop-off of 1/2 inch (13 mm) maximum within 10 inches (255 mm) horizontally of the minimum landing area specified in 405.7.

405.9.1 Extended Floor or Ground Surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505.

405.9.2 Curb or Barrier. A curb or barrier shall be provided that prevents the passage of a 4 inch (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the finish floor or ground surface.

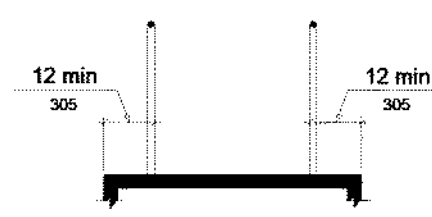


Figure 405.9.1 Extended Floor or Ground Surface Edge Protection

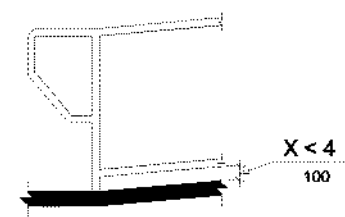


Figure 405.9.2 Curb or Barrier Edge Protection

405.10 Wet Conditions. Landings subject to wet conditions shall be designed to prevent the accumulation of water.

### 406 Curb Ramps

406.1 General. Curb ramps on accessible routes shall comply with 406, 405.2 through 405.5, and 406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

EXCEPTION: In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

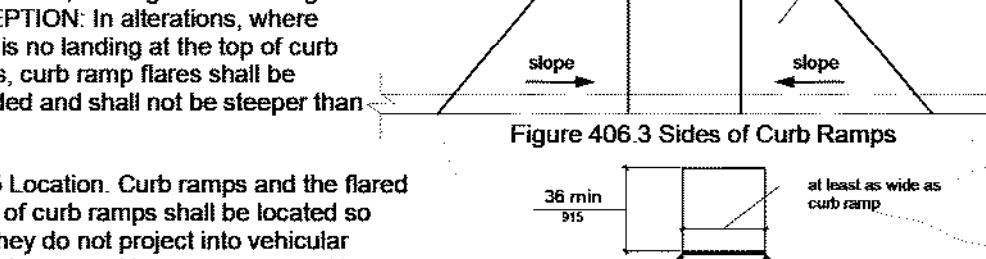


Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

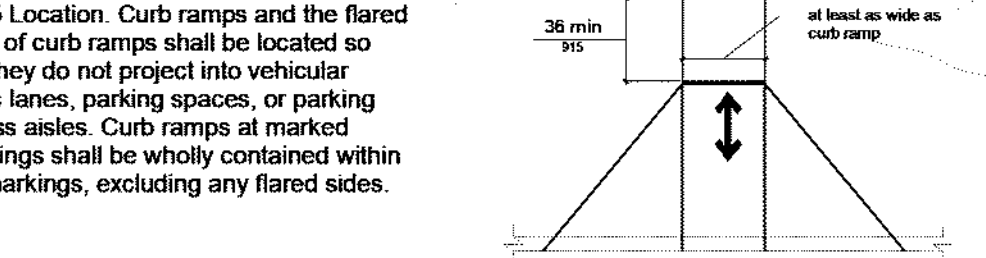


Figure 406.3 Sides of Curb Ramps



Figure 406.4 Landings at the Top of Curb Ramps

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the

edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

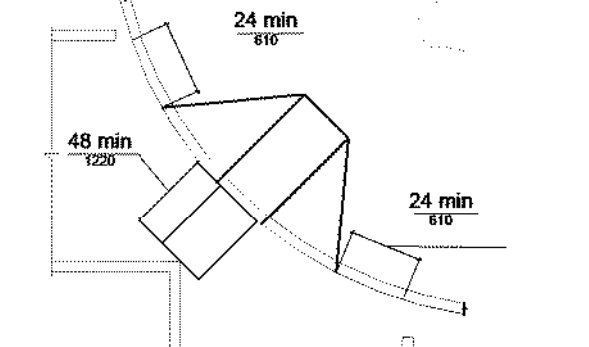


Figure 406.6 Diagonal or Corner Type Curb Ramps

### 407 Elevators

407.1 General. Elevators shall comply with 407 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

### 407.2 Elevator Landing Requirements. Elevator landings shall comply with 407.2.

407.2.1 Call Controls. Where elevator call buttons or keypads are provided, they shall comply with 407.2.1 and 309.4. Call buttons shall be raised or flush.

EXCEPTION: Existing elevators shall be permitted to have recessed call buttons.

407.2.1.1 Height. Call buttons and keypads shall be located within one of the reach ranges specified in 308, measured to the centerline of the highest operable part.

EXCEPTION: Existing call buttons and existing keypads shall be permitted to be located at 54 inches (1370 mm) maximum above the finish floor, measured to the centerline of the highest operable part.

407.2.1.2 Size. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension.

EXCEPTION: Existing elevator call buttons shall not be required to comply with 407.2.1.2.

407.2.1.3 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided at call controls.

407.2.1.4 Location. The call button that designates the up direction shall be located above the call button that designates the down direction.

EXCEPTION: Destination-oriented elevators shall not be required to comply with 407.2.1.4.

407.2.1.5 Signals. Call buttons shall have visible signals to indicate when each call is registered and when each call is answered.

### EXCEPTIONS:

- Destination-oriented elevators shall not be required to comply with 407.2.1.5 provided that visible and audible signals complying with 407.2.2 indicating which elevator car to enter are provided.
- Existing elevators shall not be required to comply with 407.2.1.5.

407.2.1.6 Keypads. Where keypads are provided, keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.2.2 Hall Signals. Hall signals, including in-car signals, shall comply with 407.2.2.

407.2.2.1 Visible and Audible Signals. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the car's direction of travel. Where in-car signals are provided, they shall be visible from the floor area adjacent to the hall call buttons.

### EXCEPTIONS:

- Visible and audible signals shall not be required at each destination-oriented elevator where a visible and audible signal complying with 407.2.2 is provided indicating the elevator car designation information.
- In existing elevators, a signal indicating the direction of car travel shall not be required.

407.2.2.2 Visible Signals. Visible signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finish floor or ground. The visible signal elements shall be 2 1/2 inches (64 mm) minimum measured along the vertical centerline of the element. Signals shall be visible from the floor area adjacent to the hall call button.

### EXCEPTIONS:

- Destination-oriented elevators shall be permitted to have signals visible from the floor area adjacent to the hoistway entrance.
- Existing elevators shall not be required to comply with 407.2.2.2.

407.2.2.3 Audible Signals. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that indicate the direction of elevator car travel. Audible signals shall have a frequency of 1500 Hz maximum. Verbal annunciators shall have a frequency of 300 Hz minimum and 3000 Hz maximum. The audible signal and verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the hall call button.

### EXCEPTIONS:

- Destination-oriented elevators shall not be required to comply with 407.2.2.3 provided that the audible tone and verbal announcement is the same as those given at the call button or call button keypad.
- Existing elevators shall not be required to comply with the requirements for frequency and dB range of audible signals.

407.2.2.4 Differentiation. Each destination-oriented elevator in a bank of elevators shall have audible and visible means for differentiation.

407.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.

407.2.3.1 Floor Designation. Floor designations complying with 703.2 and 703.4.1 shall be provided on both jambs of elevator hoistway entrances. Floor designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum. A tactile star shall be provided on both jambs at the main entry level.

407.2.3.2 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.3 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.4 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.5 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.6 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.7 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.8 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.9 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.10 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.11 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.12 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.13 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.14 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.2.3.15 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.3 Elevator Door Requirements. Hoistway and car doors shall comply with 407.3.

407.3.1 Type. Elevator doors shall be the horizontal sliding type. Car gates shall be prohibited.

407.3.2 Operation. Elevator hoistway and car doors shall open and close automatically. EXCEPTION: Existing manually operated hoistway swing doors shall be permitted provided that they comply with 404.2.3 and 404.2.9. Car door closing shall not be initiated until the hoistway door is closed.

407.3.3 Reopening Device. Elevator doors shall be provided with a reopening device complying with 407.3.3 that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person. EXCEPTION: Existing elevators with manually operated doors shall not be required to comply with 407.3.3.

407.3.3.1 Height. The device shall be activated by sensing an obstruction passing through the opening at 5 inches (125 mm) nominal and 29 inches (735 mm) nominal above the finish floor.

407.3.3.2 Contact. The device shall not require physical contact to be activated, although contact is permitted to occur before the door reverses.

407.3.3.3 Duration. Door reopening devices shall remain effective for 20 seconds minimum.

407.3.4 Door and Signal Timing. The minimum acceptable time from notification that a car is answering a call or notification of the car assigned at the means for the entry of destination information until the doors of that car start to close shall be calculated from the following equation:

$T = D(1.5 \text{ ft/s}) \text{ or } T = D(455 \text{ mm/s}) = 5 \text{ seconds minimum}$  where T equals the total time in seconds and D equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door.

### EXCEPTIONS:

- For cars with in-car lanterns, T shall be permitted to begin when the signal is visible from the point 60 inches (1525 mm) directly in front of the farthest hall call button and the audible signal is sounded.
- Destination-oriented elevators shall not be required to comply with 407.3.4.

407.3.5 Door Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

407.3.6 Width. The width of elevator doors shall comply with Table 407.4.1.

EXCEPTION: In existing elevators, a power-operated car door complying with 404.2.3 shall be permitted.

407.4 Elevator Car Requirements. Elevator cars shall comply with 407.4.

407.4.1 Car Dimensions. Inside dimensions of elevator cars and clear width of elevator doors shall comply with Figure 407.4.1 (Table 407.4.1).

EXCEPTION: Existing elevator car configurations that provide a clear floor area of 16 square feet (1.5 m<sup>2</sup>) minimum and also provide an inside clear depth 54 inches (1370 mm) minimum and a clear width 36 inches (915 mm) minimum shall be permitted.

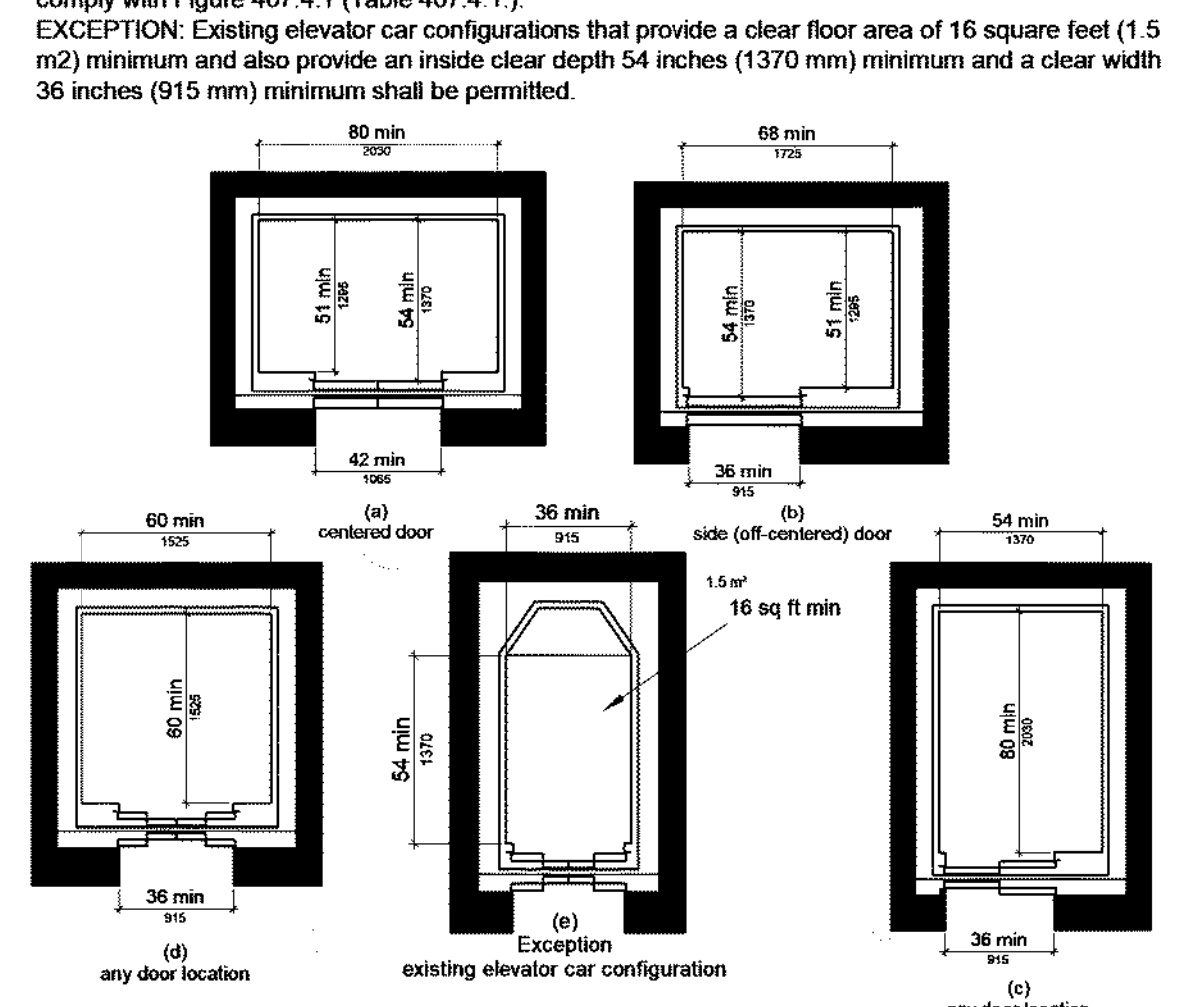


Figure 407.4.1 Elevator Car Dimensions

407.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

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## CHAPTER 4: ACCESSIBLE ROUTES (cont.)

407.4.7.1.1 Type. Control buttons shall be identified by tactile characters complying with 703.2.

407.4.7.1.2 Location. Raised character and braille designs shall be placed immediately to the left of the control button to which the designations apply. EXCEPTION: Where space on an existing car operating panel precludes tactile markings to the left of the controls, markings shall be placed as near to the control as possible.

407.4.7.1.3 Symbols. The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with tactile symbols as shown in Table 407.4.7.1.3 (refer to 2010 ADA for table).

407.4.7.1.4 Visible Indicators. Buttons with floor designations shall be provided with visible indicators to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated floor.

407.4.7.2 Keypads. Keypads shall be identified by characters complying with 703.5 and shall be centered on the corresponding keypad button. The number five key shall have a single raised dot. The dot shall be 0.118 inch (3 mm) to 0.120 inch (3.05 mm) base diameter and in other aspects comply with Table 703.3.1.

407.4.8 Car Position Indicators. Audible and visible car position indicators shall be provided in elevator cars.

407.4.8.1 Visible Indicators. Visible indicators shall comply with 407.4.8.1.

407.4.8.1.1 Size. Characters shall be 1/2 inch (13 mm) high minimum.

407.4.8.1.2 Location. Indicators shall be located above the car control panel or above the door.

407.4.8.1.3 Floor Arrival. As the car passes a floor and when a car stops at a floor served by the elevator, the corresponding character shall illuminate. EXCEPTION: Destination-oriented elevators shall not be required to comply with 407.4.8.1.3 provided that the visible indicators extinguish when the call has been answered.

407.4.8.1.4 Destination Indicator. In destination-oriented elevators, a display shall be provided in the car with visible indicators to show car destinations.

407.4.8.2 Audible Indicators. Audible indicators shall comply with 407.4.8.2.

407.4.8.2.1 Signal Type. The signal shall be an automatic verbal annunciator which announces the floor at which the car is about to stop.

EXCEPTION: For elevators other than destination-oriented elevators that have a rated speed of 200 feet per minute (1 m/s) or less, a non-verbal audible signal with a frequency of 1500 Hz maximum which sounds as the car passes or is about to stop at a floor served by the elevator shall be permitted.

407.4.8.2.2 Signal Level. The verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the annunciator.

407.4.8.2.3 Frequency. The verbal annunciator shall have a frequency of 300 Hz minimum to 3000 Hz maximum.

407.4.9 Emergency Communication. Emergency two-way communication systems shall comply with 308. Tactile symbols and characters shall be provided adjacent to the device and shall comply with 703.2.

408 Limited-Use/Limited-Application Elevators

408.1 General. Limited-use/limited-application elevators shall comply with 408 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

408.2 Elevator Landings. Landings serving limited-use/limited-application elevators shall comply with 408.2.

408.2.1 Call Buttons. Elevator call buttons and keypads shall comply with 407.2.1.

408.2.2 Hall Signals. Hall signals shall comply with 407.2.2.

408.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.1.

408.3 Elevator Doors. Elevator hoistway doors shall comply with 408.3.

408.3.1 Sliding Doors. Sliding hoistway and car doors shall comply with 407.3.1 through 407.3.3 and 408.4.1.

408.3.2 Swinging Doors. Swinging hoistway doors shall open and close automatically and shall comply with 404, 407.3.2 and 408.3.2.

408.3.2.1 Power Operation. Swinging doors shall be power-operated and shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

408.3.2.2 Duration. Power-operated swinging doors shall remain open for 20 seconds minimum when activated.

408.4 Elevator Cars. Elevator cars shall comply with 408.4.

408.4.1 Car Dimensions and Doors. Elevator cars shall provide a clear width 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (815 mm) minimum clear width.

EXCEPTIONS:  
1. Cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (915 mm) wide minimum.

2. Existing elevator cars shall be permitted to provide a clear width 36 inches (915 mm) minimum, clear depth 54 inches (1370 mm) minimum, and a net clear platform area 15 square feet (1.4 m<sup>2</sup>) minimum.

408.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

408.4.3 Platform to Hoistway Clearance. The platform to hoistway clearance shall comply with 407.4.3.

408.4.4 Leveling. Elevator car leveling shall comply with 407.4.4.

408.4.5 Illumination. Elevator car illumination shall comply with 407.4.5.

408.4.6 Car Controls. Elevator car controls shall comply with 407.4.6. Control panels shall be centered on a side wall.

408.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.

408.4.8 Emergency Communications. Car emergency signaling devices complying with 407.4.9 shall be provided.

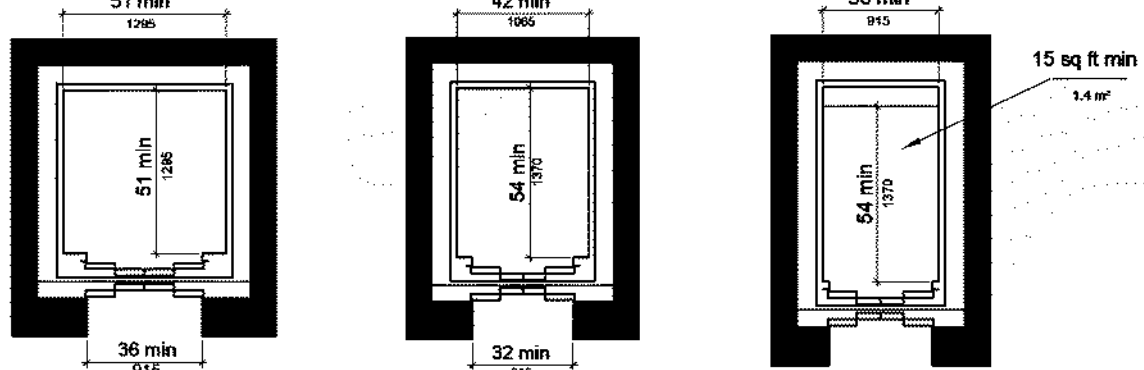


Figure 408.4.1 Limited-Use/Limited-Application (LULA) Elevator Car Dimensions

410 Platform Lifts  
410.1 General. Platform lifts shall comply with ASME A18.1 (1999 edition or 2003 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Platform lifts shall not be attendant-operated and shall provide unassisted entry and exit from the lift.

410.2 Floor Surfaces. Floor surfaces in platform lifts shall comply with 302 and 303.

410.3 Clear Floor Space. Clear floor space in platform lifts shall comply with 305.

410.4 Platform to Runway Clearance. The clearance between the platform sill and the edge of any runway landing shall be 1 inch (25 mm) maximum.

410.5 Operable Parts. Controls for platform lifts shall comply with 309.

410.6 Doors and Gates. Platform lifts shall have low-energy power-operated doors or gates complying with 404.3. Doors shall remain open for 20 seconds minimum. End doors and

gates shall provide a clear width 32 inches (815 mm) minimum. Side doors and gates shall provide a clear width 42 inches (1065 mm) minimum. EXCEPTION: Platform lifts serving two landings maximum and having doors or gates on opposite sides shall be permitted to have self-closing manual doors or gates.

## CHAPTER 5: GENERAL SITE AND BUILDING ELEMENTS

501 General

501.1 Scope. The provisions of Chapter 5 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

502 Parking Spaces

502.1 General. Car and van parking spaces shall comply with 502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

EXCEPTION: Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

502.2 Vehicle Spaces. Car parking spaces shall be 96 inches (2440 mm) wide minimum and van parking spaces shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.

EXCEPTION: Van parking spaces shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

502.3 Access Aisle. Access aisles serving parking spaces shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking spaces shall be permitted to share a common access aisle.

502.3.1 Width. Access aisles serving car and van parking spaces shall be 60 inches (1525 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

502.3.4 Location. Access aisles shall not overlap the vehicular way. Access aisles shall be permitted to be placed on either side of the parking space except for angled van parking spaces which shall have access aisles located on the passenger side of the parking spaces.

502.4 Floor or Ground Surfaces. Parking spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the parking spaces they serve. Changes in level are not permitted. EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

502.5 Vertical Clearance. Parking spaces for vans and access aisles and vehicular routes serving them shall provide a vertical clearance of 98 inches (2490 mm) minimum.

502.6 Identification. Parking space identification signs shall include the International Symbol of Accessibility complying with 703.2.1. Signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be 60 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

502.7 Relationship to Accessible Routes. Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

503 Passenger Loading Zones

503.1 General. Passenger loading zones shall comply with 503.

503.2 Vehicle Pull-Up Space. Passenger loading zones shall provide a vehicular pull-up space 96 inches (2440 mm) wide minimum and 20 feet (6100 mm) long minimum.

503.3 Access Aisle. Passenger loading zones shall provide access aisles complying with 503 adjacent to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the vehicular way.

503.3.1 Width. Access aisles serving vehicle pull-up spaces shall be 60 inches (1525 mm) wide minimum.

503.3.2 Length. Access aisles shall extend the full length of the vehicle pull-up spaces they serve.

503.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

503.4 Floor and Ground Surfaces. Vehicle pull-up spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the vehicle pull-up space they serve. Changes in level are not permitted. EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

503.5 Vertical Clearance. Vehicle pull-up spaces, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone, and from the passenger loading zone to a vehicular exit shall provide a vertical clearance of 114 inches (2895 mm) minimum.

504 Stairways

504.1 General. Stairs shall comply with 504.

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted. EXCEPTION: Treads shall be permitted to have a slope not steeper than 1:48.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be 1/2 inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1 1/2 inches (38 mm) maximum over the tread below.

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails

505.1 General. Handrails provided along walking surfaces complying with 403, required at ramps complying with 405, and required at stairs complying with 504 shall comply with 505.

505.2 Where Required. Handrails shall be provided on both sides of stairs and ramps. EXCEPTION: In assembly areas, handrails shall not be required on both sides of aisle ramps where a handrail is provided at either side or within the aisle width.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs shall be continuous between flights or runs. EXCEPTION: In assembly areas, handrails on ramps shall not be required to be continuous in aisles serving seating.

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.

505.5 Clearance. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1 1/2 inches (38 mm) minimum.

505.6 Gripping Surface. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides.

The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail gripping surface.

EXCEPTIONS:

1. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

2. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by 1/8 inch (3.2 mm) for each 1/2 inch (13 mm) of additional handrail perimeter dimension that exceeds 4 inches (100 mm).

505.7 Cross Section. Handrail gripping surfaces shall have a cross section complying with 505.7.1 or 505.7.2.

505.7.1 Circular Cross Section. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

505.7.2 Non-Circular Cross Sections. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 1/4 inches (160 mm) maximum, and a cross-section dimension of 2 1/4 inches (57 mm) maximum.

505.8 Surfaces. Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

505.9 Fittings. Handrails shall not rotate within their fittings.

505.10 Handrail Extensions. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with 505.10.

EXCEPTIONS:

1. Extensions shall not be required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps.

2. In assembly areas, extensions shall not be required for ramp handrails in aisles serving seating where the handrails are discontinuous to provide access to seating and to permit crossovers within aisles.

3. In alterations, full extensions of handrails shall not be required where such extensions would be hazardous due to plan configuration.

505.10.1 Top and Bottom Extension at Ramps. Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.

505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

## CHAPTER 6: PLUMBING ELEMENTS & FACILITIES

601 General

601.1 Scope. The provisions of Chapter 6 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

602 Drinking Fountains

602.1 General. Drinking fountains shall comply with 307 and 502.

602.2 Clear Floor Space. Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.

EXCEPTION: A parallel approach complying with 305 shall be permitted at units for children's use where the spout is 30 inches (760 mm) maximum above the finish floor or ground and is 3 1/2 inches (90 mm) maximum from the front edge of the unit, including bumpers.

602.3 Operable Parts. Operable parts shall comply with 309.

602.4 Spout Height. Spout outlets shall be 36 inches (915 mm) maximum above the finish floor or ground.

602.5 Spout Location. The spout shall be located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.

602.6 Water Flow. The spout shall provide a flow of water 4 inches (100 mm) high minimum and shall be located 5 inches (125 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (75 mm) from the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (75 mm) and 5 inches (125 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

602.7 Drinking Fountains for Standing Persons. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the finish floor or ground.

603 Toilet and Bathing Rooms

603.1 General. Toilet and bathing rooms shall comply with 603.

603.2 Clearances. Clearances shall comply with 603.2.

603.2.1 Turning Space. Turning space complying with 304 shall be provided within the room.

603.2.2 Overlap. Required clear floor spaces, clearance at fixtures, and turning space shall be permitted to overlap.

603.2.3 Door Swing. Doors shall not swing into the clear floor space or clearance required for any fixture. Doors shall be permitted to swing into the required turning space.

EXCEPTIONS:

1. Doors to a toilet room or bathing room for a single occupant accessed only through a private office and not for common use or public use shall be permitted to swing into the clear floor space or clearance provided the swing of the door can be reversed to comply with 603.2.3.

2. Where the toilet room or bathing room is for individual use and a clear floor space complying with 305.3 is provided within the room beyond the arc of the door swing, doors shall be permitted to swing into the clear floor space or clearance required for any fixture.

603.3 Mirrors. Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the finish floor or ground.

603.4 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604 Water Closets and Toilet Compartments

604.1 General. Water closets and toilet compartments shall comply with 604.2 through 604.8. EXCEPTION: Water closets and toilet compartments for children's use shall be permitted to comply with 604.9.

604.2 Location. The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.

604.3 Clearance. Clearances around water closets and in toilet compartments shall comply with 604.3.

604.3.1 Size. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall.

604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

604.4 Seats. The seat height of a water closet above the finish floor shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

EXCEPTIONS:

1. A water closet in a toilet room for a single occupant accessed only through a private office and not for common use or public use shall not be required to comply with 604.4.

604.5 Grab Bars. Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.

EXCEPTIONS:

1. Grab bars shall not be required to be installed in a toilet room for a single occupant accessed only through a private office and not for common use or public use provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.

3. In detention or correction facilities, grab bars shall not be required to be installed in housing or holding cells that are specially designed without protrusions for purposes of suicide prevention.

604.5.1 Side Wall. The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

604.5.2 Rear Wall. The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

EXCEPTIONS:

1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (915 mm) minimum due to the location of a recessed fixture adjacent to the water closet.

2. Where an administrative authority requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

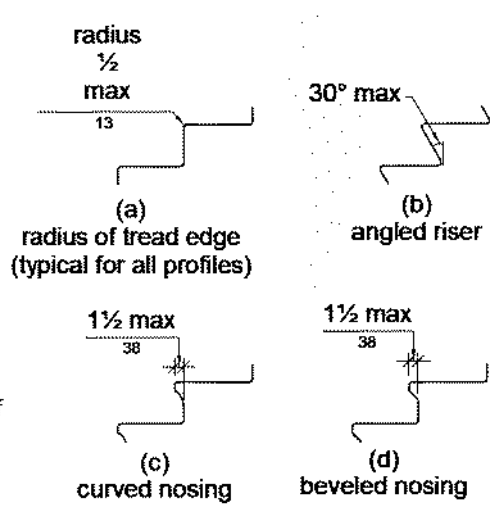


Figure 504.5 Stair Nosings

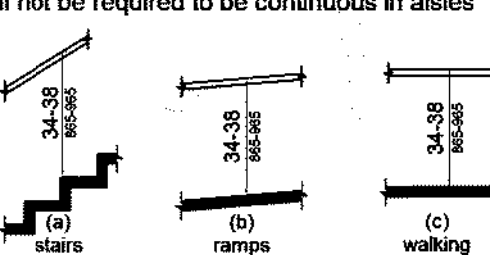


Figure 505.4 Handrail Height

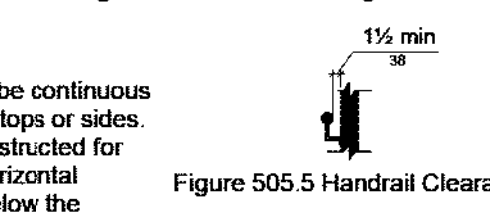


Figure 505.5 Handrail Clearance

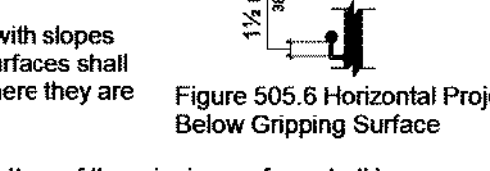
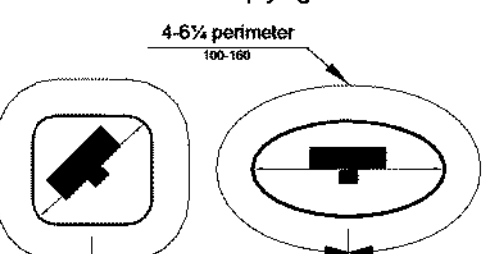


Figure 505.6 Horizontal Projections Below Gripping Surface





# 2010 ADA Standards for Accessible Design for Public Accommodations and Commercial Facilities: Title III

## CHAPTER 6: PLUMBING ELEMENTS & FACILITIES (cont.)

609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar, fastener, mounting device, or supporting structure.

### 610 Seats

610.1 General. Seats in bathtubs and shower compartments shall comply with 610.  
610.2 Bath Tub Seats. The top of bathtub seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum. The seat shall be capable of secure placement. Permanent seats at the head end of the bathtub shall be 15 inches (380 mm) deep minimum and shall extend from the back wall to or beyond the outer edge of the bathtub.

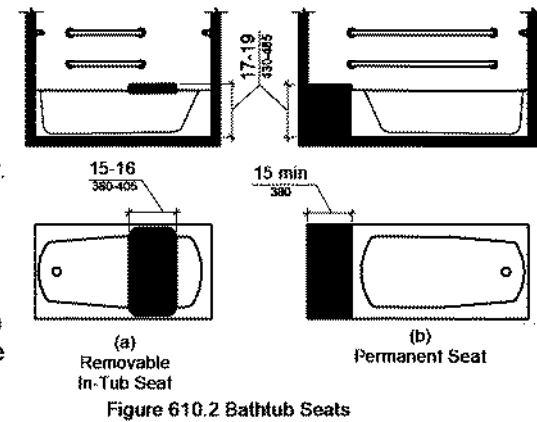


Figure 610.2 Bath Tub Seats

610.3 Shower Compartment Seats. Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. Where a seat is provided in an alternate roll-in type shower compartment, it shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (75 mm) of the compartment entry. In transfer-type showers, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. The top of the seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. Seats shall comply with 610.3.1 or 610.3.2.

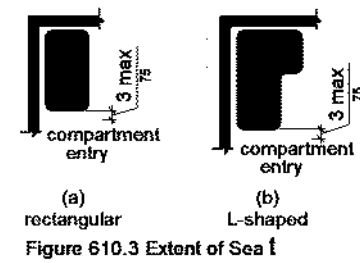


Figure 610.3 Extent of Seat

610.3.1 Rectangular Seats. The rear edge of a rectangular seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1 1/2 inches (38 mm) maximum from the adjacent wall.

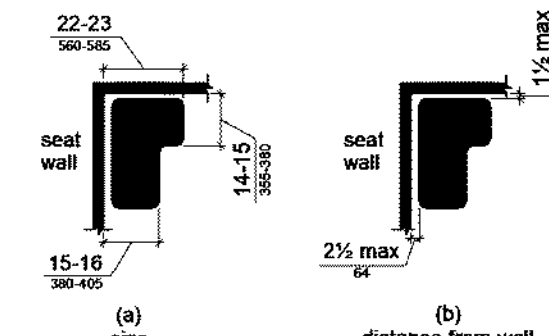


Figure 610.3.2 L-Shaped Shower Seat

610.3.2 L-Shaped Seats. The rear edge of an L-shaped seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 1 1/2 inches (38 mm) maximum from the wall and the front edge shall be 14 inches (355 mm) minimum and 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22 inches (560 mm) minimum and 23 inches maximum (585 mm) from the main seat wall.

610.4 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

### 611 Washing Machines and Clothes Dryers

611.1 General. Washing machines and clothes dryers shall comply with 611.

611.2 Clear Floor Space. A clear floor or ground space complying with 305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the appliance.

611.3 Operable Parts. Operable parts, including doors, lint screens, and detergent and bleach compartments shall comply with 309.

611.4 Height. Top loading machines shall have the door to the laundry compartment located 36 inches (915 mm) maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and 36 inches (915 mm) maximum above the finish floor.

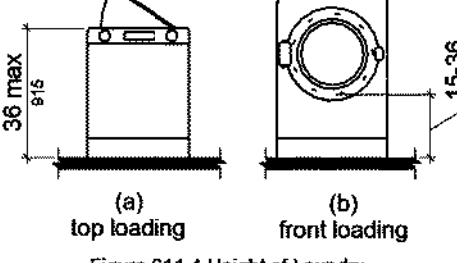


Figure 611.4 Height of Laundry Compartment Opening

### 612 Saunas and Steam Rooms

612.1 General. Saunas and steam rooms shall comply with 612.

612.2 Bench. Where seating is provided in saunas and steam rooms, at least one bench shall comply with 903. Doors shall not swing into the clear floor space required by 903.2.  
EXCEPTION: A readily removable bench shall be permitted to obstruct the turning space required by 612.3 and the clear floor or ground space required by 903.2.

612.3 Turning Space. A turning space complying with 304 shall be provided within saunas and steam rooms.

## CHAPTER 7: COMMUNICATION ELEMENTS AND FEATURES

### 701 General

701.1 Scope. The provisions of Chapter 7 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

### 702 Fire Alarm Systems

702.1 General. Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1), except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110 dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition).  
EXCEPTION: Fire alarm systems in medical care facilities shall be permitted to be provided in accordance with industry practice.

### 703 Signs

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

703.2 Raised Characters. Raised characters shall comply with 703.2 and shall be duplicated in braille complying with 703.3. Raised characters shall be installed in accordance with 703.4.

703.2.1 Depth. Raised characters shall be 1/32 inch (0.8 mm) minimum above their background.

703.2.2 Case. Characters shall be uppercase.

703.2.3 Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.2.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

703.2.5 Character Height. Character height measured vertically from the baseline of the character shall be 5/8 inch (16 mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter "T".  
EXCEPTION: Where separate raised and visual characters with the same information are provided, raised character height shall be permitted to be 1/2 inch (13 mm) minimum.

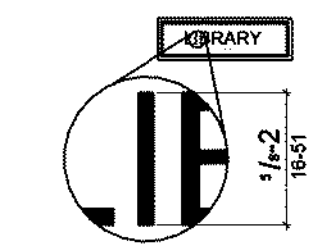


Figure 703.2.5 Height of Raised Characters

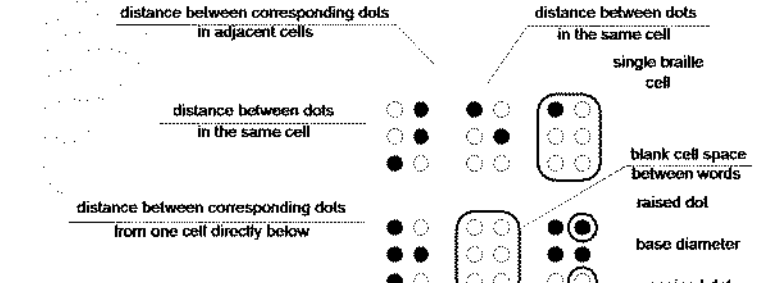


Figure 703.3.1 Braille Measurement

703.2.6 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.

703.2.7 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch (1.6 mm) minimum and 4 times the raised character stroke width maximum at the base of the cross sections, and 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

703.2.8 Line Spacing. Spacing between the baselines of separate lines of raised characters within a message shall be 135 percent minimum and 170 percent maximum of the raised character height.

703.3 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

703.3.1 Dimensions and Capitalization. Braille dots shall have a domed or rounded shape and shall comply with Table 703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.

Measurement Range	Minimum in Inches to Maximum in Inches
Dot base diameter	0.059 (1.5 mm) to 0.063 (1.6 mm)
Distance between two dots in the same cell	0.090 (2.3 mm) to 0.100 (2.5 mm) measured center to center
Distance between corresponding dots in adjacent cells	0.241 (6.1 mm) to 0.300 (7.6 mm) measured center to center
Dot height	0.025 (0.6 mm) to 0.037 (0.9 mm)
Distance between corresponding dots from one cell directly below	0.395 (10 mm) to 0.400 (10.2 mm) measured center to center

703.3.2 Position. Braille shall be positioned below the corresponding text. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated 3/8 inch (9.5 mm) minimum from any other tactile characters and 3/8 inch (9.5 mm) minimum from raised borders and decorative elements.  
EXCEPTION: Braille provided on elevator car controls shall be separated 3/16 inch (4.8 mm) minimum and shall be located either directly below or adjacent to the corresponding raised characters or symbols.

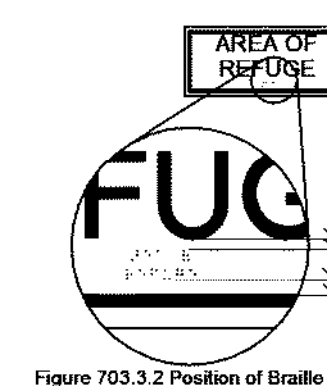


Figure 703.3.2 Position of Braille

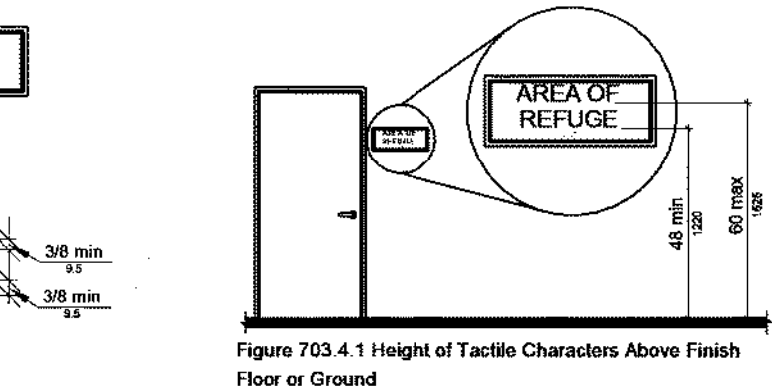


Figure 703.4.1 Height of Tactile Characters Above Finish Floor or Ground

703.4 Installation Height and Location. Signs with tactile characters shall comply with 703.4.

703.4.1 Height Above Finish Floor or Ground. Tactile characters on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest tactile character.  
EXCEPTION: Tactile characters for elevator car controls shall not be required to comply with 703.4.1.

703.4.2 Location. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leaves, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest

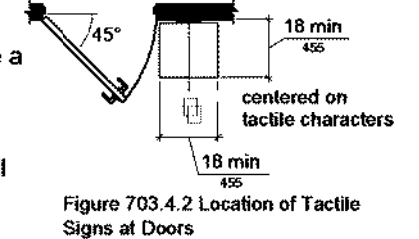


Figure 703.4.2 Location of Tactile Signs at Doors

adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.  
EXCEPTION: Signs with tactile characters shall be permitted on the push side of doors with closers and without hold-open devices.

703.5 Visual Characters. Visual characters shall comply with 703.5.

EXCEPTION: Where visual characters comply with 703.2 and are accompanied by braille complying with 703.3, they shall not be required to comply with 703.5.2 through 703.5.9.

703.5.1 Finish and Contrast. Characters and their background shall have a non-glare finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

703.5.2 Case. Characters shall be uppercase or lowercase or a combination of both.

703.5.3 Style. Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.5.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

703.5.5 Character Height. Minimum character height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height shall be based on the uppercase letter "T".

Height to Finish Floor or Ground From Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 inches (1015 mm) to less than or equal to 70 inches (1780 mm)	less than 72 inches (1830 mm)	5/8 inch (16 mm)
	72 inches (1830 mm) and greater	5/8 inch (16 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1830 mm)
Greater than 70 inches (1780 mm) to less than or equal to 120 inches (3050 mm)	less than 180 inches (4570 mm)	2 inch (51 mm)
	180 inches (4570 mm) and greater	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4570 mm)
Greater than 120 inches (3050 mm)	less than 20 feet (6400 mm)	3 inch (75 mm)
	21 feet (6400 mm) and greater	3 inches (75 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6400 mm)

703.5.6 Height From Finish Floor or Ground. Visual characters shall be 40 inches (1015 mm) minimum above the finish floor or ground.  
EXCEPTION: Visual characters indicating elevator car controls shall not be required to comply with 703.5.6.

703.5.7 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 percent minimum and 30 percent maximum of the height of the character.

703.5.8 Character Spacing. Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.

703.5.9 Line Spacing. Spacing between the baselines of separate lines of characters within a message shall be 135 percent minimum and 170 percent maximum of the character height.

703.6 Pictograms. Pictograms shall comply with 703.6.

703.6.1 Pictogram Field. Pictograms shall have a field height of 6 inches (150 mm) minimum. Characters and braille shall not be located in the pictogram field.

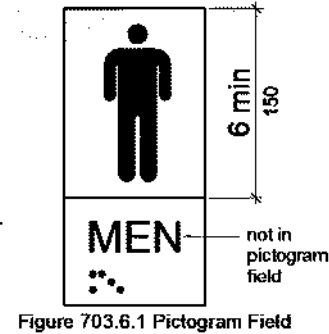


Figure 703.6.1 Pictogram Field

703.6.2 Finish and Contrast. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.

703.6.3 Text Descriptors. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 703.2, 703.3 and 703.4.

703.7 Symbols of Accessibility. Symbols of accessibility shall comply with 703.7.

703.7.1 Finish and Contrast. Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

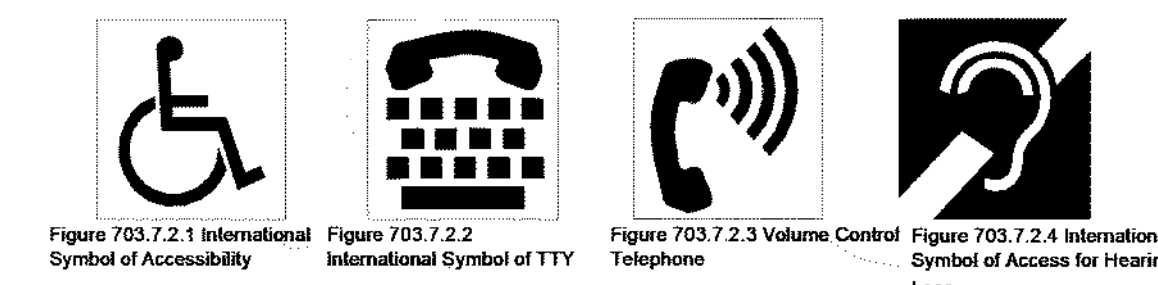
703.7.2 Symbols.

703.7.2.1 International Symbol of Accessibility. The International Symbol of Accessibility shall comply with Figure 703.7.2.1.

703.7.2.2 International Symbol of TTY. The International Symbol of TTY shall comply with Figure 703.7.2.2.

703.7.2.3 Volume Control Telephones. Telephones with a volume control shall be identified by a pictogram of a telephone handset with radiating sound waves on a square field such as shown in Figure 703.7.2.3.

703.7.2.4 Assistive Listening Systems. Assistive listening systems shall be identified by the International Symbol of Access for Hearing Loss complying with Figure 703.7.2.4.



### 704 Telephones

704.1 General. Public telephones shall comply with 704.

704.2 Wheelchair Accessible Telephones. Wheelchair accessible telephones shall comply with 704.2.

704.2.1 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided. The clear floor or ground space shall not be obstructed by bases, enclosures, or seats.

704.2.1.1 Parallel Approach. Where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone unit shall be 10 inches (255 mm) maximum.

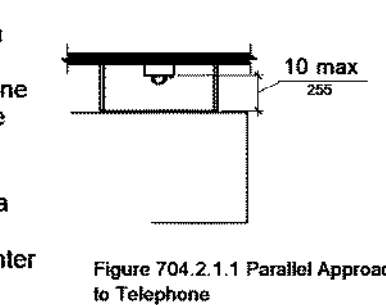


Figure 704.2.1.1 Parallel Approach to Telephone

704.2.1.2 Forward Approach. Where a forward approach is provided, the distance from the front edge of a counter within the telephone enclosure to the face of the telephone unit shall be 20 inches (510 mm) maximum.

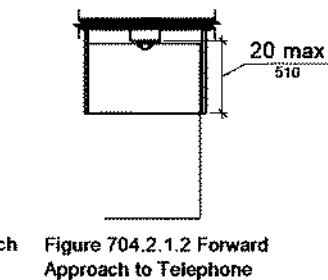


Figure 704.2.1.2 Forward Approach to Telephone

704.2.2 Operable Parts. Operable parts shall comply with 309. Telephones shall have push-button controls where such service is available.

704.2.3 Telephone Directories. Telephone directories, where provided, shall be located in accordance with 309.

704.2.4 Cord Length. The cord from the telephone to the handset shall be 29 inches (735 mm) long minimum.

704.3 Volume Control Telephones. Public telephones required to have volume controls shall be equipped with a receive volume control that provides a gain adjustable up to 20 dB minimum. For incremental volume control, provide at least one intermediate step of 12 dB of gain minimum. An automatic reset shall be provided.

704.4 TTYs. TTYs required at a public pay telephone shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the TTY and the telephone receiver.

704.4.1 Height. When in use, the touch surface of TTY keypads shall be 34 inches (865 mm) minimum above the finish floor.  
EXCEPTION: Where seats are provided, TTYs shall not be required to comply with 704.4.1.

704.5 TTY Shelf. Public pay telephones required to accommodate portable TTYs shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a TTY and shall have 6 inches (150 mm) minimum vertical clearance above the area where the TTY is to be placed.

### 705 Detectable Warnings

705.1 General. Detectable warnings shall consist of a surface of truncated domes and shall comply with 705.

705.1.1 Dome Size. Truncated domes in a detectable warning surface shall have a base diameter of 0.9 inch (23 mm) minimum and 1.4 inches (36 mm) maximum, a top diameter of 50 percent of the base diameter minimum to 65 percent of the base diameter maximum, and a height of 0.2 inch (5.1 mm).

705.1.2 Dome Spacing. Truncated domes in a detectable warning surface shall have a center-to-center spacing of 1.6 inches (41 mm) minimum and 2.4 inches (61 mm) maximum, and a base-to-base spacing of 0.65 inch (17 mm) minimum, measured between the most adjacent domes on a square grid.

705.1.3 Contrast. Detectable warning surfaces shall contrast visually with adjacent walking surfaces either light-on-dark, or dark-on-light.

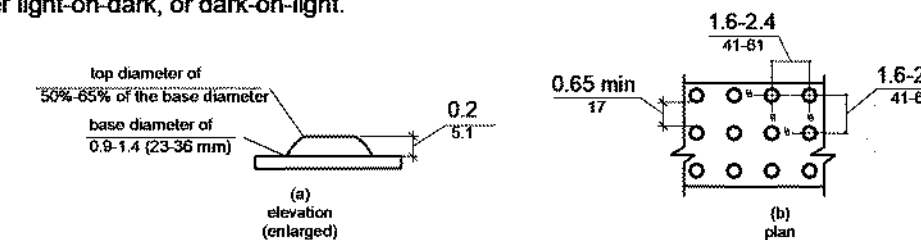


Figure 705.1 Size and Spacing of Truncated Domes

705.2 Platform Edges. Detectable warning surfaces at platform boarding edges shall be 24 inches (610 mm) wide and shall extend the full length of the public use areas of the platform.

### 706 Assistive Listening Systems

706.1 General. Assistive listening systems required in assembly areas shall comply with 706.

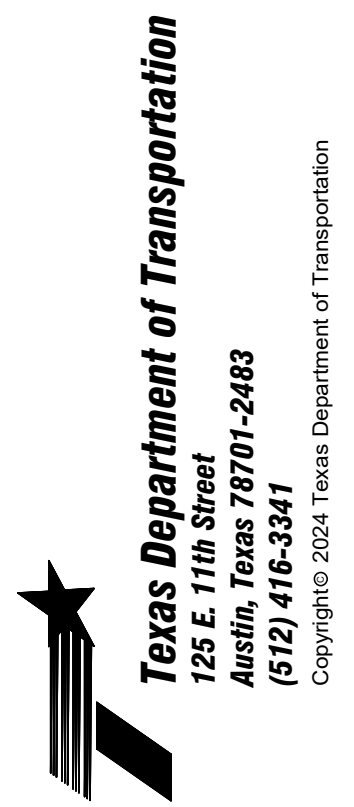
706.2 Receiver Jacks. Receivers required for use with an assistive listening system shall include a 1/8 inch (3.2 mm) standard mono jack.

706.3 Receiver Hearing-Aid Compatibility. Receivers required to be hearing-aid compatible shall interface with telecoils in hearing aids through the provision of neckloops.

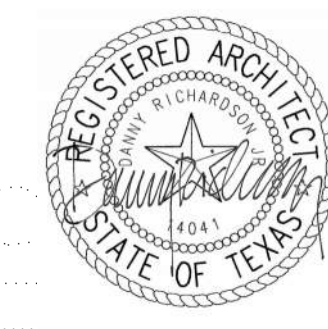
706.4 Sound Pressure Level. Assistive listening systems shall be capable of providing a sound pressure level of 110 dB minimum and 118 dB maximum with a dynamic range on the volume control of 50 dB.

706.5 Signal-to-Noise Ratio. The signal-to-noise ratio for internally generated noise in assistive listening systems shall be 18 dB minimum.

706.6 Peak Clipping Level. Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.

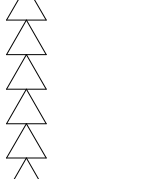


TxDOT LANGTRY  
TRAVEL INFORMATION CENTER  
SITE RENOVATION  
LANGTRY, TX



07/31/2024

### Revisions



Drawn by:  
DAB  
CSJ NO.:  
6473-05-001  
Date  
07/31/2024  
Sheet No.

**G-014**  
of Sheets

# ACCESSIBILITY STANDARDS

NOTE: THIS DRAWINGS WAS CREATED FOR PRODUCTION ON 22" X 34" SHEET SIZE. DO NOT SCALE PRINTS.





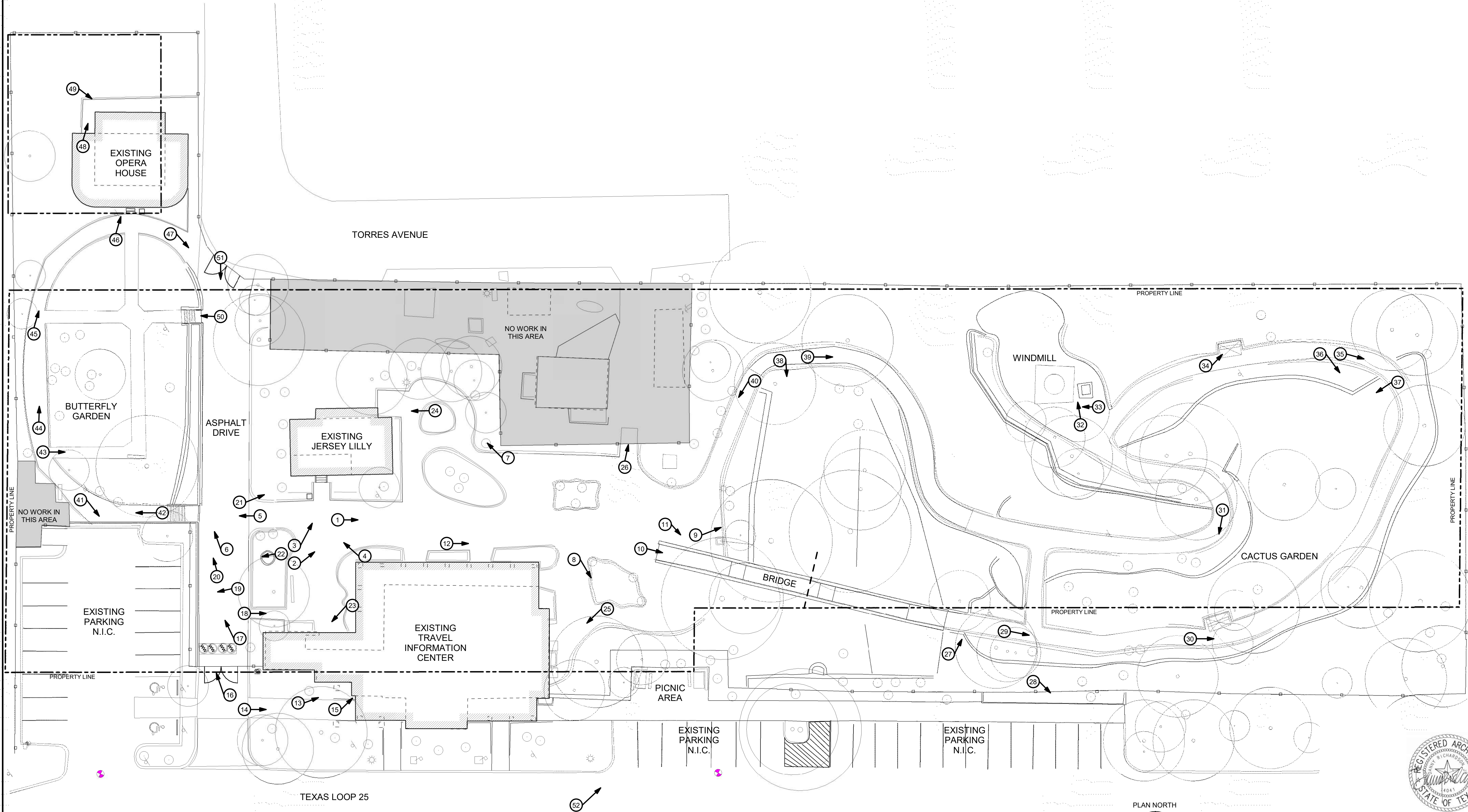
**LEGEND**

① - PHOTO # LOCATION

➔ - DIRECTION OF VIEW

**GENERAL NOTES**

1. REFER TO CD-102 - CD-104 SHEETS FOR PHOTOGRAPHS.

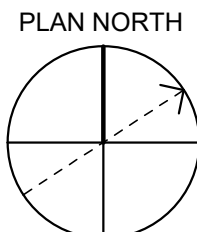


**A1 EXISTING SITE PHOTO PLAN**

1" = 20'-0"

GRAPHIC SCALE 1"=20'-0"

0' 10' 20' 40'



**EXISTING SITE PHOTO PLAN**



07/31/2024

NOTE: THIS DRAWINGS WAS CREATED FOR PRODUCTION ON 22" X 34" SHEET SIZE. DO NOT SCALE PRINTS.

**Texas Department of Transportation**

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**TXDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATION LANGTRY, TX**

Revisions

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Drawn by:  
DAB  
CSJ NO.:  
6473-05-001  
Date  
07/31/2024  
Sheet No.  
**CD-101**  
of Sheets







**KEYNOTES**

NUMBER	NOTE
020500.A	EXISTING PICNIC TABLE & COVER TO REMAIN.
020500.B	EXISTING ASPHALT PARKING LOT TO REMAIN.
020500.C	EXISTING FENCE TO REMAIN.
020500.D	EXISTING WINDMILL, PUMP, SURROUNDING FLAGSTONE & STONE EDGE TO REMAIN TO LIMITS SHOWN.
020500.E	PRESERVE ALL EXISTING PLANTING IN THIS AREA.
020500.F	EXISTING WOOD RAMP TO REMAIN.
020500.G	EXISTING MASONRY RETAINING WALL TO REMAIN.
020500.H	EXISTING FLAGSTONE PATH & EDGE TO REMAIN TO LIMITS SHOWN.
020500.J	EXISTING LIGHT POLE TO REMAIN.
020500.K	EXISTING STONE STAIR TO REMAIN.
020500.L	EXISTING SIGNAGE TO REMAIN.
020500.M	EXISTING WOOD RAILING TO REMAIN.
020500.N	EXISTING POWER POLE AND OVERHEAD LINES
020500.P	EXISTING MASONRY WATER FEATURE TO REMAIN.
020500.Q	EXISTING WOOD BENCH TO REMAIN.
020500.R	EXISTING MANHOLE COVERS TO REMAIN

**KEYNOTES**

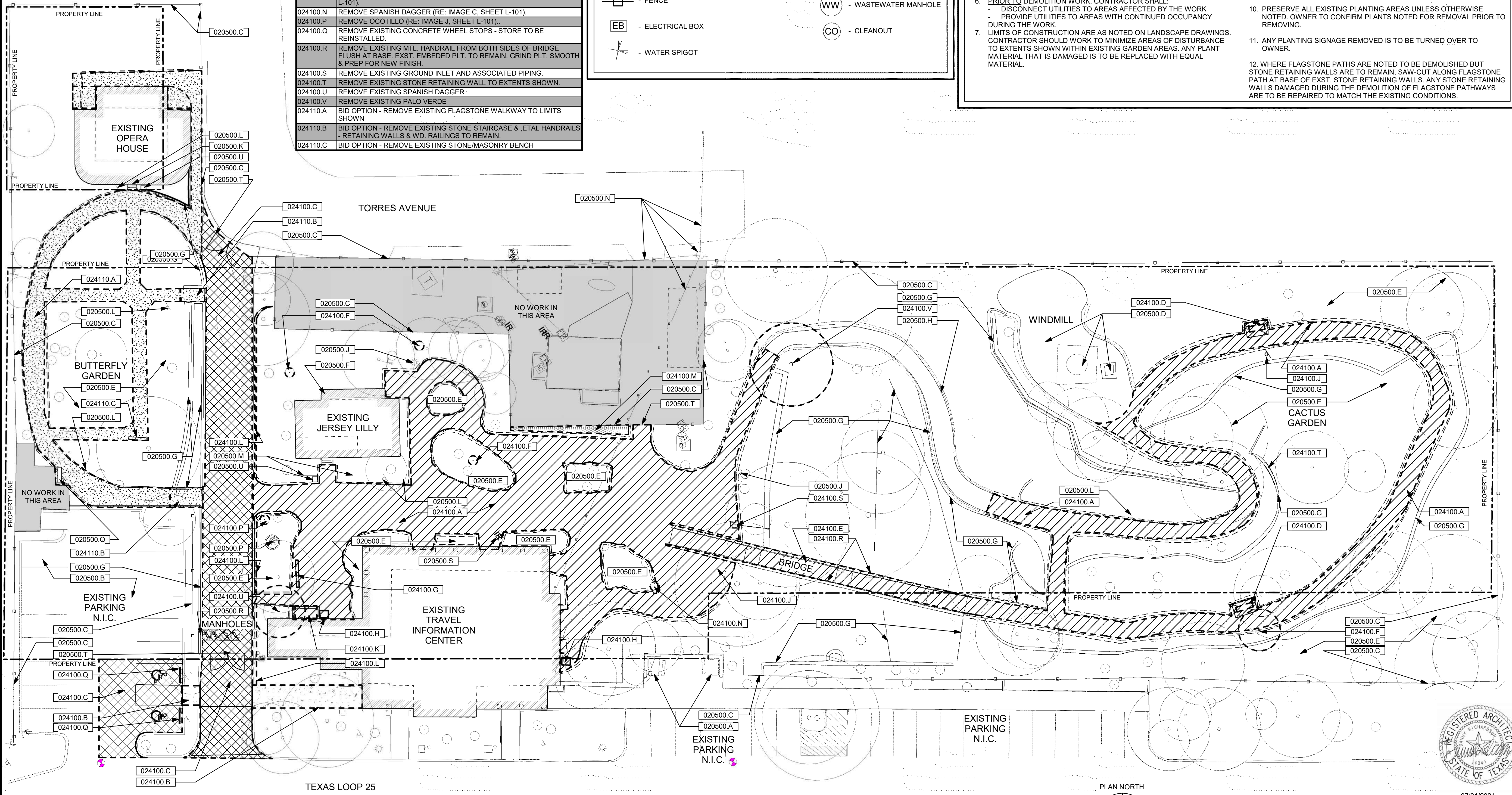
NUMBER	NOTE
020500.S	EXISTING IN-GROUND IRRIGATION TO REMAIN.
020500.T	EXISTING GATES TO REMAIN.
020500.U	EXISTING TRASH RECEPTACLE TO REMAIN.
024100.A	REMOVE EXISTING FLAGSTONE PATHWAY AND ASSOCIATED STONE EDGING TO LIMITS SHOWN.
024100.B	REMOVE EXISTING CONCRETE SIDEWALK TO LIMITS SHOWN.
024100.C	REMOVE EXISTING ASPHALT PAVING TO LIMITS SHOWN.
024100.D	EXISTING WOOD STRUCTURE & BENCH TO BE REMOVED.
024100.E	REMOVE EXISTING FLAGSTONE & SUBSTRATE TO MIN. DEPTHS FROM BRIDGE SURFACE. EXISTING BRIDGE STRUCTURE & CONC. CURB EDGES TO BE PROTECTED.
024100.F	REMOVE EXISTING AGAVE. (RE: IMAGE G, SHEET L-101)
024100.G	REMOVE EXISTING STONE/MASONRY BENCH.
024100.H	REMOVE EXISTING MASONRY TRASH ENCLOSURE.
024100.J	REMOVE EXISTING MONUMENT SIGN & RETURN TO OWNER.
024100.K	REMOVE EXISTING STONE PLANTER TO LIMITS SHOWN.
024100.L	REMOVE CONCRETE CURB TO LIMITS SHOWN.
024100.M	REMOVE DEAD PLANT MATERIAL ALONG FENCE (RE: IMAGE E, SHEET L-101).
024100.N	REMOVE SPANISH DAGGER (RE: IMAGE C, SHEET L-101).
024100.P	REMOVE OCOTILLO (RE: IMAGE J, SHEET L-101).
024100.Q	REMOVE EXISTING CONCRETE WHEEL STOPS - STORE TO BE REINSTALLED.
024100.R	REMOVE EXISTING MTL. HANDRAIL FROM BOTH SIDES OF BRIDGE FLUSH AT BASE. EXST. EMBEDDED PLT. TO REMAIN. GRIND PLT. SMOOTH & PREP FOR NEW FINISH.
024100.S	REMOVE EXISTING GROUND INLET AND ASSOCIATED PIPING.
024100.T	REMOVE EXISTING STONE RETAINING WALL TO EXTENTS SHOWN.
024100.U	REMOVE EXISTING SPANISH DAGGER
024100.V	REMOVE EXISTING PALO VERDE
024110.A	BID OPTION - REMOVE EXISTING FLAGSTONE WALKWAY TO LIMITS SHOWN
024110.B	BID OPTION - REMOVE EXISTING STONE STAIRCASE & .ETAL HANDRAILS - RETAINING WALLS & WD. RAILINGS TO REMAIN.
024110.C	BID OPTION - REMOVE EXISTING STONE/MASONRY BENCH

**LEGEND**

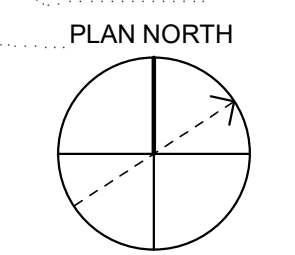
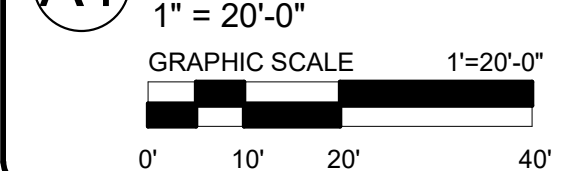
	- FLAGSTONE WALK & EDGING TO BE DEMOLISHED		- WATER METER
	- CONCRETE WALK TO BE DEMOLISHED		- WATER VALVE
	- ASPHALT DRIVE TO BE DEMOLISHED		- AIR RELEASE VALVE
	- FLAGSTONE WALK TO BE DEMOLISHED IN BID OPTIONS		- GAS METER
	- BENCH AND SHADE STRUCTURE TO BE DEMOLISHED		- IRRIGATION METER
	- PROPERTY LINE		- AIR CONDITIONER PAD
	- FENCE		- WASTEWATER MANHOLE
	- ELECTRICAL BOX		- CLEANOUT
	- WATER SPIGOT		

**DEMOLITION NOTES**

- DEMOLITION PLANS & NOTES ARE PROVIDED TO CONVEY DESIGN INTENT.
- INFORMATION CONCERNING EXISTING CONDITIONS IS SUITABLE FOR PREPARATION OF THE DRAWINGS & GIVEN FOR THE CONTRACTOR'S CONVENIENCE. ARCHITECT DOES NOT GUARANTEE ACCURACY TO INFORM HIMSELF & NECESSARY OFFICIALS AS TO THE CONDITIONS AFFECTING THE WORK.
- DIMENSIONS GIVEN ARE TO FACE OF FRAMING, UNLESS INDICATED OTHERWISE. WHERE CONSTRUCTION FEATURES EXIST, VERIFY DIMENSIONS WITH FIELD CONDITIONS.
- NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- OWNER HAS FIRST RIGHT OF SALVAGE TO BUILDING MATERIALS REMOVED AS PART OF DEMOLITION & NOT SPECIFIED FOR RE-USE IN CONSTRUCTION.
- PRIOR TO DEMOLITION WORK, CONTRACTOR SHALL:**
  - DISCONNECT UTILITIES TO AREAS AFFECTED BY THE WORK
  - PROVIDE UTILITIES TO AREAS WITH CONTINUED OCCUPANCY DURING THE WORK.
- LIMITS OF CONSTRUCTION ARE AS NOTED ON LANDSCAPE DRAWINGS. CONTRACTOR SHOULD WORK TO MINIMIZE AREAS OF DISTURBANCE TO EXTENTS SHOWN WITHIN EXISTING GARDEN AREAS. ANY PLANT MATERIAL THAT IS DAMAGED IS TO BE REPLACED WITH EQUAL MATERIAL.
- DURING DEMOLITION WORK, CONTRACTOR SHALL:**
  - LOCATE, PRESERVE & PROTECT FROM DAMAGE
    - UTILITY SERVICES & MAIN LINES
    - EXISTING BUILDING & LANDSCAPE ELEMENTS TO REMAIN
    - EXISTING WALLS & STRUCTURAL MEMBERS TO REMAIN
    - FINISH WORK THAT BECOMES EXPOSED.
  - PERFORM WORK IN AN ORDERLY AND CAREFUL MANNER TO ACCOMMODATE CONNECTION OF NEW CONSTRUCTION TO EXISTING FEATURES.
  - SALVAGE (WHERE POSSIBLE) STRUCTURAL & FINISH MATERIALS FOR REUSE.
- AFTER DEMOLITION WORK, CONTRACTOR SHALL:**
  - REPAIR OR REPLACE (TO OWNER'S SATISFACTION) AT NO EXTRA CHARGE:
    - PROPERTY UTILITIES, LANDSCAPE FEATURES, ETC. DAMAGED DURING THE WORK
    - DEMOLITION IN EXCESS OF THAT REQUIRED BY THE WORK. COORDINATE, REMOVE, RECYCLE OR DISPOSE OF DEMOLISHED MATERIALS IN ACCORDANCE WITH FEDERAL & STATE LAW.
    - LEAVE SITE IN A CONDITION ACCEPTABLE TO OWNER.
- PRESERVE ALL EXISTING PLANTING AREAS UNLESS OTHERWISE NOTED. OWNER TO CONFIRM PLANTS NOTED FOR REMOVAL PRIOR TO REMOVING.
- ANY PLANTING SIGNAGE REMOVED IS TO BE TURNED OVER TO OWNER.
- WHERE FLAGSTONE PATHS ARE NOTED TO BE DEMOLISHED BUT STONE RETAINING WALLS ARE TO REMAIN, SAW-CUT ALONG FLAGSTONE PATH AT BASE OF EXST. STONE RETAINING WALLS. ANY STONE RETAINING WALLS DAMAGED DURING THE DEMOLITION OF FLAGSTONE PATHWAYS ARE TO BE REPAIRED TO MATCH THE EXISTING CONDITIONS.



**A1 DEMO SITE PLAN**



**DEMOLITION SITE PLAN**

NOTE: THIS DRAWINGS WAS CREATED FOR PRODUCTION ON 22" X 34" SHEET SIZE. DO NOT SCALE PRINTS.

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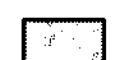


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**TxDOT LANGTRY  
 TRAVEL INFORMATION CENTER  
 SITE RENOVATION  
 LANGTRY, TX**

Revisions

Drawn by:  
DAB  
CSJ NO.:  
6473-05-001  
Date  
07/31/2024  
Sheet No.  
**CD-201**  
of Sheets

### LEGEND

-  - NEW CONCRETE SIDEWALK - REFER TO KEYNOTES FOR BID OPTION ITEMS
-  - NEW ASPHALT DRIVE
-  - L.O.C. - LIMITS OF CONSTRUCTION

### KEYNOTES

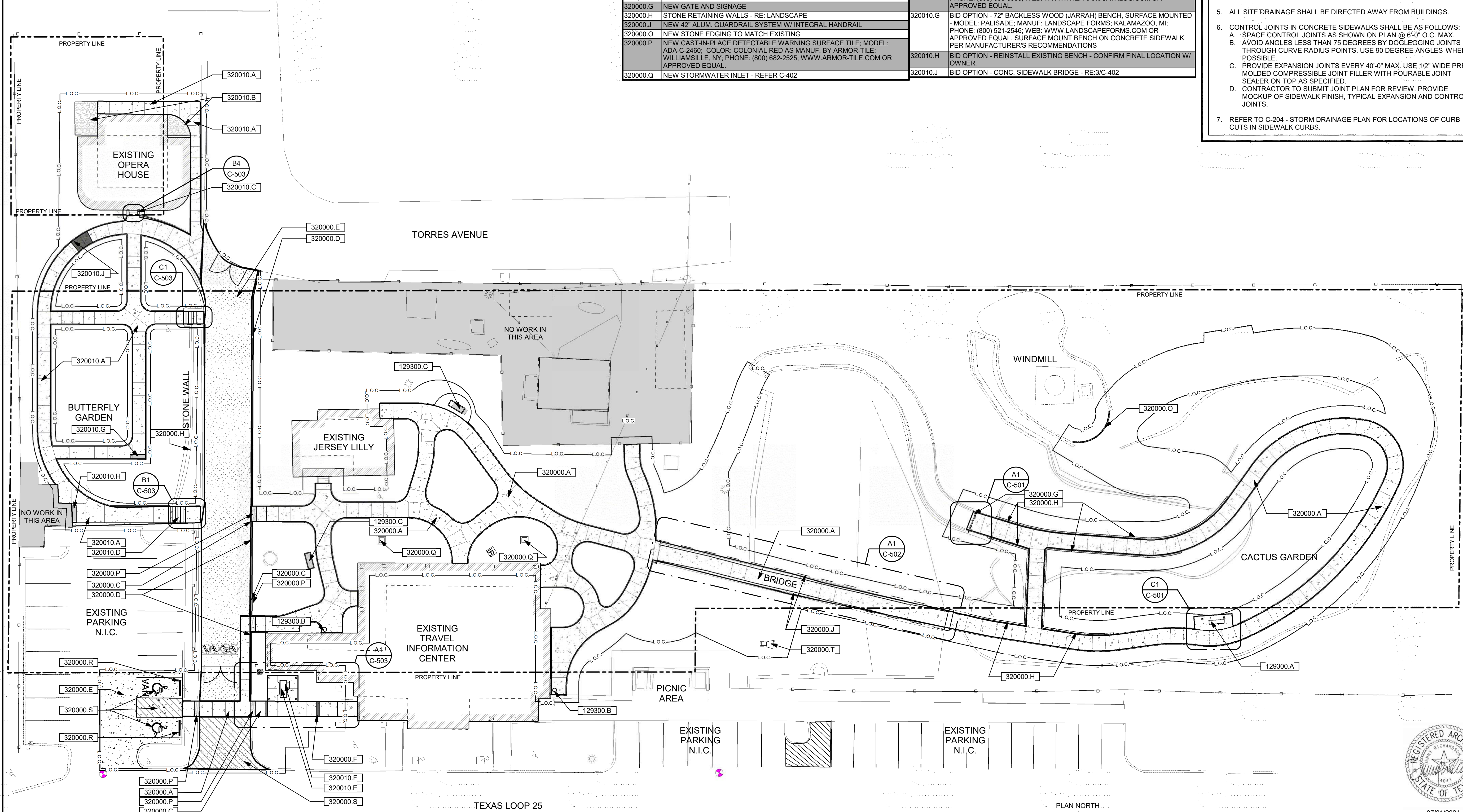
NUMBER	NOTE
129300.A	HEAVY TIMBER SHADE ARBOR W/ WD. BENCH - RE: C1/C-501
129300.B	32-GALLON STEEL TRASH RECEPTACLE W/ COVER & IPE WD. SLATS - MODEL 474-32-BT; MANUF: DUMOR INC.; MIFFLINTOWN, MA; PHONE: (800) 598-4018; WEB: WWW.DUMOR.COM OR APPROVED EQUAL.
129300.C	72" BACKLESS WOOD (JARRAH) BENCH, SURFACE MOUNTED - MODEL: PALISADE; MANUF: LANDSCAPE FORMS; KALAMAZOO, MI; PHONE: (800) 521-2546; WEB: WWW.LANDSCAPEFORMS.COM OR APPROVED EQUAL. BENCH TO BE SURFACE MOUNTED ON CONC. PAD PER B3/C-501
320000.A	NEW CONC. SIDEWALK - REFER C-401
320000.C	NEW HANDICAP CURB RAMP W/ CAST-IN-PLACE DETECTABLE WARNING SURFACE TILE - REFER C-401
320000.D	NEW CONCRETE CURB & GUTTER - REFER C-401
320000.E	NEW ASPHALT PAVING - RE: C-401
320000.F	CONC. SIDEWALK BOX W/ STL. COVER - REFER C-401
320000.G	NEW GATE AND SIGNAGE
320000.H	STONE RETAINING WALLS - RE: LANDSCAPE
320000.J	NEW 42" ALUM. GUARDRAIL SYSTEM W/ INTEGRAL HANDRAIL
320000.O	NEW STONE EDGING TO MATCH EXISTING
320000.P	NEW CAST-IN-PLACE DETECTABLE WARNING SURFACE TILE; MODEL: ADA-C-2460; COLOR: COLONIAL RED AS MANUF. BY ARMOR-TILE; WILLIAMSBURG, NY; PHONE: (800) 682-2525; WWW.ARMOR-TILE.COM OR APPROVED EQUAL.
320000.Q	NEW STORMWATER INLET - REFER C-402

### KEYNOTES

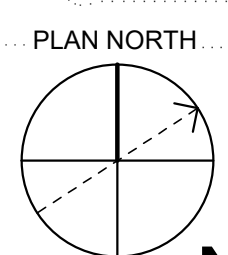
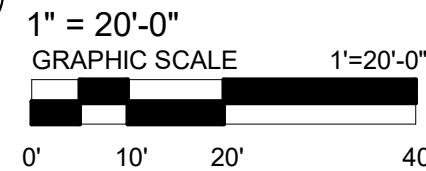
NUMBER	NOTE
320000.R	EXISTING CONCRETE WHEEL STOPS TO BE REINSTALLED AT LOCATIONS INDICATED
320000.S	NEW PAINTED PARKING STRIPING & HANDICAP SYMBOL - REFER C-401
320000.T	NEW CONC. HEADWALL - REFER C-203
320010.A	BID OPTION - NEW SALT FINISH, WHITE CONC. SIDEWALK - REFER C-401
320010.B	BID OPTION - NEW COBBLES - RE: LANDSCAPE
320010.C	BID OPTION - NEW ALUMINUM HANDRAILS FOR STAIRS
320010.D	BID OPTION - NEW CONCRETE STAIRCASE W/ ALUMINUM HANDRAIL SYSTEM.
320010.E	BID OPTION - COVERED PICNIC AREA TO INCLUDE CONCRETE PAD AND MANUFACTURED SHADE STRUCTURE.
320010.F	BID OPTION - NEW 84" H.C. CONCRETE PICNIC TABLE W/ BENCHES - MODEL: 154-1182; MANUF: THE PARKS CATALOG; DELRAY BEACH, FL; PHONE: (800) 695-3503; WEB: WWW.THEPARKSCATALOG.COM OR APPROVED EQUAL.
320010.G	BID OPTION - 72" BACKLESS WOOD (JARRAH) BENCH, SURFACE MOUNTED - MODEL: PALISADE; MANUF: LANDSCAPE FORMS; KALAMAZOO, MI; PHONE: (800) 521-2546; WEB: WWW.LANDSCAPEFORMS.COM OR APPROVED EQUAL. SURFACE MOUNT BENCH ON CONCRETE SIDEWALK PER MANUFACTURER'S RECOMMENDATIONS
320010.H	BID OPTION - REINSTALL EXISTING BENCH - CONFIRM FINAL LOCATION W/ OWNER.
320010.J	BID OPTION - CONC. SIDEWALK BRIDGE - RE: 3/C-402

### GENERAL NOTES

1. ARCHITECTURAL SITE PLAN DERIVED FROM CIVIL ENGINEERING / SITE SURVEY PROVIDED BY: GRIFFIN LAND SURVEYING
2. SITE INFORMATION CONCERNING EXISTING CONDITIONS IS SUITABLE FOR PREPARATION OF THE DRAWINGS & GIVEN FOR THE CONTRACTOR'S CONVENIENCE.
3. ARCHITECT DOES NOT GUARANTEE ACCURACY OF SUCH INFORMATION. IT IS CONTRACTOR'S RESPONSIBILITY TO INFORM HIMSELF & NECESSARY OFFICIALS AS TO THE CONDITIONS AFFECTING THE WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
4. REFER TO & COORDINATE WITH:
  - CIVIL ENGINEER DRAWINGS
  - LANDSCAPE ARCHITECT DRAWINGS
5. ALL SITE DRAINAGE SHALL BE DIRECTED AWAY FROM BUILDINGS.
6. CONTROL JOINTS IN CONCRETE SIDEWALKS SHALL BE AS FOLLOWS:
  - A. SPACE CONTROL JOINTS AS SHOWN ON PLAN @ 6'-0" O.C. MAX.
  - B. AVOID ANGLES LESS THAN 75 DEGREES BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90 DEGREE ANGLES WHEN POSSIBLE.
  - C. PROVIDE EXPANSION JOINTS EVERY 40'-0" MAX. USE 1/2" WIDE PRE-MOLDED COMPRESSIBLE JOINT FILLER WITH POURABLE JOINT SEALER ON TOP AS SPECIFIED.
  - D. CONTRACTOR TO SUBMIT JOINT PLAN FOR REVIEW. PROVIDE MOCKUP OF SIDEWALK FINISH, TYPICAL EXPANSION AND CONTROL JOINTS.
7. REFER TO C-204 - STORM DRAINAGE PLAN FOR LOCATIONS OF CURB CUTS IN SIDEWALK CURBS.



**A1** NEW SITE PLAN - REFERENCE



## NEW SITE PLAN - REFERENCE

NOTE: THIS DRAWINGS WAS CREATED FOR PRODUCTION ON 22" X 34" SHEET SIZE. DO NOT SCALE PRINTS.

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**TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATION**  
 LANGTRY, TX

Revisions  
 Drawn by: DAB  
 CSJ NO.: 6473-05-001  
 Date: 07/31/2024  
 Sheet No. **C-101** of Sheets

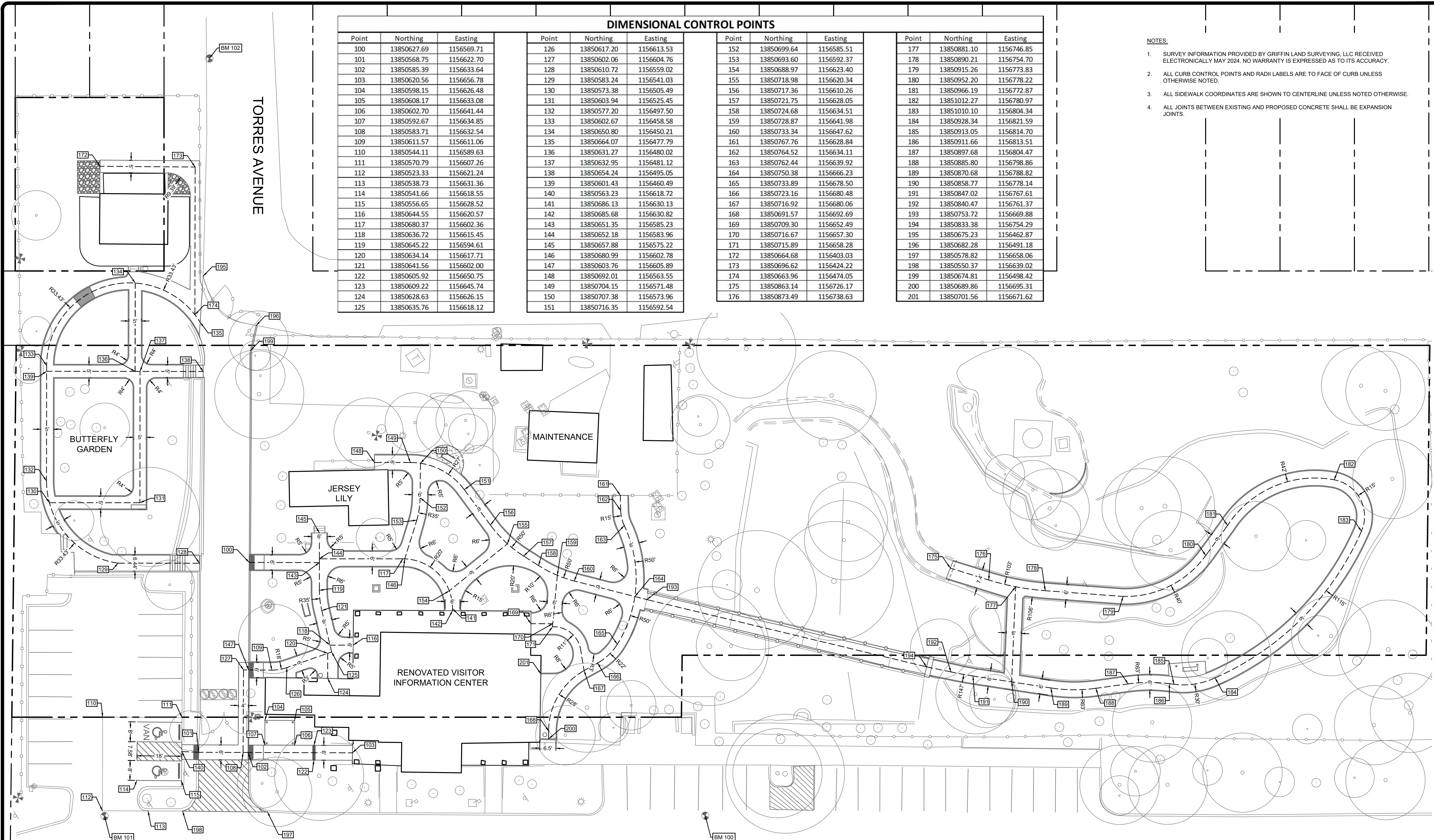


**DIMENSIONAL CONTROL POINTS**

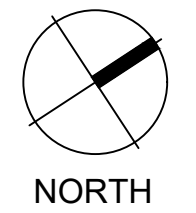
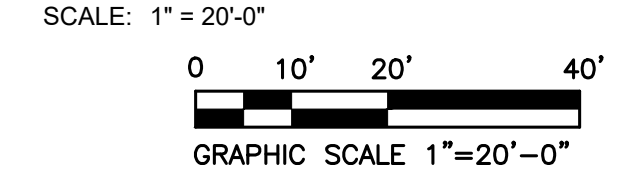
Point	Northing	Easting	Point	Northing	Easting	Point	Northing	Easting	Point	Northing	Easting
100	13850627.69	1156569.71	126	13850617.20	1156613.53	152	13850699.64	1156585.51	177	13850881.10	1156746.85
101	13850568.75	1156622.70	127	13850602.06	1156604.76	153	13850693.60	1156592.37	178	13850890.21	1156754.70
102	13850585.39	1156633.64	128	13850610.72	1156559.02	154	13850688.97	1156623.40	179	13850915.26	1156773.83
103	13850620.56	1156656.78	129	13850583.24	1156541.03	155	13850718.98	1156620.34	180	13850952.20	1156778.22
104	13850598.15	1156626.48	130	13850573.38	1156505.49	156	13850717.36	1156610.26	181	13850966.19	1156772.87
105	13850608.17	1156633.08	131	13850603.94	1156525.45	157	13850721.75	1156628.05	182	13851012.27	1156780.97
106	13850602.70	1156641.44	132	13850577.20	1156497.50	158	13850724.68	1156634.51	183	13851010.10	1156804.34
107	13850592.67	1156634.85	133	13850602.67	1156458.58	159	13850728.87	1156641.98	184	13850928.34	1156821.59
108	13850583.71	1156632.54	134	13850650.80	1156450.21	160	13850733.34	1156647.62	185	13850913.05	1156814.70
109	13850611.57	1156611.06	135	13850664.07	1156477.79	161	13850767.76	1156628.84	186	13850911.66	1156813.51
110	13850544.11	1156589.63	136	13850631.27	1156480.02	162	13850764.52	1156634.11	187	13850897.68	1156804.47
111	13850570.79	1156607.26	137	13850632.95	1156481.12	163	13850762.44	1156639.92	188	13850885.80	1156798.86
112	13850523.33	1156621.24	138	13850654.24	1156495.05	164	13850750.38	1156666.23	189	13850870.68	1156788.82
113	13850538.73	1156631.36	139	13850601.43	1156460.49	165	13850733.89	1156678.50	190	13850858.77	1156778.14
114	13850541.66	1156618.55	140	13850563.23	1156618.72	166	13850723.16	1156680.48	191	13850847.02	1156767.61
115	13850556.65	1156628.52	141	13850686.13	1156630.13	167	13850716.92	1156680.06	192	13850840.47	1156761.37
116	13850644.55	1156620.57	142	13850685.68	1156630.82	168	13850691.57	1156692.69	193	13850753.72	1156669.88
117	13850680.37	1156602.36	143	13850651.35	1156585.23	169	13850709.30	1156652.49	194	13850833.38	1156754.29
118	13850636.72	1156615.45	144	13850652.18	1156583.96	170	13850716.67	1156657.30	195	13850675.23	1156462.87
119	13850645.22	1156594.61	145	13850657.88	1156575.22	171	13850715.89	1156658.28	196	13850682.28	1156491.18
120	13850634.14	1156617.71	146	13850680.99	1156602.78	172	13850664.68	1156403.03	197	13850578.82	1156658.06
121	13850641.56	1156602.00	147	13850603.76	1156605.89	173	13850696.62	1156424.22	198	13850550.37	1156639.02
122	13850605.92	1156650.75	148	13850692.01	1156563.55	174	13850663.96	1156474.05	199	13850674.81	1156498.42
123	13850609.22	1156645.74	149	13850704.15	1156571.48	175	13850863.14	1156726.17	200	13850689.86	1156695.31
124	13850628.63	1156626.15	150	13850707.38	1156573.96	176	13850873.49	1156738.63	201	13850701.56	1156671.62
125	13850635.76	1156618.12	151	13850716.35	1156592.54						

**NOTES:**

1. SURVEY INFORMATION PROVIDED BY GRIFFIN LAND SURVEYING, LLC RECEIVED ELECTRONICALLY MAY 2024. NO WARRANTY IS EXPRESSED AS TO ITS ACCURACY.
2. ALL CURB CONTROL POINTS AND RADII LABELS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
3. ALL SIDEWALK COORDINATES ARE SHOWN TO CENTERLINE UNLESS NOTED OTHERWISE.
4. ALL JOINTS BETWEEN EXISTING AND PROPOSED CONCRETE SHALL BE EXPANSION JOINTS.



**A1 DIMENSIONAL CONTROL PLAN**



**BENCHMARK INFORMATION:**

BM 100: P. K. NAIL NORTHING: 13850725.82 EASTING: 1156755.78 ELEVATION: 1305.06
BM 101: P. K. NAIL NORTHING: 13850522.90 EASTING: 1156623.49 ELEVATION: 1305.90
BM 102: P. K. NAIL NORTHING: 13850725.38 EASTING: 1156390.68 ELEVATION: 1320.45

VERTICAL DATUM: NAVD 88

**ECKERMANN ENGINEERING, INC.**  
 202 SPRING HO AVE.  
 LAMPASAS, TEXAS 76550  
 PHONE: 512-556-8160  
 TBPE FIRM NO. F-10496



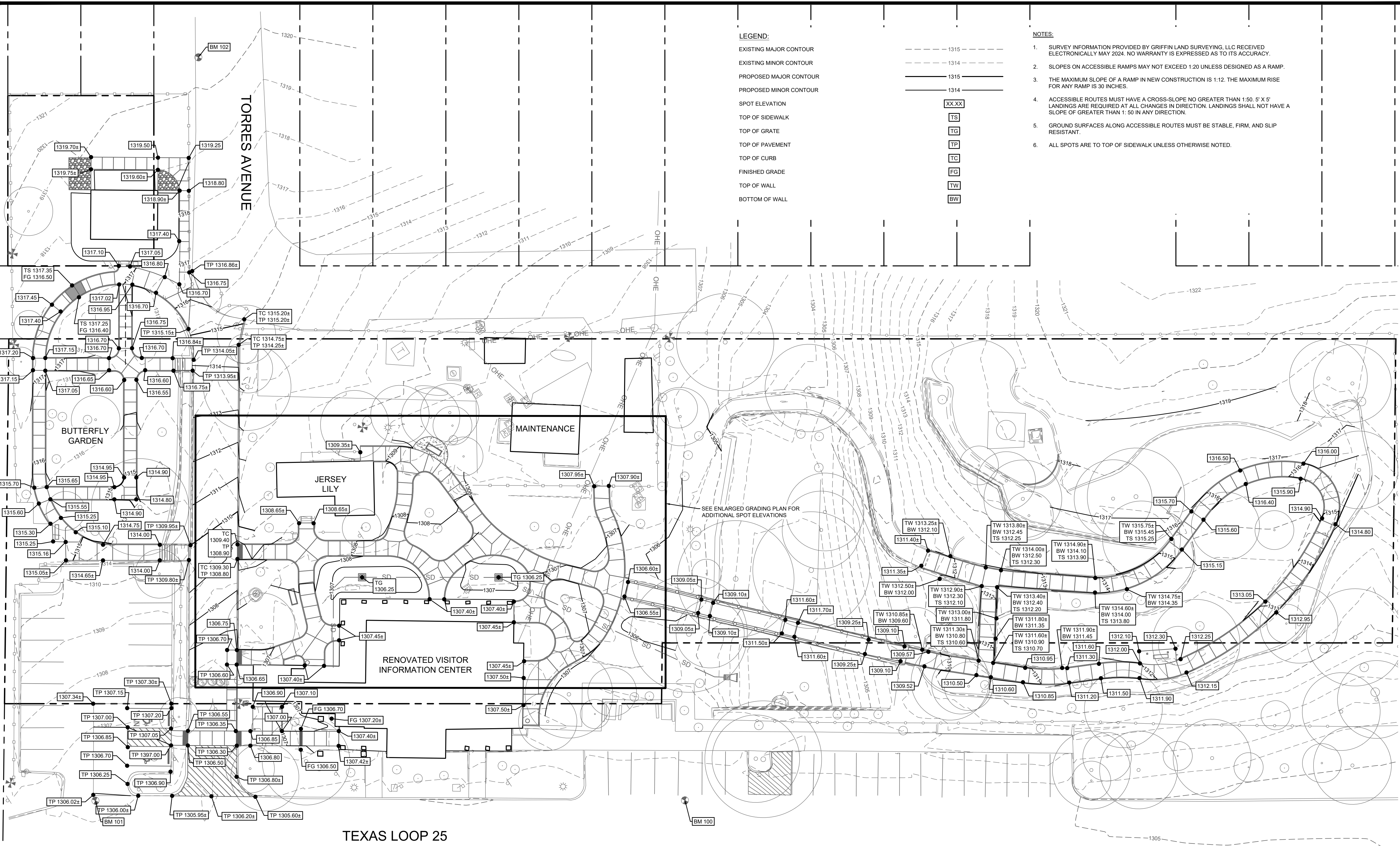
**DIMENSIONAL CONTROL PLAN**

NOTE: THIS DRAWINGS WAS CREATED FOR PRODUCTION ON 22" X 34" SHEET SIZE. DO NOT SCALE PRINTS.



**TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATIONS LANGTRY, TX**

Revisions  
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 ▲  
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 Drawn by: WN, DE  
 CSJ NO.: 6473-05-001  
 Date: 7/31/2024  
 Sheet No. **C-201** of Sheets



**LEGEND:**

EXISTING MAJOR CONTOUR	---	1315
EXISTING MINOR CONTOUR	- - -	1314
PROPOSED MAJOR CONTOUR	---	1315
PROPOSED MINOR CONTOUR	- - -	1314
SPOT ELEVATION	XX.XX	
TOP OF SIDEWALK	TS	
TOP OF GRATE	TG	
TOP OF PAVEMENT	TP	
TOP OF CURB	TC	
FINISHED GRADE	FG	
TOP OF WALL	TW	
BOTTOM OF WALL	BW	

- NOTES:**
1. SURVEY INFORMATION PROVIDED BY GRIFFIN LAND SURVEYING, LLC RECEIVED ELECTRONICALLY MAY 2024. NO WARRANTY IS EXPRESSED AS TO ITS ACCURACY.
  2. SLOPES ON ACCESSIBLE RAMPS MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
  3. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP IS 30 INCHES.
  4. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50. 5' X 5' LANDINGS ARE REQUIRED AT ALL CHANGES IN DIRECTION. LANDINGS SHALL NOT HAVE A SLOPE OF GREATER THAN 1:50 IN ANY DIRECTION.
  5. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT.
  6. ALL SPOTS ARE TO TOP OF SIDEWALK UNLESS OTHERWISE NOTED.

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**TxDOT LANGTRY  
 TRAVEL INFORMATION CENTER  
 SITE RENOVATIONS  
 LANGTRY, TX**

**A1 GRADING PLAN**  
 SCALE: 1" = 20'-0"  
 0 10' 20' 40'  
 GRAPHIC SCALE 1" = 20'-0"

**BENCHMARK INFORMATION:**

BM 100: P.K. NAIL NORTHING: 13850725.82 EASTING: 1156755.78 ELEVATION: 1305.06
BM 101: P.K. NAIL NORTHING: 13850522.90 EASTING: 1156623.49 ELEVATION: 1305.90
BM 102: P.K. NAIL NORTHING: 13850725.38 EASTING: 1156390.88 ELEVATION: 1320.45

VERTICAL DATUM: NAVD 88

**ECKERMANN  
 ENGINEERING, INC.**  
 202 SPRING HO AVE.  
 LAMPASAS, TEXAS 76550  
 PHONE: 512-556-8160  
 TBPE FIRM NO. F-10496

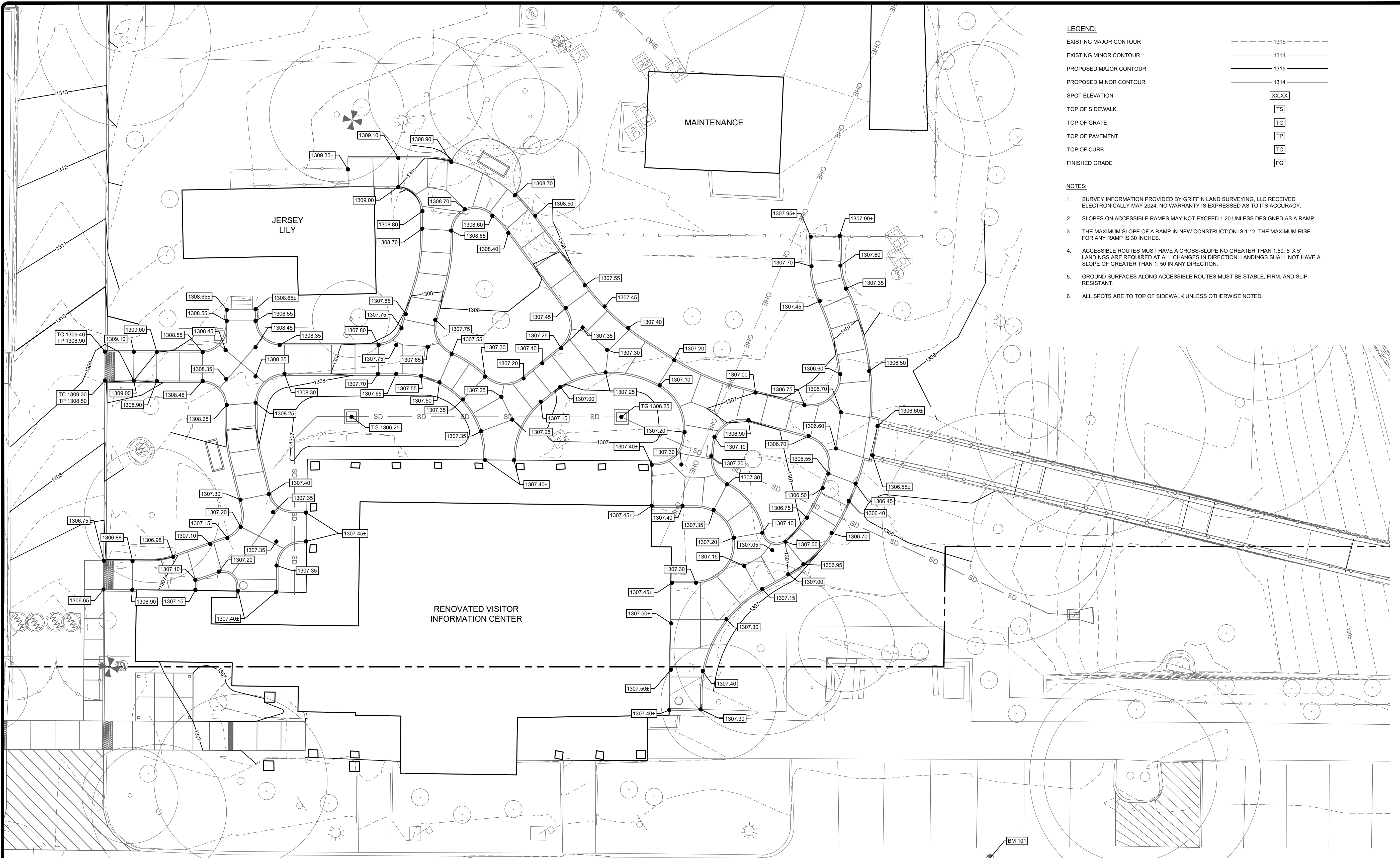
Professional Engineer Seal for Derek Eckermann, License No. 98278, State of Texas. Date: 7/31/2024.

**GRADING PLAN**

Revisions  
 ▲  
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 Drawn by:  
 WN, DE  
 CSJ NO.:  
 6473-05-001  
 Date:  
 7/31/2024  
 Sheet No.  
**C-202**  
 XX of XX Sheets

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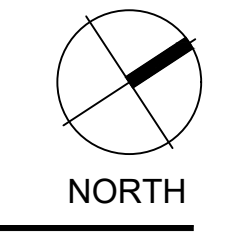
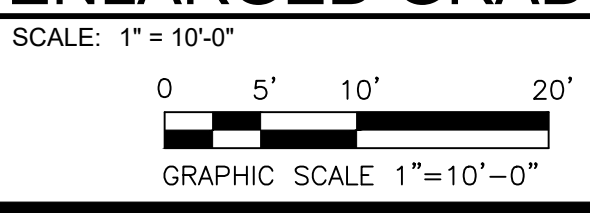


**LEGEND:**

EXISTING MAJOR CONTOUR	---	1315
EXISTING MINOR CONTOUR	---	1314
PROPOSED MAJOR CONTOUR	---	1315
PROPOSED MINOR CONTOUR	---	1314
SPOT ELEVATION	XX.XX	
TOP OF SIDEWALK	TS	
TOP OF GRATE	TG	
TOP OF PAVEMENT	TP	
TOP OF CURB	TC	
FINISHED GRADE	FG	

- NOTES:**
1. SURVEY INFORMATION PROVIDED BY GRIFFIN LAND SURVEYING, LLC RECEIVED ELECTRONICALLY MAY 2024. NO WARRANTY IS EXPRESSED AS TO ITS ACCURACY.
  2. SLOPES ON ACCESSIBLE RAMPS MAY NOT EXCEED 1:20 UNLESS DESIGNED AS A RAMP.
  3. THE MAXIMUM SLOPE OF A RAMP IN NEW CONSTRUCTION IS 1:12. THE MAXIMUM RISE FOR ANY RAMP IS 30 INCHES.
  4. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50. 5' X 5' LANDINGS ARE REQUIRED AT ALL CHANGES IN DIRECTION. LANDINGS SHALL NOT HAVE A SLOPE OF GREATER THAN 1:50 IN ANY DIRECTION.
  5. GROUND SURFACES ALONG ACCESSIBLE ROUTES MUST BE STABLE, FIRM, AND SLIP RESISTANT.
  6. ALL SPOTS ARE TO TOP OF SIDEWALK UNLESS OTHERWISE NOTED.

**A1 ENLARGED GRADING PLAN**



**BENCHMARK INFORMATION:**

BM 100: P.K. NAIL  
 NORTHING: 13850725.82  
 EASTING: 1156755.78  
 ELEVATION: 1305.06

BM 101: P.K. NAIL  
 NORTHING: 13850522.90  
 EASTING: 1156623.49  
 ELEVATION: 1305.90

BM 102: P.K. NAIL  
 NORTHING: 13850725.38  
 EASTING: 1156390.88  
 ELEVATION: 1320.45

VERTICAL DATUM: NAVD 88

**ECKERMANN ENGINEERING, INC.**

202 SPRING HO AVE.  
 LAMPASAS, TEXAS 76550  
 PHONE: 512-556-8160  
 TBPE FIRM NO. F-10496



**ENLARGED GRADING PLAN**

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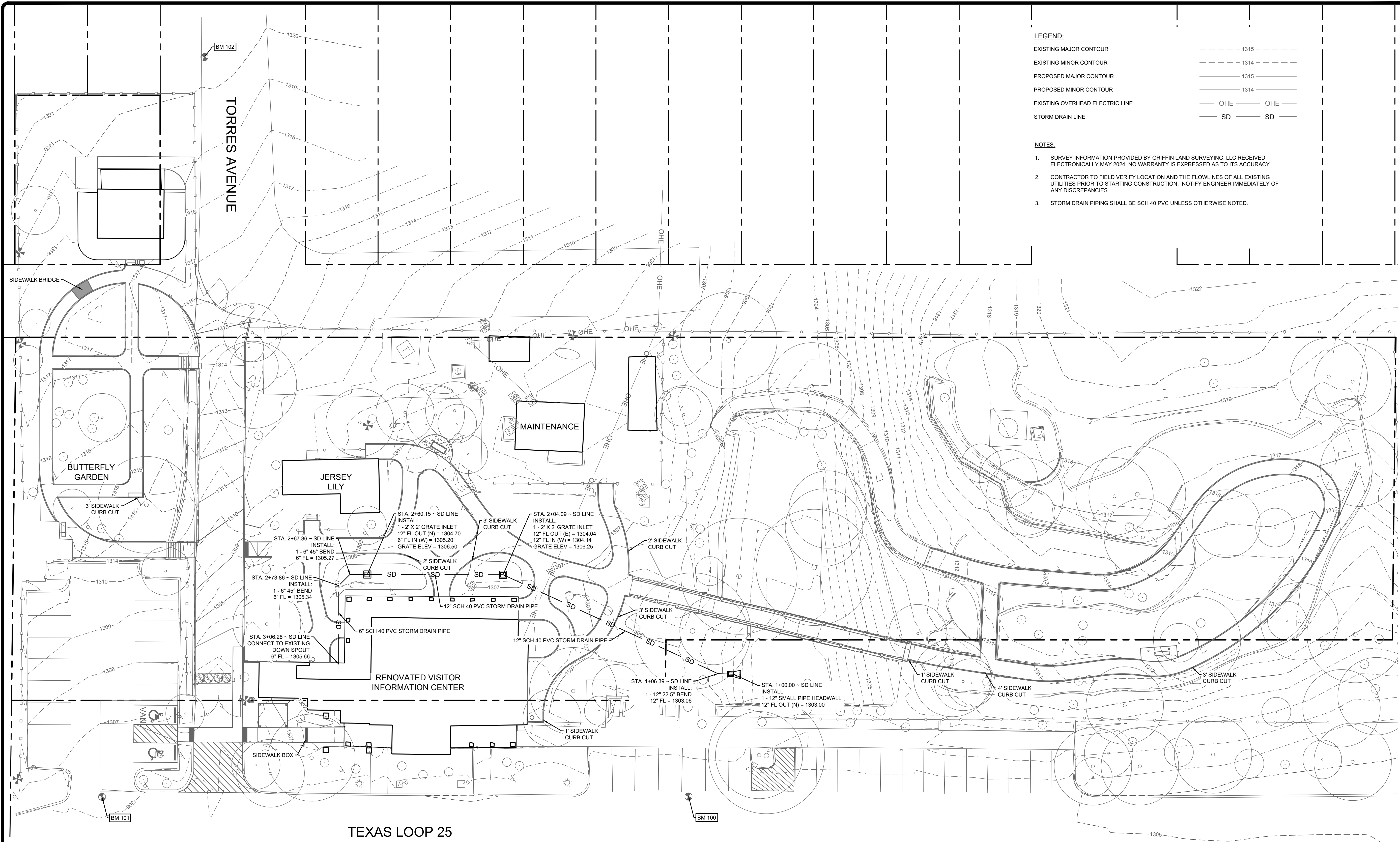
**TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATIONS LANGTRY, TX**

**Revisions**

▲  
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Drawn by:  
 WN, DE  
 CSJ NO.:  
 6473-05-001

Date:  
 7/31/2024  
 Sheet No.  
**C-203**  
 of Sheets



**LEGEND:**

EXISTING MAJOR CONTOUR	----- 1315
EXISTING MINOR CONTOUR	----- 1314
PROPOSED MAJOR CONTOUR	----- 1315
PROPOSED MINOR CONTOUR	----- 1314
EXISTING OVERHEAD ELECTRIC LINE	— OHE — OHE
STORM DRAIN LINE	— SD — SD

- NOTES:**
- SURVEY INFORMATION PROVIDED BY GRIFFIN LAND SURVEYING, LLC RECEIVED ELECTRONICALLY MAY 2024. NO WARRANTY IS EXPRESSED AS TO ITS ACCURACY.
  - CONTRACTOR TO FIELD VERIFY LOCATION AND THE FLOWLINES OF ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
  - STORM DRAIN PIPING SHALL BE SCH 40 PVC UNLESS OTHERWISE NOTED.

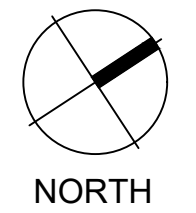
**A1 STORM DRAIN PLAN**



**BENCHMARK INFORMATION:**

BM 100: P.K. NAIL NORTHING: 13850725.82 EASTING: 1156755.78 ELEVATION: 1305.06
BM 101: P.K. NAIL NORTHING: 13850522.90 EASTING: 1156623.49 ELEVATION: 1305.90
BM 102: P.K. NAIL NORTHING: 13850725.38 EASTING: 1156390.88 ELEVATION: 1320.45

VERTICAL DATUM: NAVD 88



**ECKERMANN ENGINEERING, INC.**  
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 LAMPASAS, TEXAS 76550  
 PHONE: 512-556-8160  
 TBPE FIRM NO. F-10496



**STORM DRAIN PLAN**

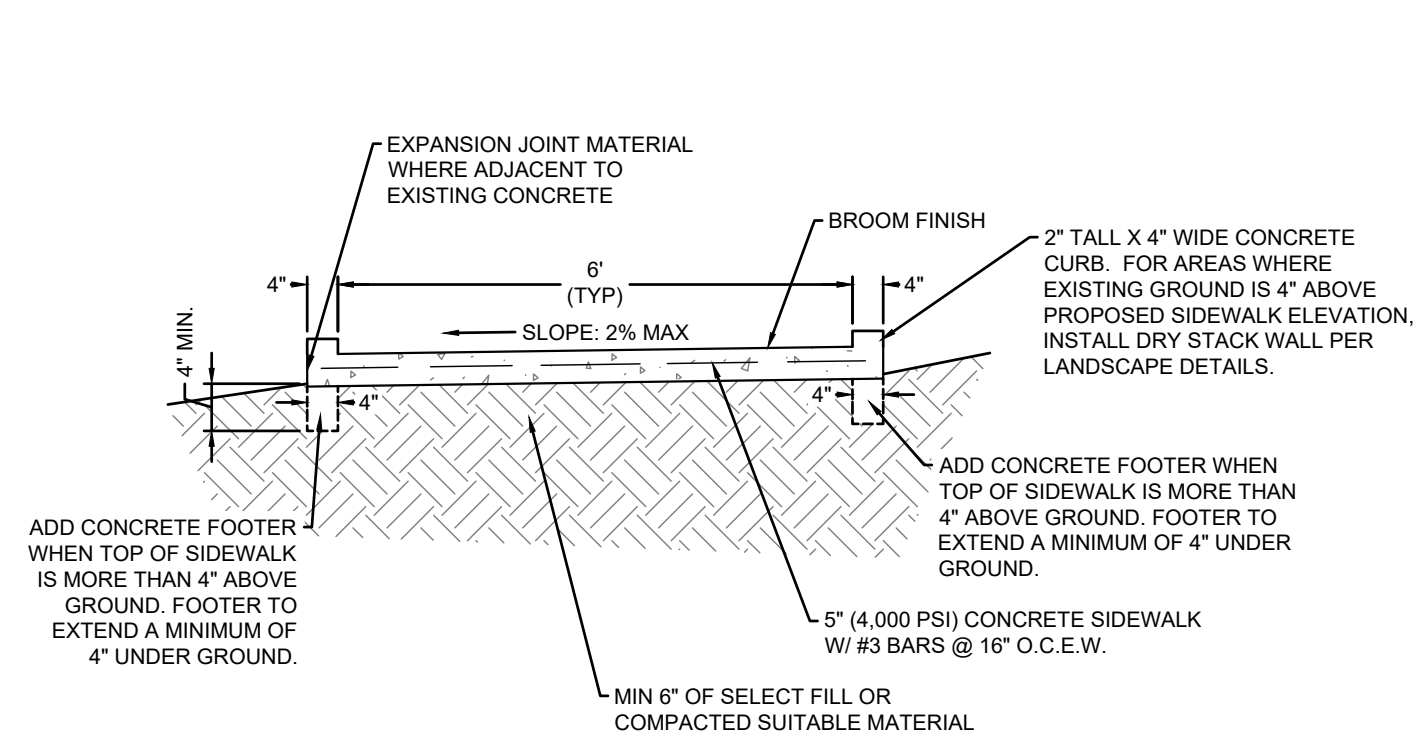
NOTE: THIS DRAWINGS WAS CREATED FOR PRODUCTION ON 22" X 34" SHEET SIZE. DO NOT SCALE PRINTS.

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**TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATIONS LANGTRY, TX**

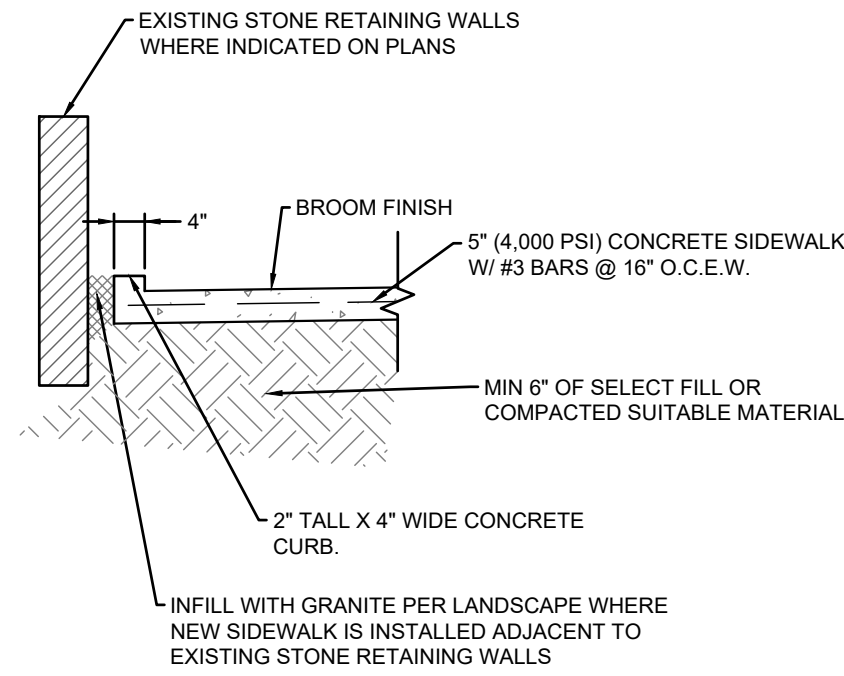
Revisions  
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**C-204**  
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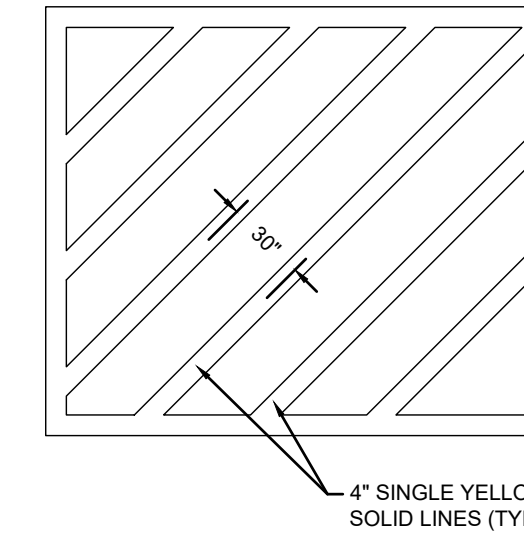
**SIDEWALK GENERAL NOTES:**

- ALL CONCRETE TO BE 4,000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS.
- EXISTING SIDEWALKS TO BE REMOVED AND REPLACED AS SHOWN ON PLANS.
- SEAL JOINTS IN ACCORDANCE WITH THE SPECIFICATIONS.
- SIDEWALKS TO BE FINISHED IN ACCORDANCE WITH THE SPECIFICATIONS.
- SIDEWALKS TO BE INSTALLED PER GRADES AS SHOWN ON THE PLANS. SIDEWALKS ADJACENT TO CURBS TO BE SLOPED AT 2% MAX TOWARDS CURB OR AS SHOWN ON PLANS.
- ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 1:50. 5' X 5' LANDINGS ARE REQUIRED AT ALL CHANGES IN DIRECTION. LANDINGS SHALL NOT HAVE A SLOPE OF GREATER THAN 1:50 IN ANY DIRECTION.
- REINFORCEMENT BARS TO BE GRADE 60.
- SUBGRADE BELOW SIDEWALKS TO BE COMPACTED TO 95% MAXIMUM LABORATORY DENSITY (MIN.), ASTM D-1557.
- CONTROL JOINTS IN CONCRETE SIDEWALKS SHALL BE AS FOLLOWS:
  - SPACE CONTROL JOINTS AS SHOWN ON PLAN @ 6' O.C. MAX
  - AVOID ANGLES LESS THAN 75 DEGREES BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90 DEGREE ANGLE WHEN POSSIBLE.
  - PROVIDE EXPANSION JOINTS EVERY 40' MAX. USE 3/4" WIDE PRE-MOLDED COMPRESSIBLE JOINT FILLER WITH POURABLE JOINT SEALER ON TOP AS SPECIFIED.
  - CONTRACTOR TO SUBMIT A JOINT PLAN FOR REVIEW. PROVIDE MOCKUP OF SIDEWALK FINISH, TYPICAL EXPANSION AND CONTROL JOINTS.

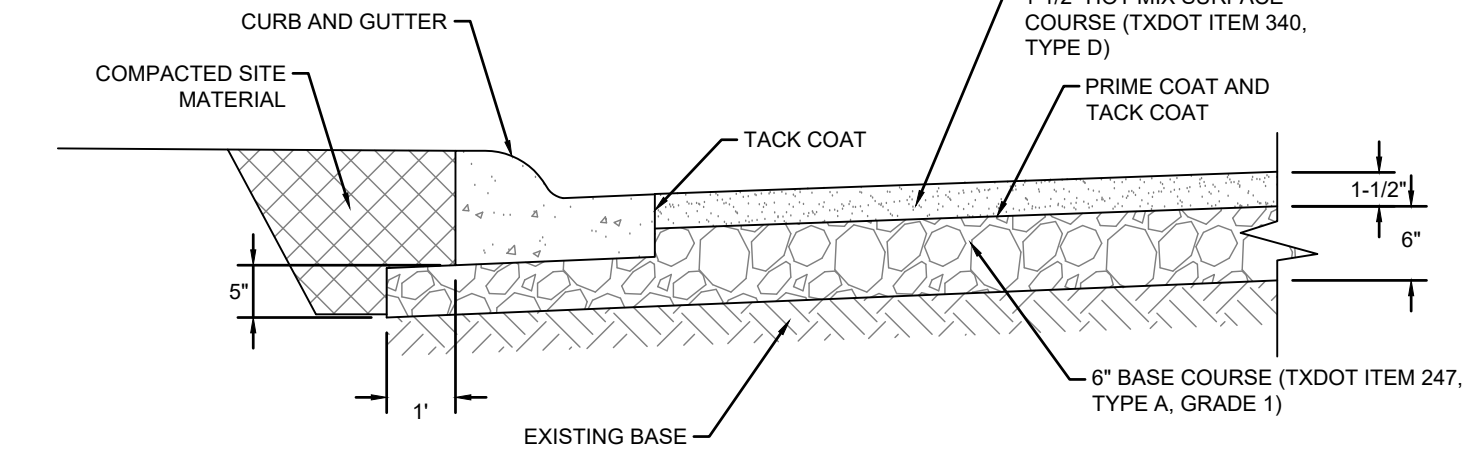
**1 5" CONCRETE SIDEWALK**  
C-401 N.T.S.



**2 TYPICAL CONCRETE WALK DETAILS**  
C-401 N.T.S.



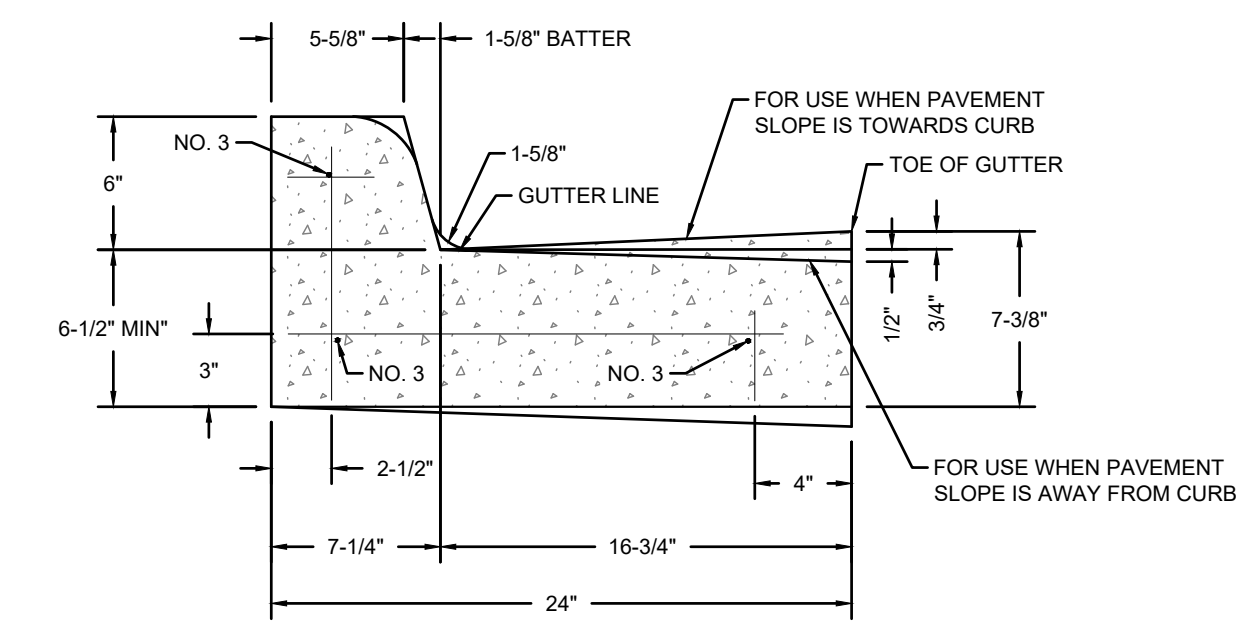
**3 NO PARKING STRIPING DETAIL**  
C-401 N.T.S.



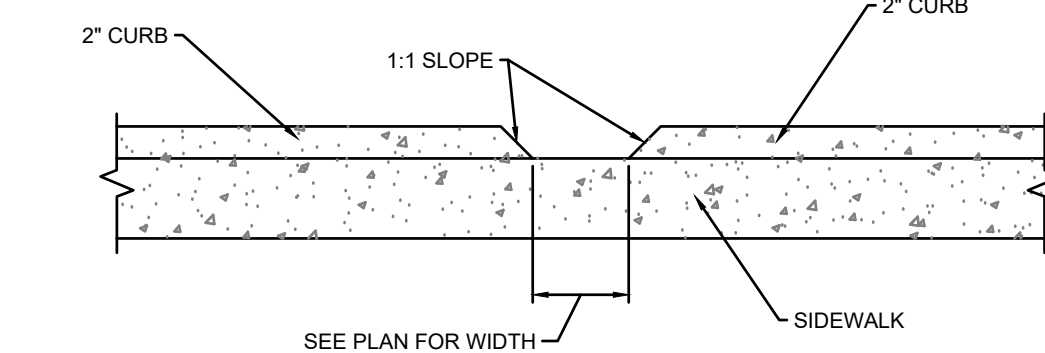
**ASPHALT PAVEMENT GENERAL NOTES:**

- REMOVE EXISTING SURFACE AND BASE MATERIAL TO A DEPTH OF 7.5" BELOW TO OF PAVEMENT.
- PROOF ROLL THE EXISTING SUBGRADE MATERIAL TO DETERMINE WEAK AREAS. SCARIFY AND RECOMPACT WEAK BASE AREAS AND ADD ADDITIONAL BASE AS REQUIRED. DENSITY TO MEET 95% MAXIMUM LABORATORY DENSITY, ASTM D-1557.
- DENSITY TESTS TO BE PERFORMED AS REQUIRED BY THE RFP, EVERY 500 SQUARE YARDS MINIMUM.
- INSTALL 6" OF NEW BASE MATERIAL, TXDOT ITEM 247, TYPE A, GRADE 1.
- BASE TO HAVE A PRIME COAT AND TACK COAT APPLIED IN ACCORDANCE WITH THE SPECIFICATIONS.
- CURBS AND OTHER CONCRETE STRUCTURES THAT ABUT THE NEW PAVEMENT SHALL BE SPRAYED WITH A TACK COAT OF CUT-BACK ASPHALT GRADE RC-250 OR EMULSIFIED ASPHALT IN ACCORDANCE WITH TXDOT ITEM 300 SPECIFICATIONS.

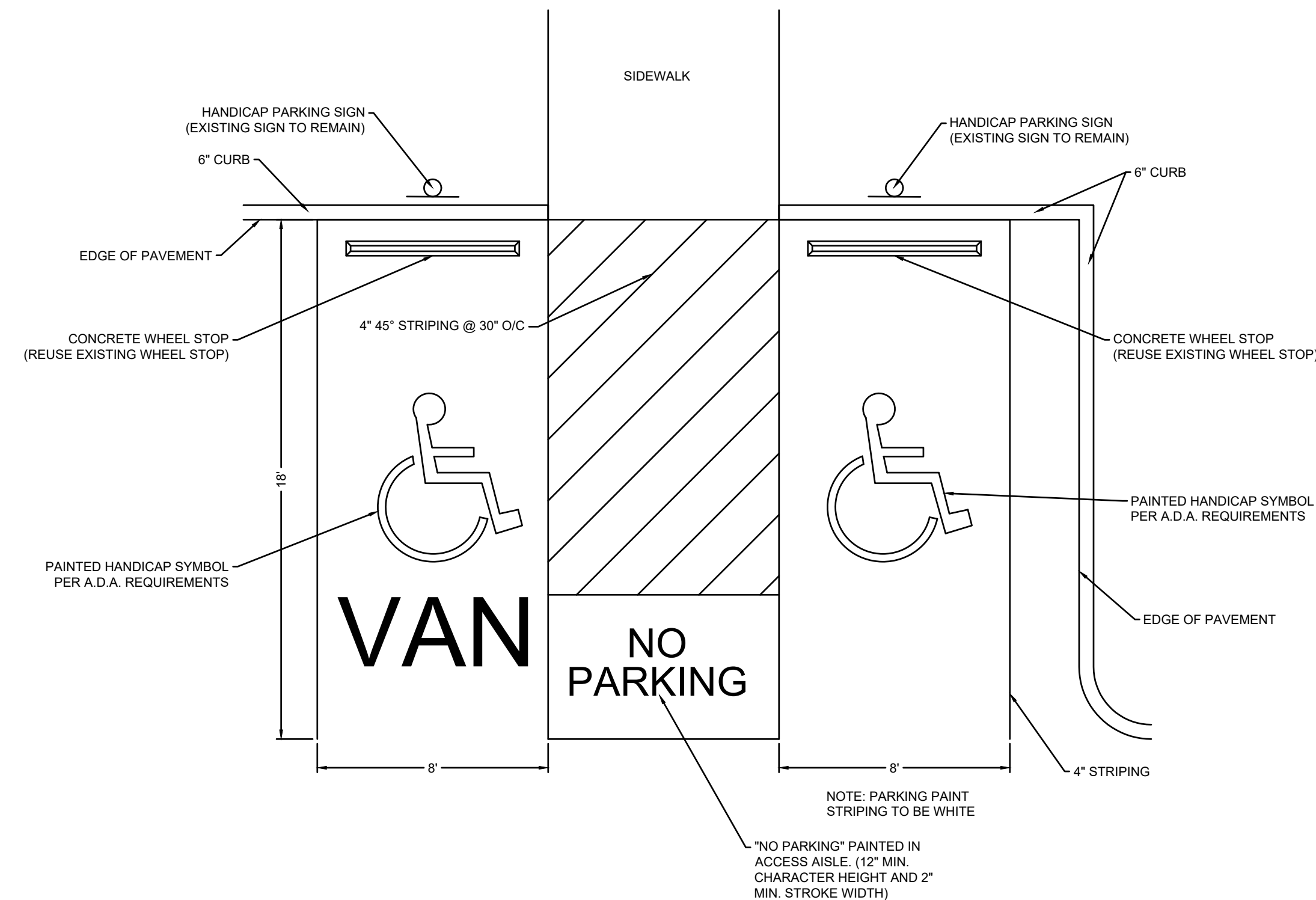
**4 TYPICAL ASPHALT PAVEMENT SECTION**  
C-401 N.T.S.



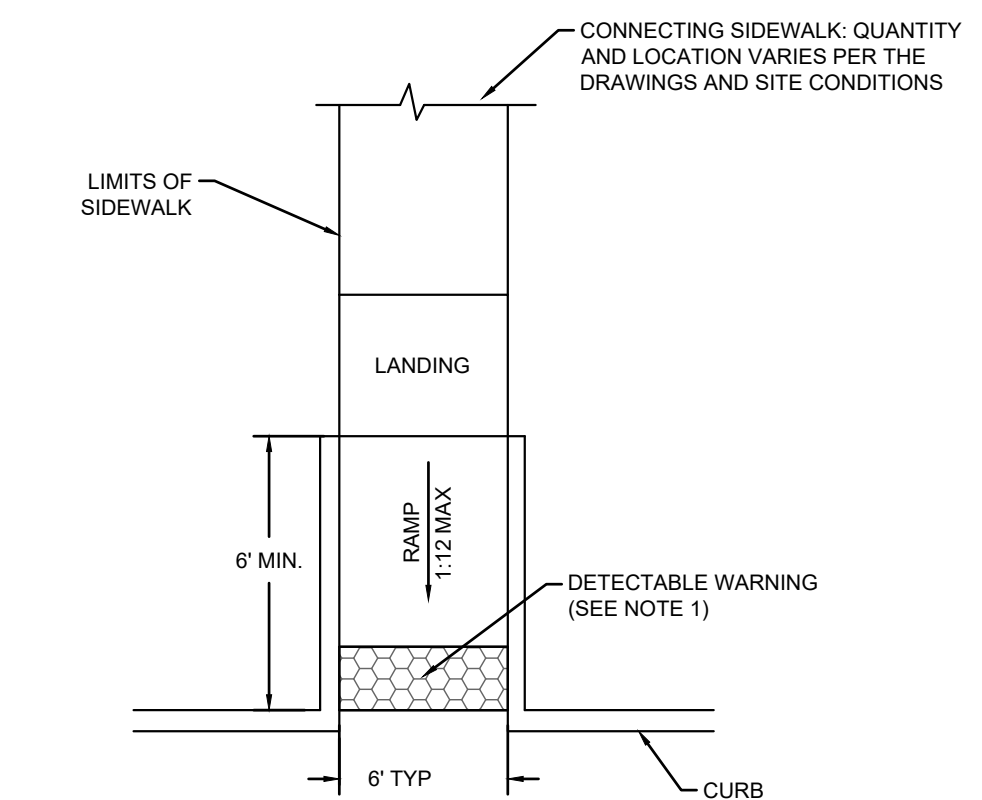
**5 CONCRETE CURB & GUTTER**  
C-401 N.T.S.



**6 SIDEWALK CURB CUT DETAIL**  
C-401 N.T.S.



**7 ADA PARKING SPACE DETAIL (TYP)**  
C-401 N.T.S.



**CURB RAMP GENERAL NOTES:**

- NEW CAST-IN-PLACE DETECTABLE WARNING SURFACE TILE; MODEL: ADA-C-2460; COLOR: COLONIAL RED AS MANUF. BY ARMOR-TILE; WILLIAMSBURG, NY; PHONE: (800) 682-2525; WWW.ARMOR-TILE.COM OR APPROVED EQUAL.
- REFER TO PLANS FOR RAMP CONFIGURATIONS AND LOCATIONS.
- SLOPE OF LANDING SHALL NOT EXCEED 2% IN ANY DIRECTION.

**8 SIDEWALK CURB RAMP WITH DETECTABLE WARNING**  
C-401 N.T.S.

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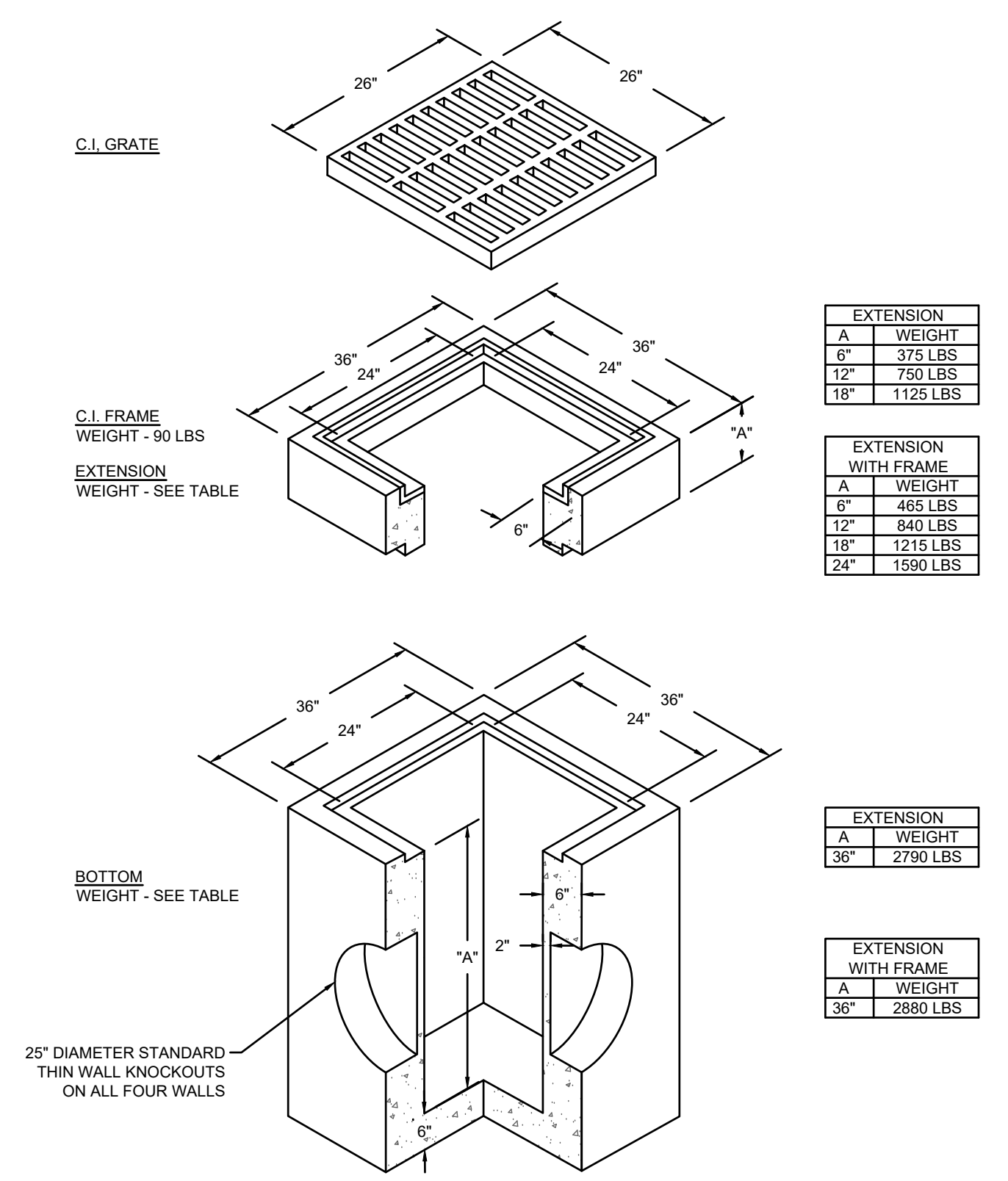
**SITE DETAILS**

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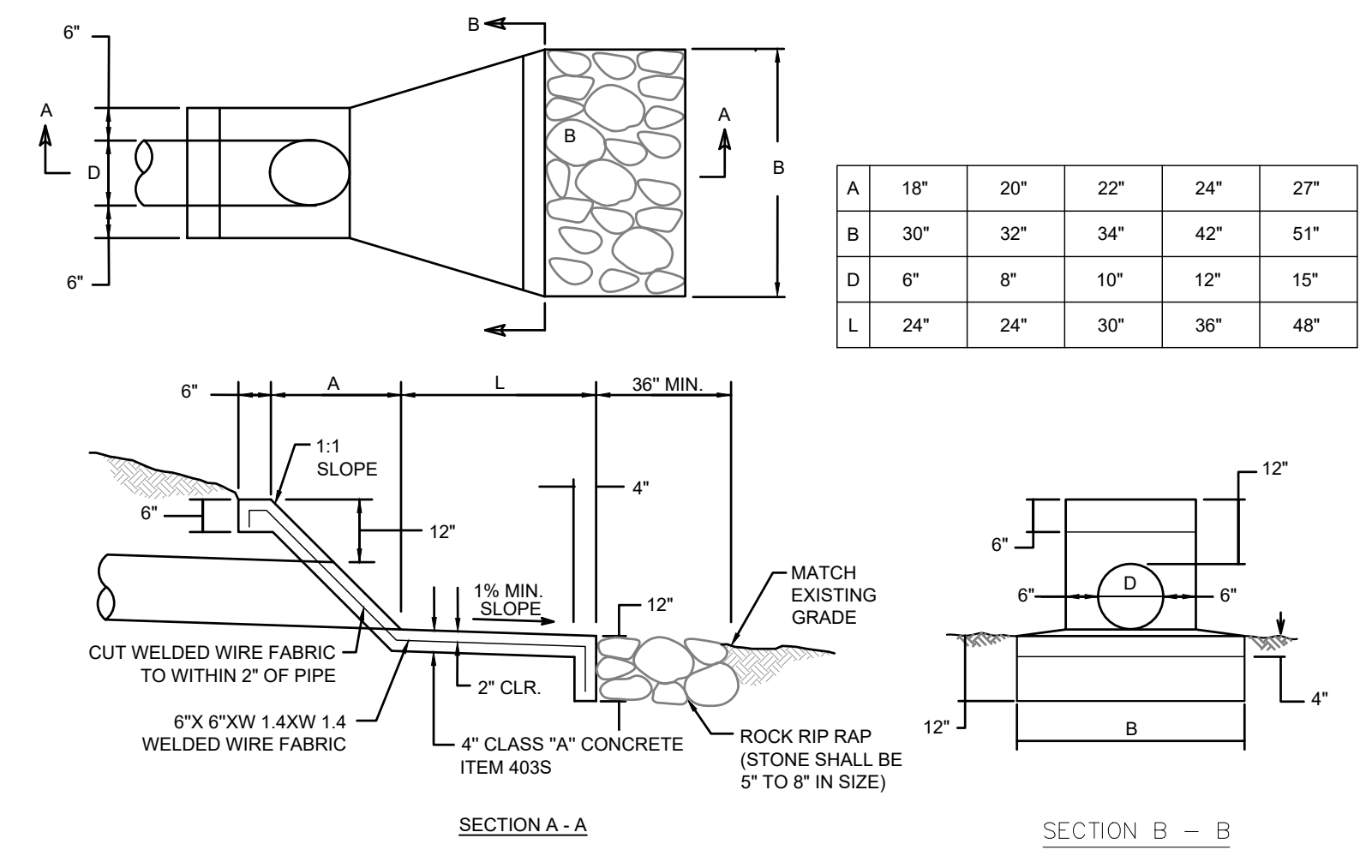
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**TXDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATIONS LANGTRY, TX**

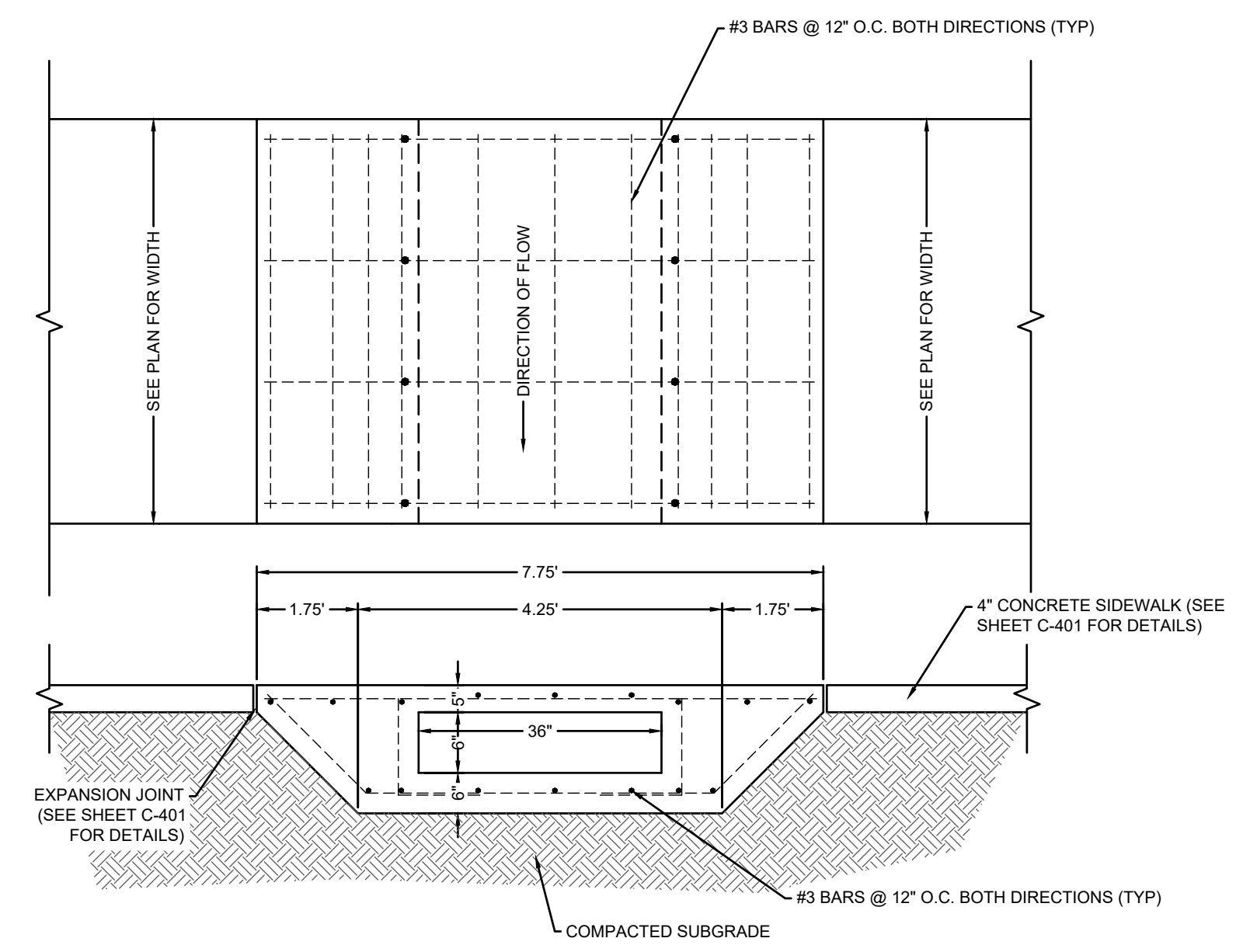
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Drawn by:  
WN, DE  
CSJ NO.:  
6473-05-001  
Date:  
7/31/2024  
Sheet No.  
**C-401**  
of Sheets



**1** 24" x 24" I.D. CATCH BASIN  
C-402 N.T.S.

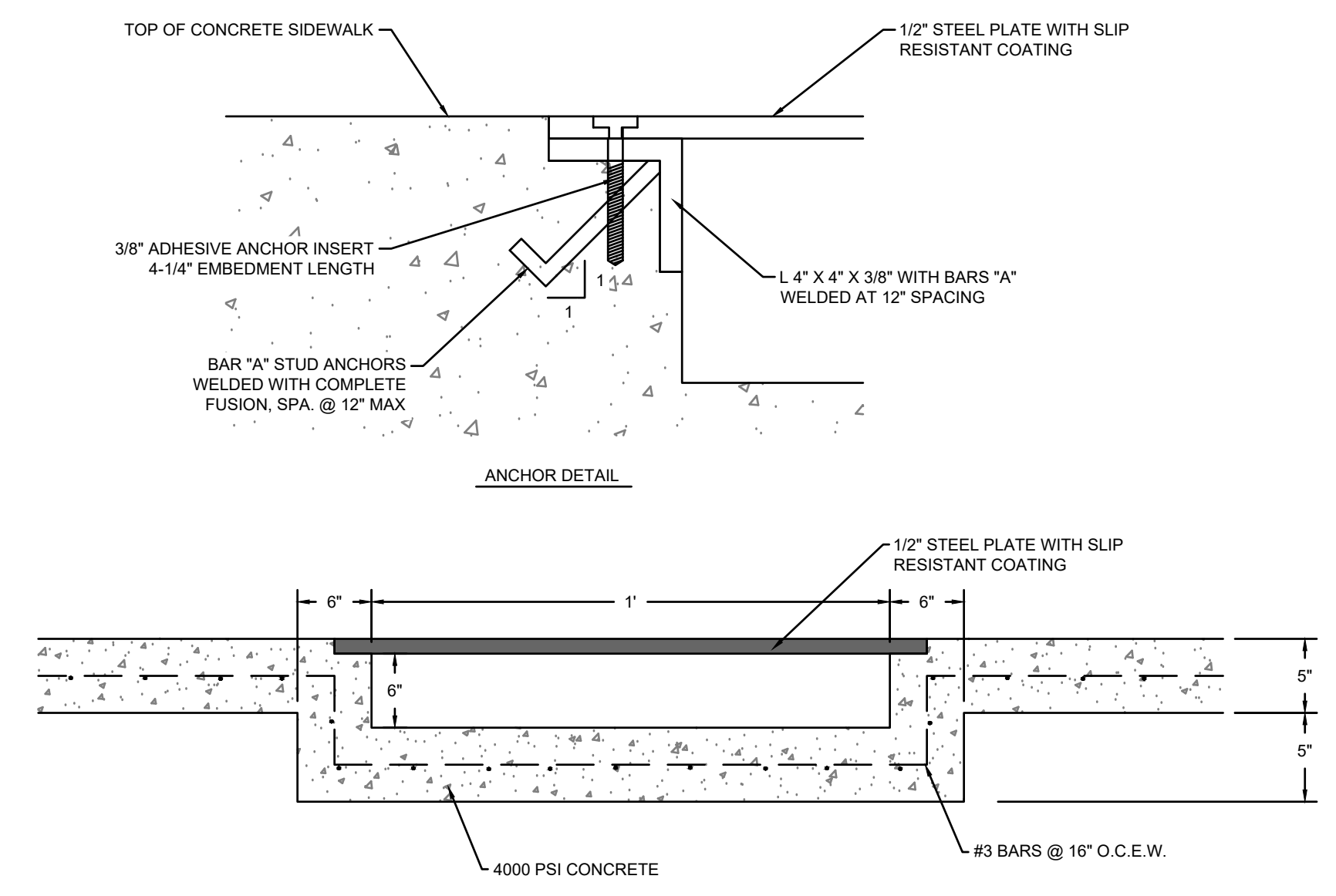


**2** SMALL PIPE HEADWALL  
C-402 N.T.S.



**3** SIDEWALK BRIDGE DETAIL  
C-402 N.T.S.

- GENERAL NOTES:**
1. ALL CONCRETE TO BE 3500 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS.
  2. SEAL JOINTS IN ACCORDANCE WITH THE SPECIFICATIONS.
  3. SIDEWALK BRIDGE TO BE FINISHED IN ACCORDANCE WITH THE SPECIFICATIONS.
  4. INSTALL EXPANSION JOINTS IN ACCORDANCE WITH THE SPECIFICATIONS.
  5. SIDEWALK BRIDGE TO BE INSTALLED PER GRADES AS SHOWN ON THE PLANS.
  6. REINFORCEMENT BARS TO BE GRADE 60.
  7. SUBGRADE BELOW SIDEWALKS TO BE COMPACTED TO 90% MAXIMUM LABORATORY DENSITY (MIN.), ASTM D-1557.



**4** SIDEWALK BOX  
C-402 N.T.S.

**ECKERMANN ENGINEERING, INC.**  
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LAMPASAS, TEXAS 76550  
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TBPE FIRM NO. F-10496



# STORM DRAIN DETAILS

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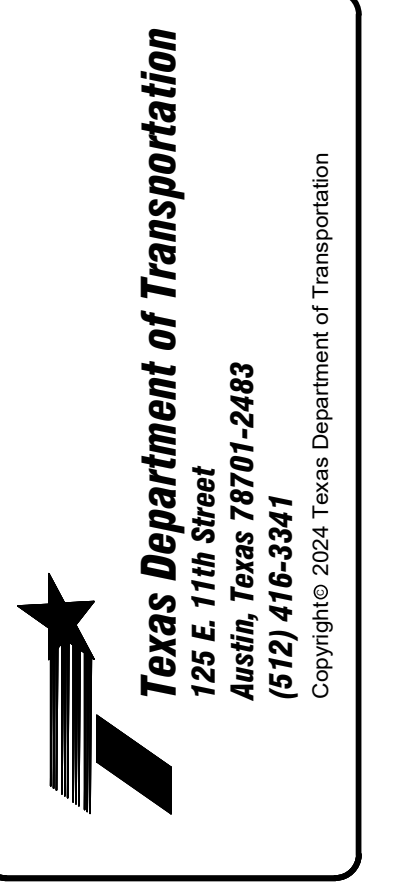
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**TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATIONS LANGTRY, TX**

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CSJ NO.: 6473-05-001  
Date: 7/31/2024  
Sheet No. **C-402** of Sheets

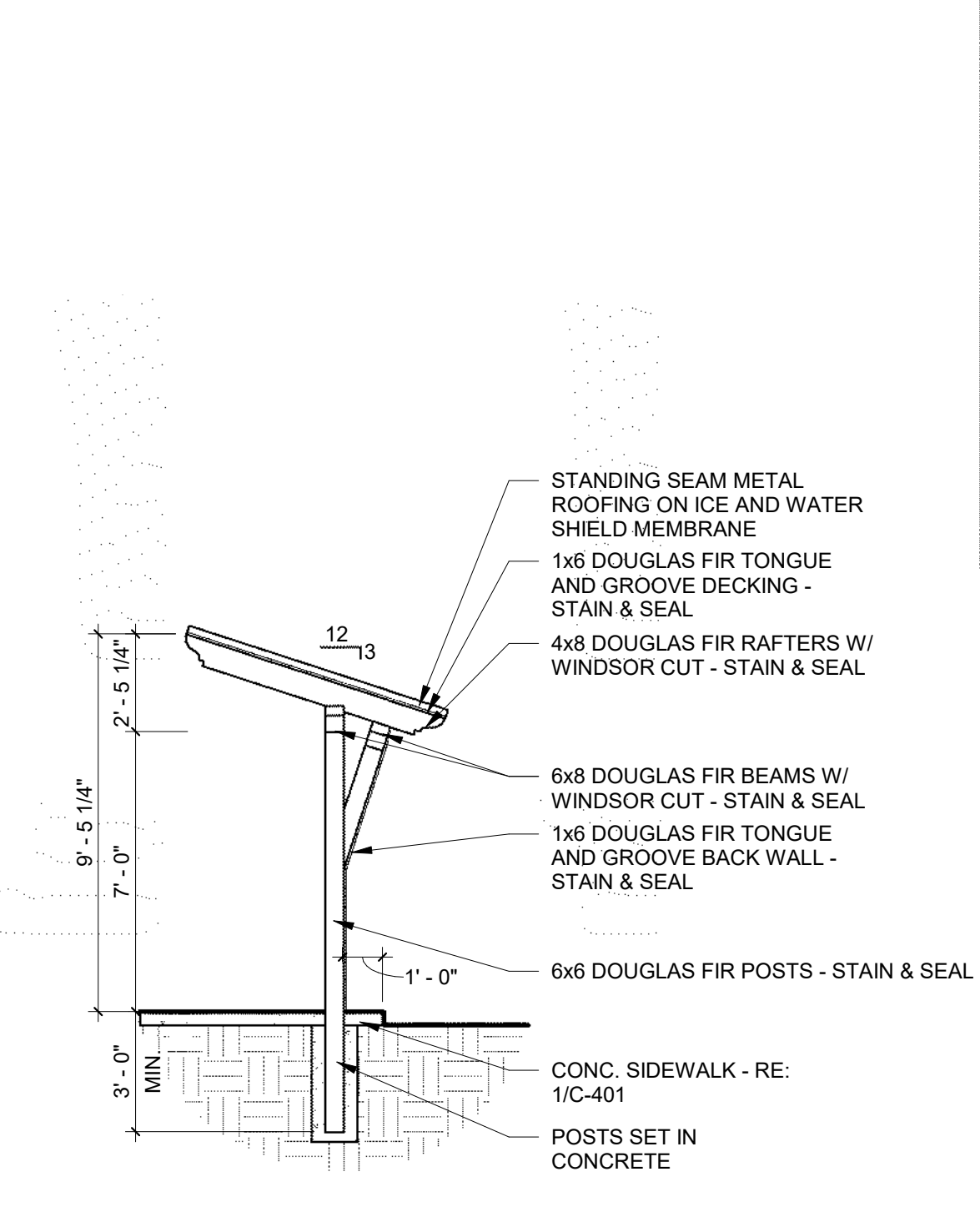
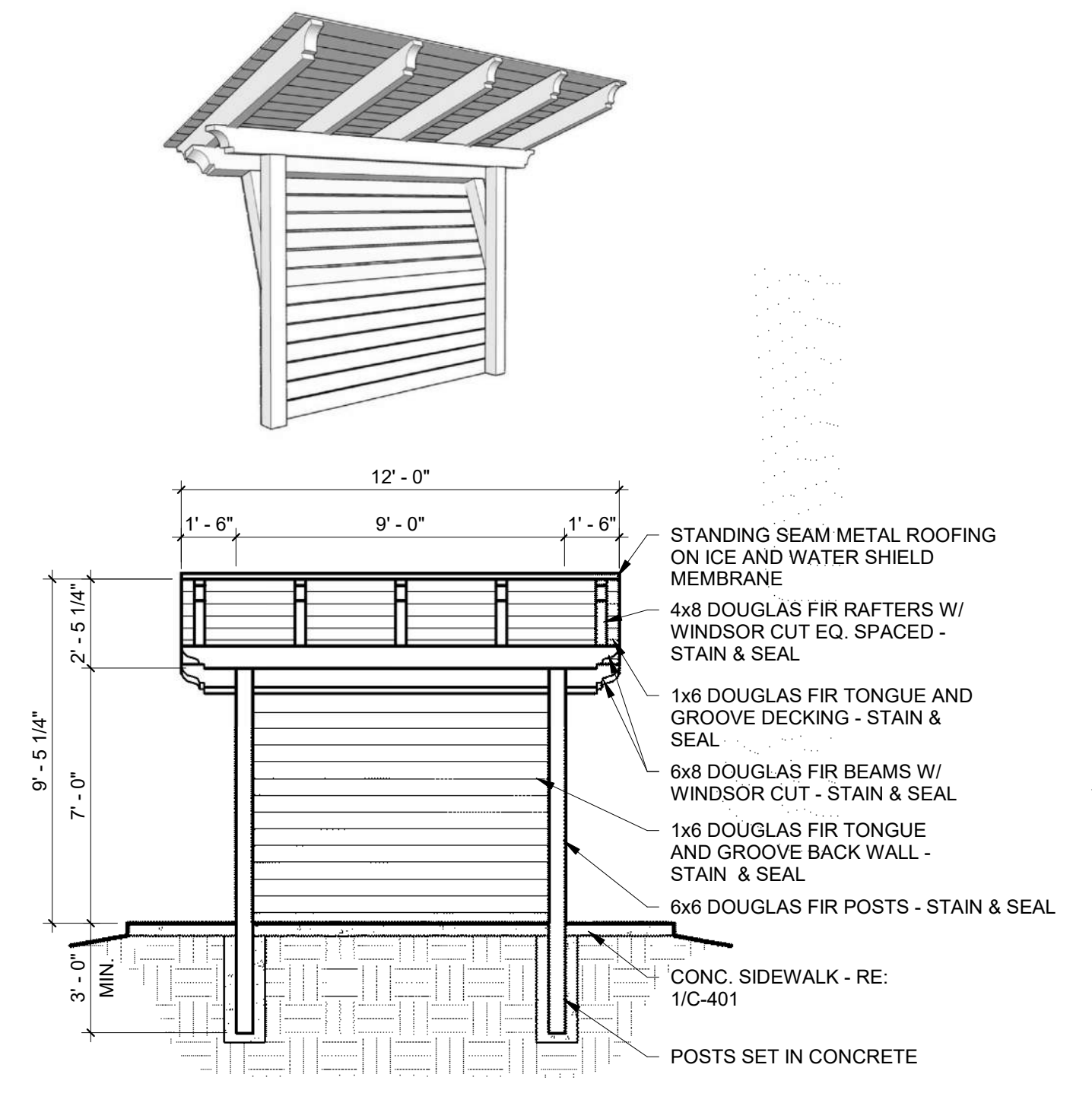
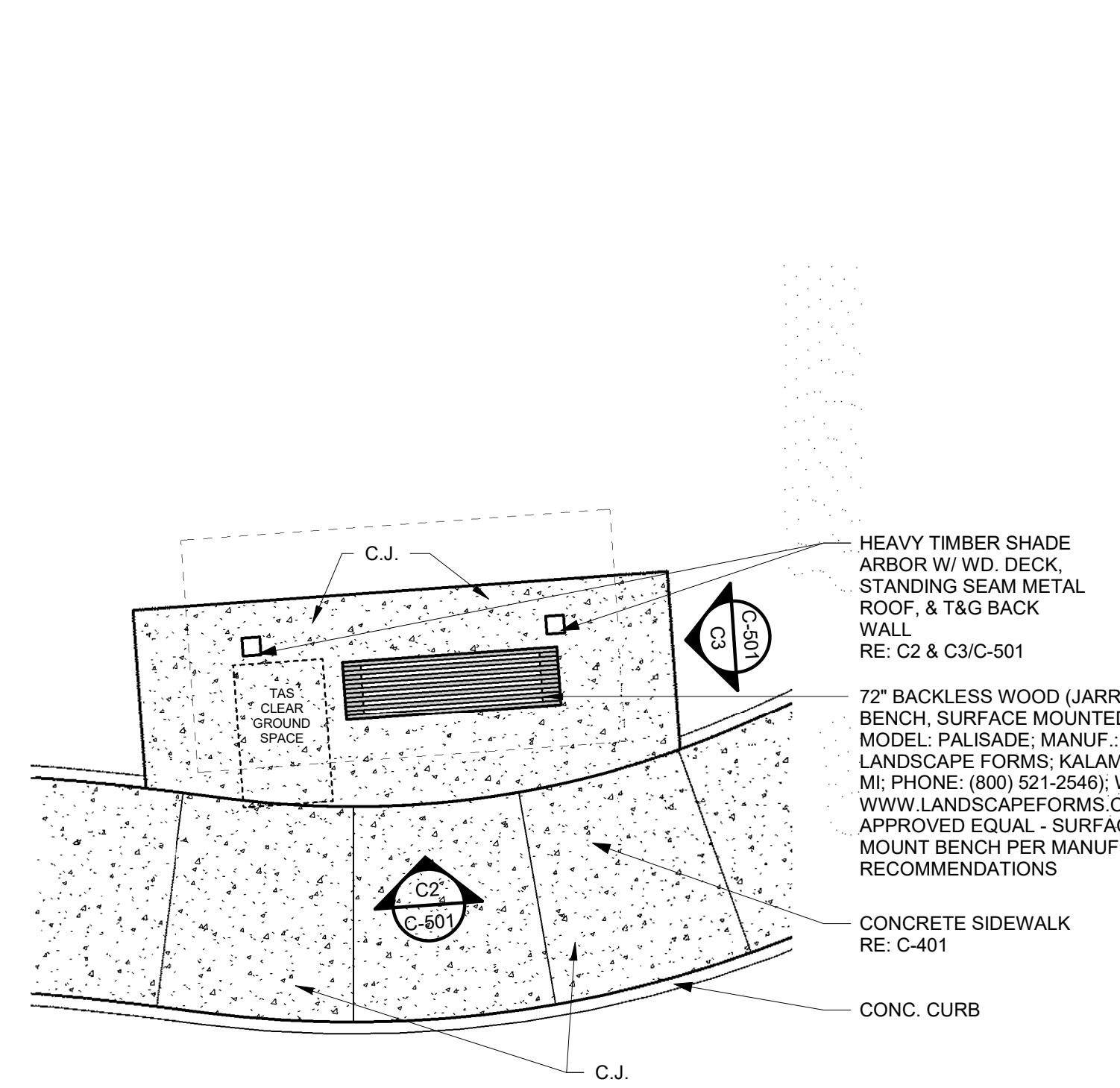
### GENERAL NOTES

- PROVIDE SHOP DRAWINGS IN ACCORDANCE W/ DIV. 1-014000 QUALITY REQUIREMENTS.
- CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS, GRADES, & DIMENSIONS.
- DIV 7 - THERMAL AND MOISTURE PROTECTION
  - 07 92 00 - JOINT SEALANTS
    - COLD-APPLIED JOINT SEALANTS:
      - AS SPECIFIED.
    - JOINT-SEALANT BACKER MATERIALS:
      - AS SPECIFIED.
- DIV 9 - FINISHES
  - 09 93 00 - STAINING & TRANSPARENT FINISHING
    - EXTERIOR WOOD - FINISH-SYSTEM SCHEDULE
      - Satin, Exterior, Water Based Semitransparent: Water-based, semitransparent, pigmented stain for new wood surfaces. MPI #156.
        - Prime Coat: Stain, exterior, water-based, semitransparent, matching topcoat.
        - Topcoat: Stain, exterior, water-based, semitransparent.

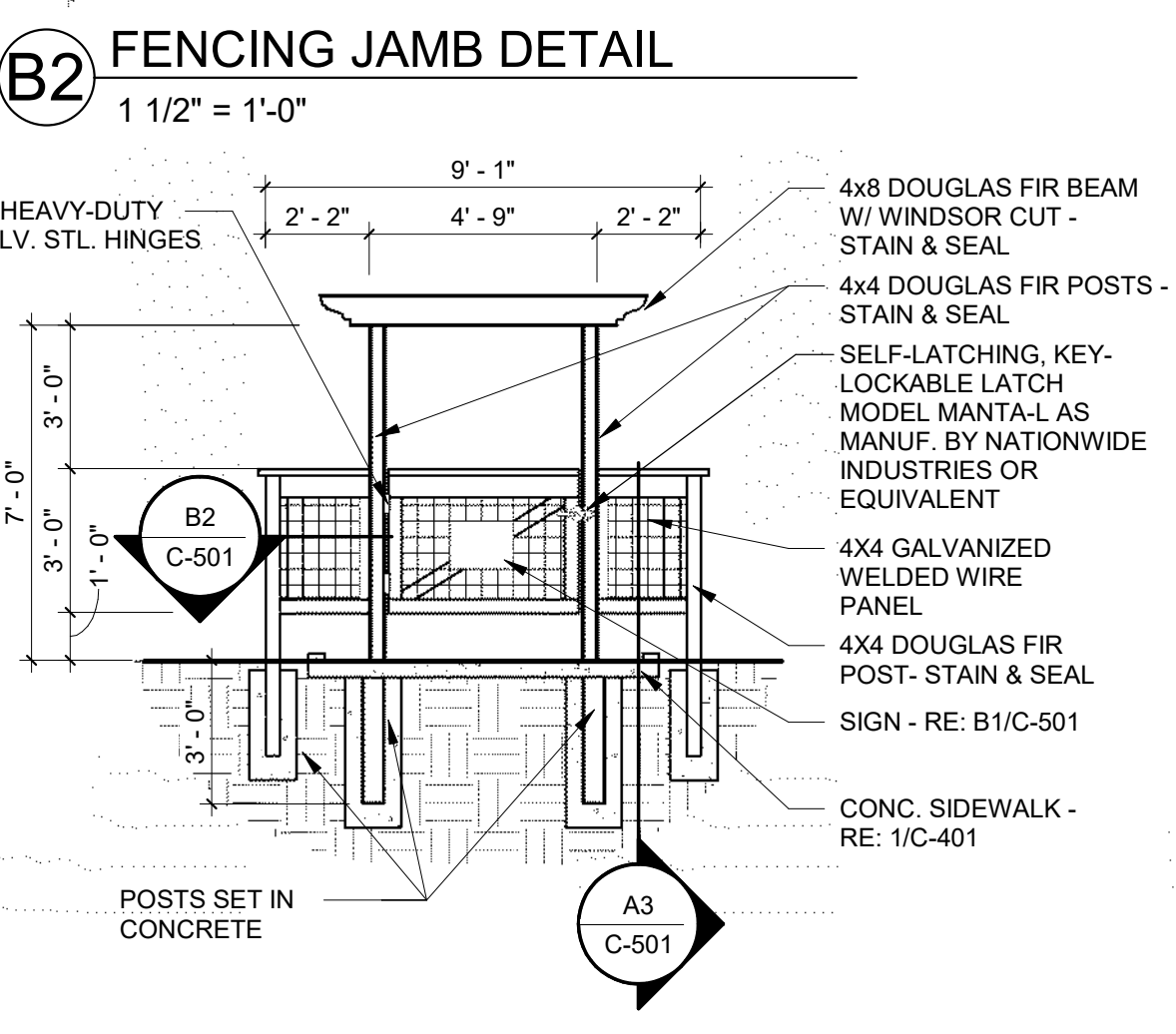
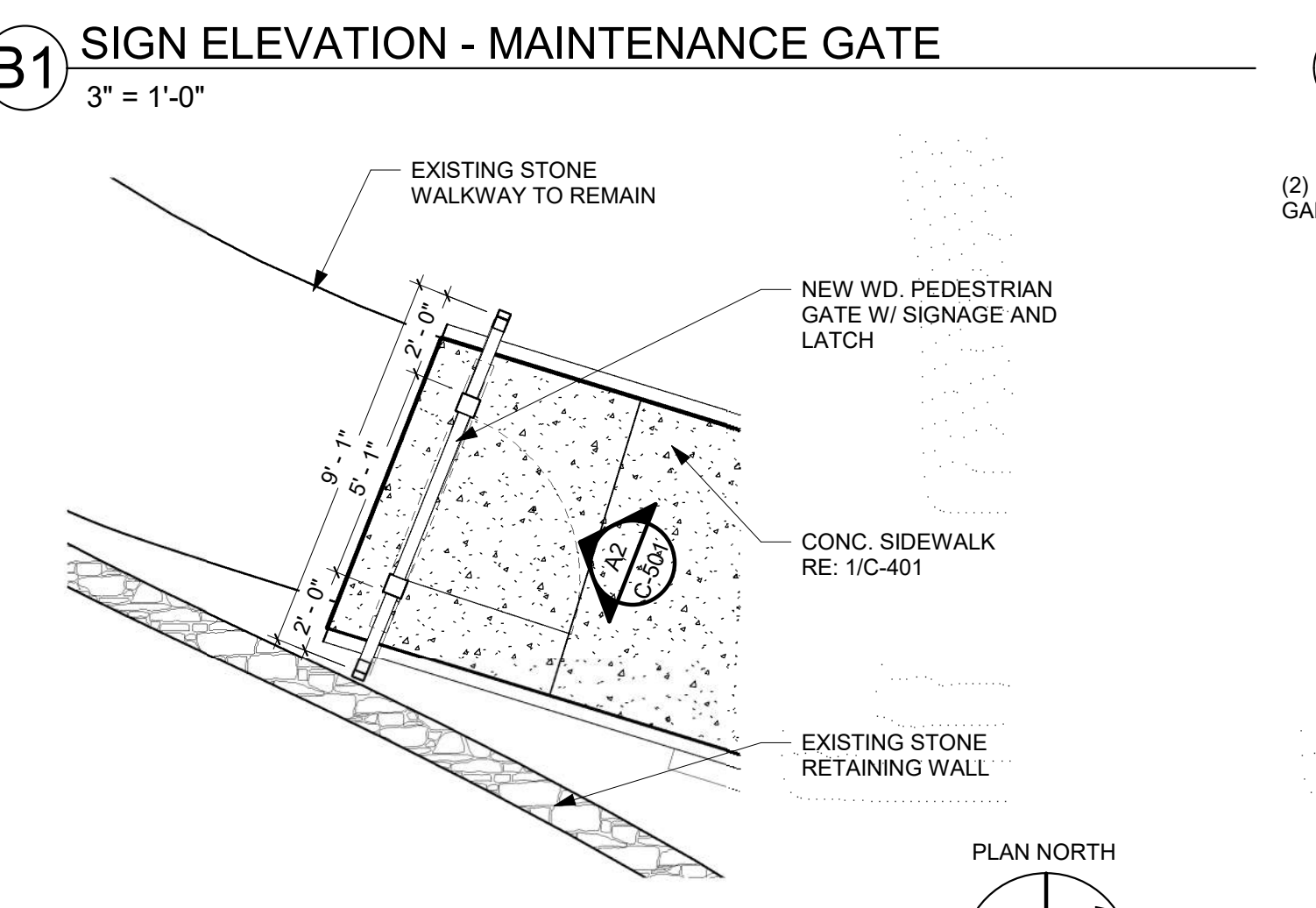
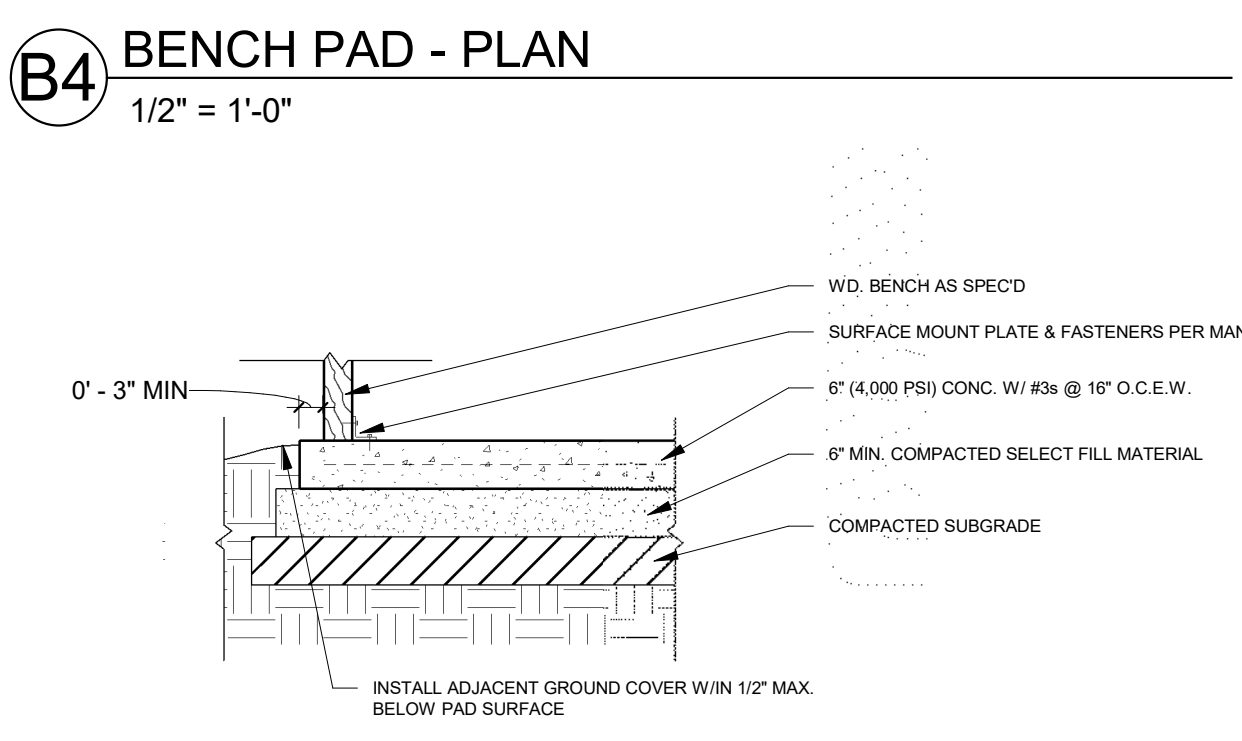
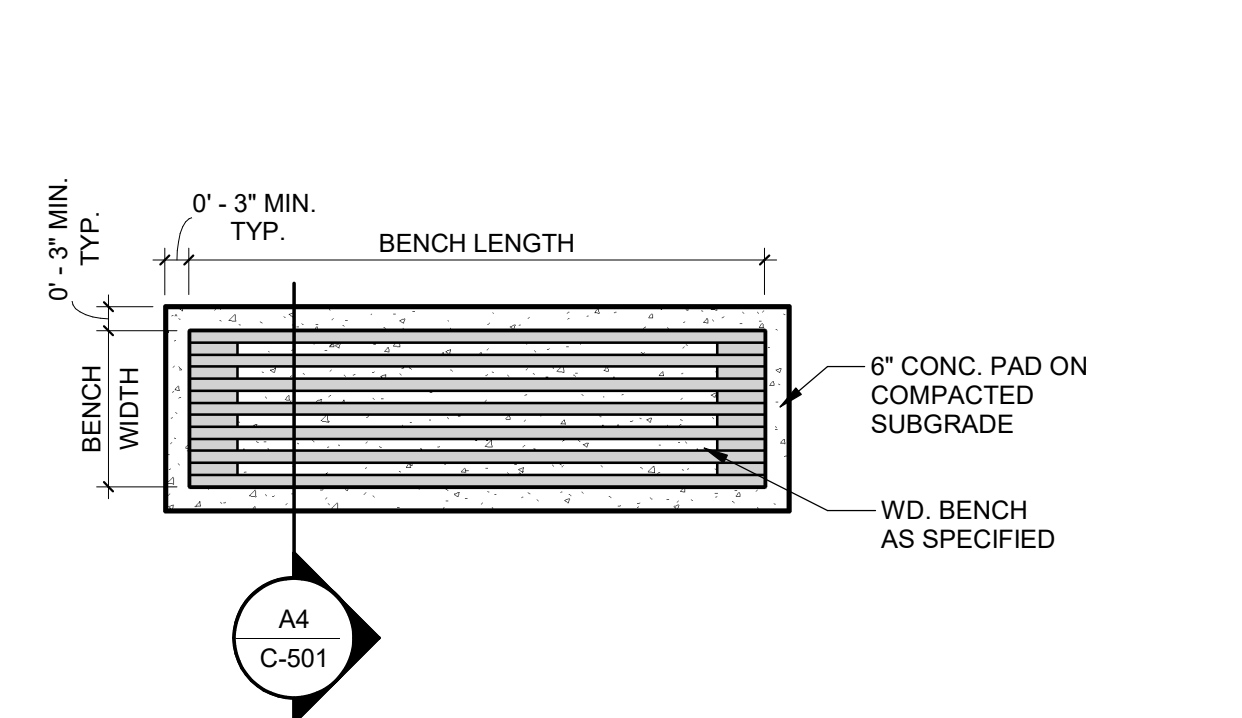
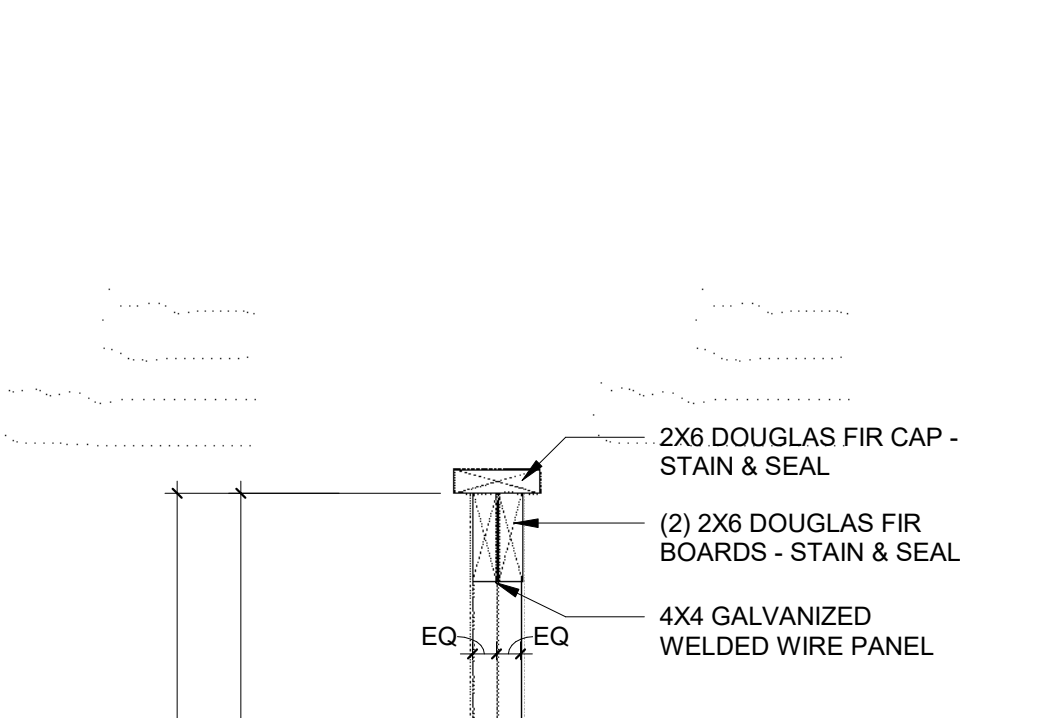
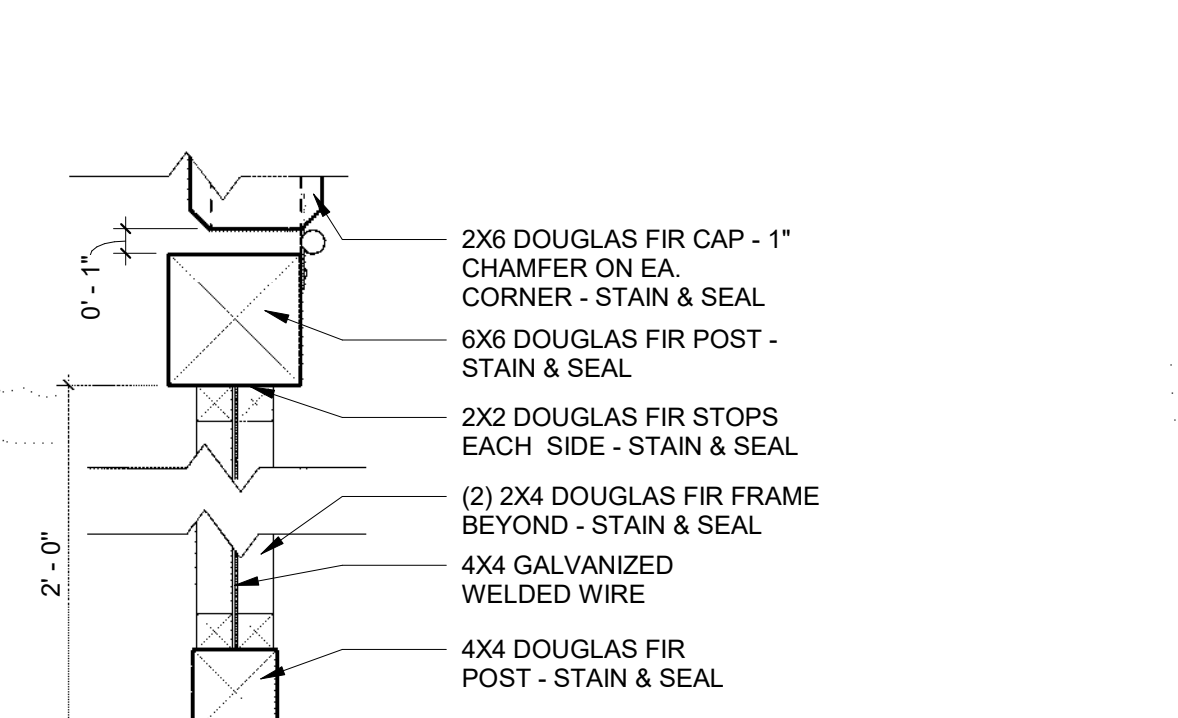
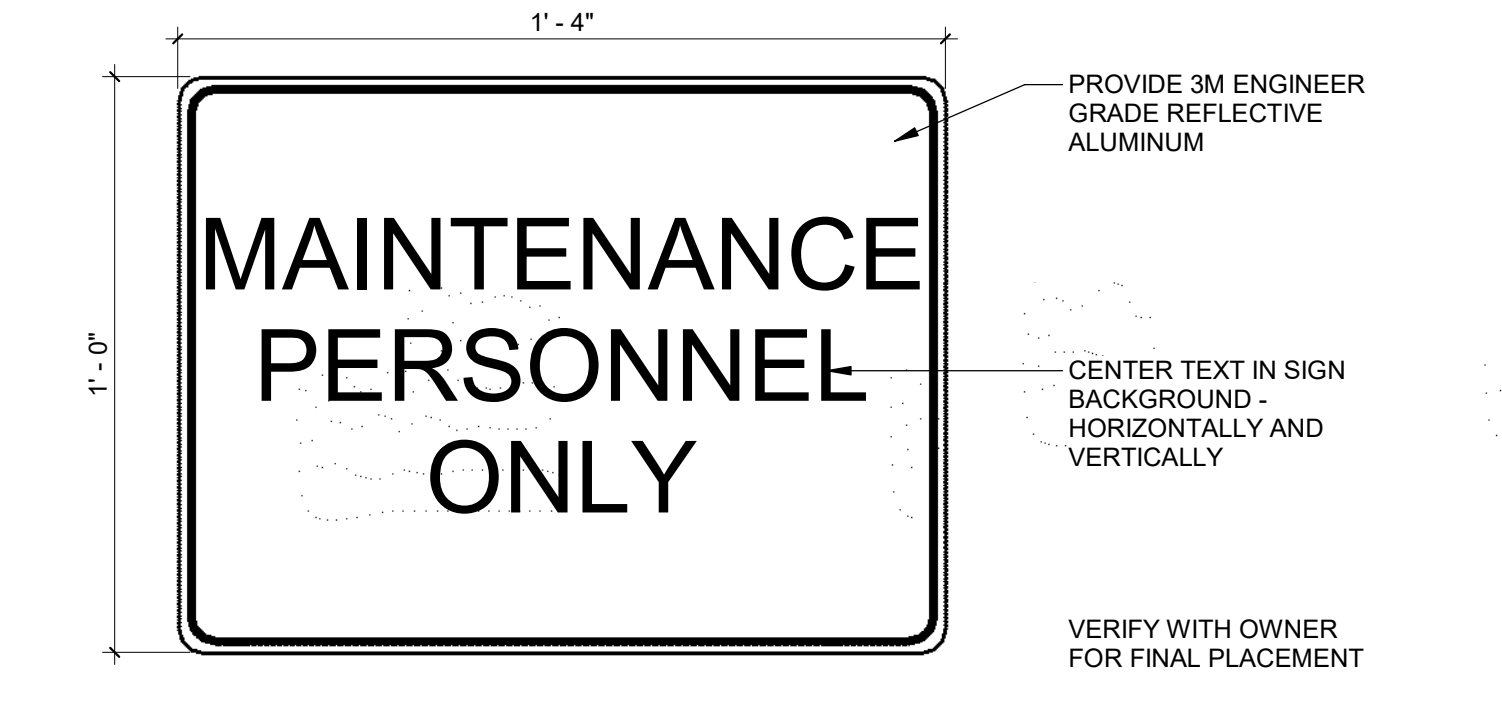
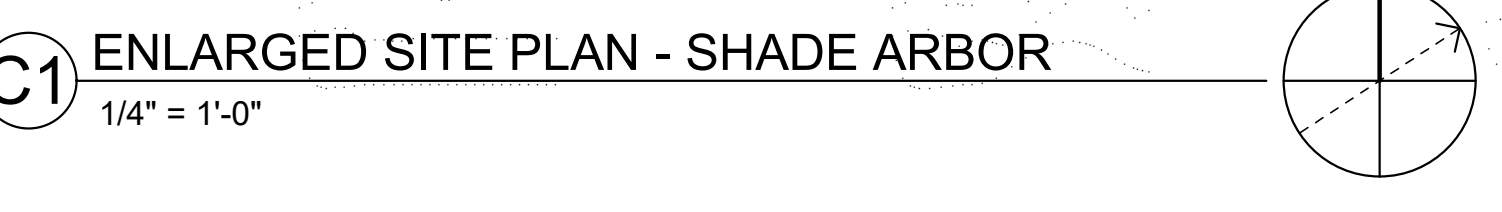


**TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATION**  
 LANGTRY, TX

Revisions  
 Drawn by: DAB  
 CSJ NO.: 6473-05-001  
 Date: 07/31/2024  
 Sheet No. **C-501**  
 of Sheets



**GENERAL NOTE:**  
 HEAVY TIMBER SHADE ARBOR W/ WD. T&G ROOF DECKING, STANDING SEAM METAL ROOFING, AND WD. T&G BACK WALL RE: C2 & C3/C-501 AS MANUF. BY COVER TIMBERWORKS; NEW BRAUNFELS, TX; PHONE: (830) 730-5324; WEB: WWW.COVERTIMBERWORKS.COM OR APPROVED EQUAL.



## ENLARGED SITE PLANS & DETAILS

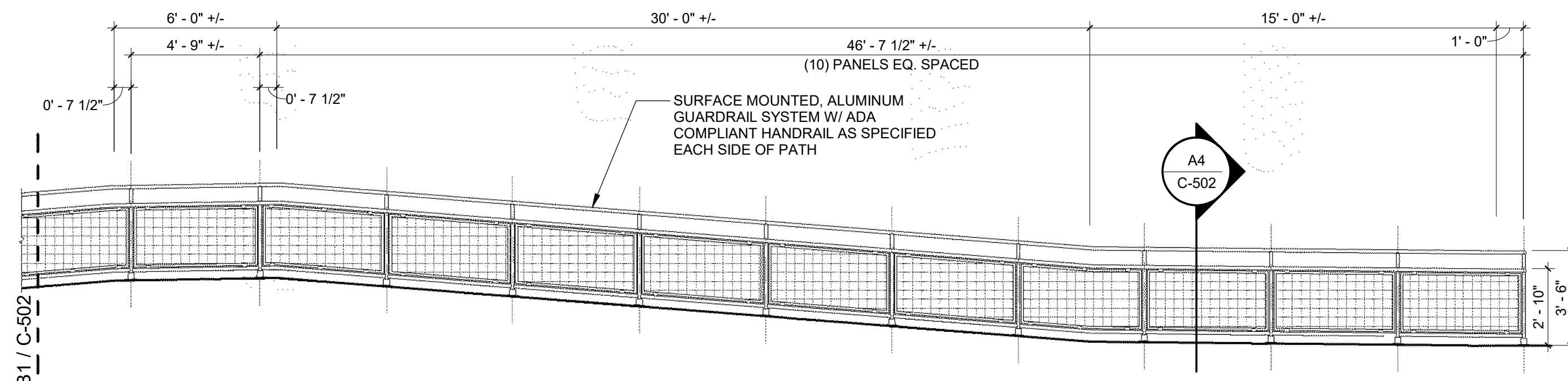
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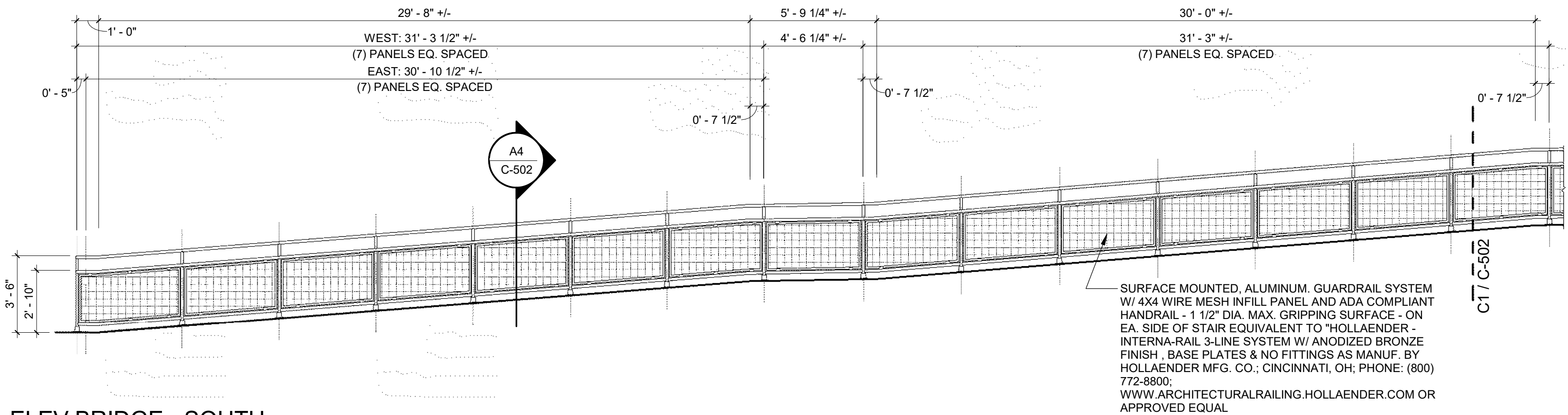
07/31/2024

## GENERAL NOTES

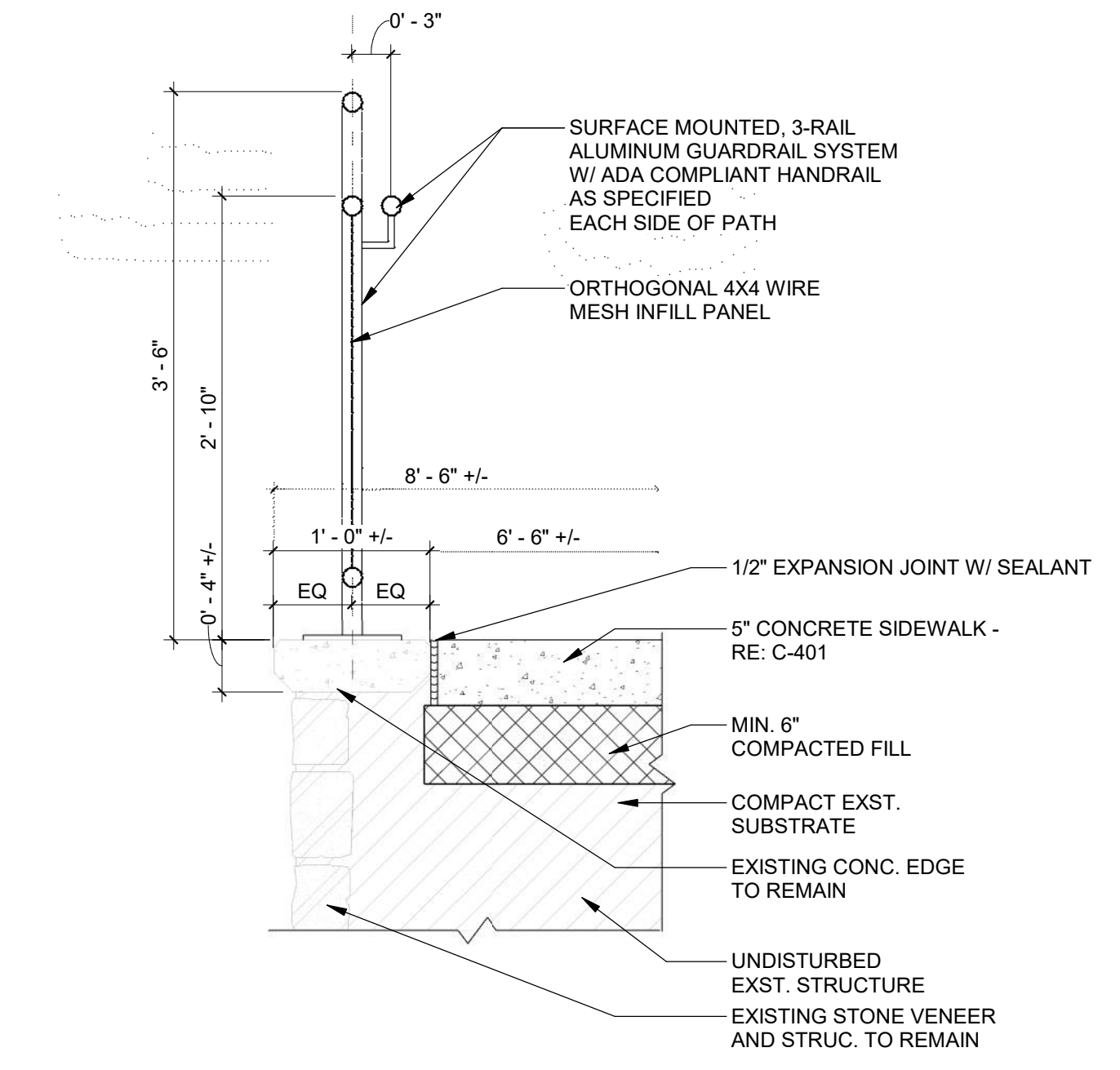
1. PROVIDE SHOP DRAWINGS IN ACCORDANCE W/ DIV. 1-014000 QUANTITY REQUIREMENTS.
2. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS, GRADES, & DIMENSIONS.
3. DIV 7 - THERMAL AND MOISTURE PROTECTION
  - A. 07 92 00 - JOINT SEALANTS
    - 1. COLD-APPLIED JOINT SEALANTS:
      - a. AS SPECIFIED.
    - 2. JOINT-SEALANT BACKER MATERIALS:
      - a. AS SPECIFIED.
4. DIV 9 - FINISHES
  - A. 09 93 00 - STAINING & TRANSPARENT FINISHING
    - 1. EXTERIOR WOOD - FINISH-SYSTEM SCHEDULE
      - a. Satin, Exterior, Water Based Semitransparent; Water-based, semitransparent, pigmented stain for new wood surfaces. MPI #156.
        - Prime Coat: Stain, exterior, water-based, semitransparent, matching topcoat.
        - Topcoat: Stain, exterior, water-based, semitransparent.



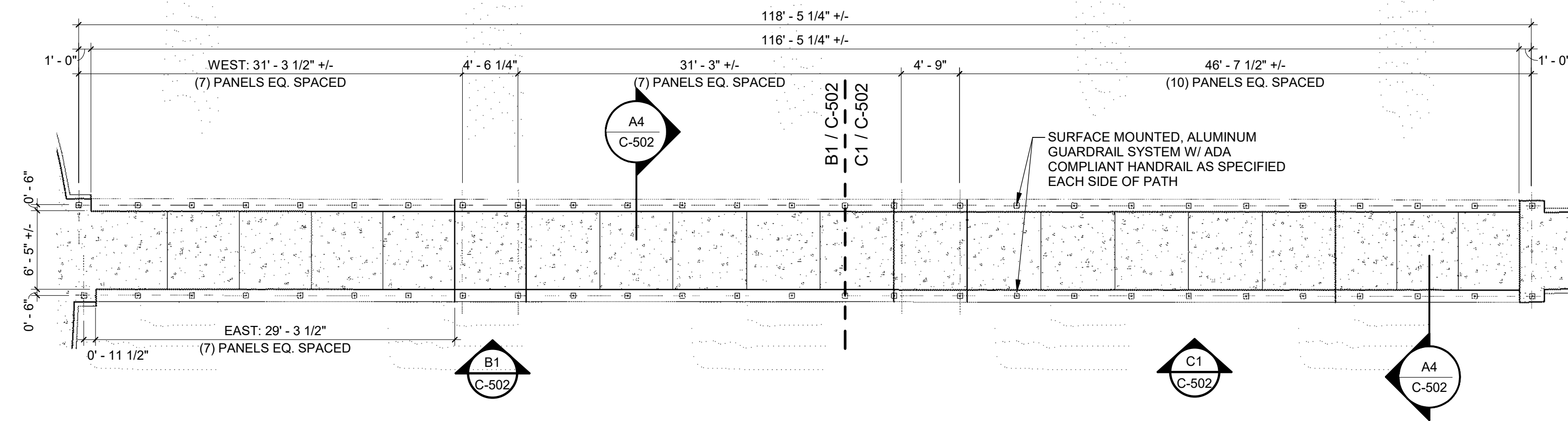
**C1** ELEV BRIDGE - NORTH  
1/4" = 1'-0"



**B1** ELEV BRIDGE - SOUTH  
1/4" = 1'-0"



**A4** BRIDGE DETAIL SECTION  
1" = 1'-0"



**A1** ENLARGED OVERALL BRIDGE PLAN  
1/8" = 1'-0"



## ENLARGED SITE PLANS & DETAILS

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**TXDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATION**  
 LANGTRY, TX

Revisions

Drawn by:  
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 CSJ NO.:  
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 Date  
 07/31/2024  
 Sheet No.

C-502

of Sheets

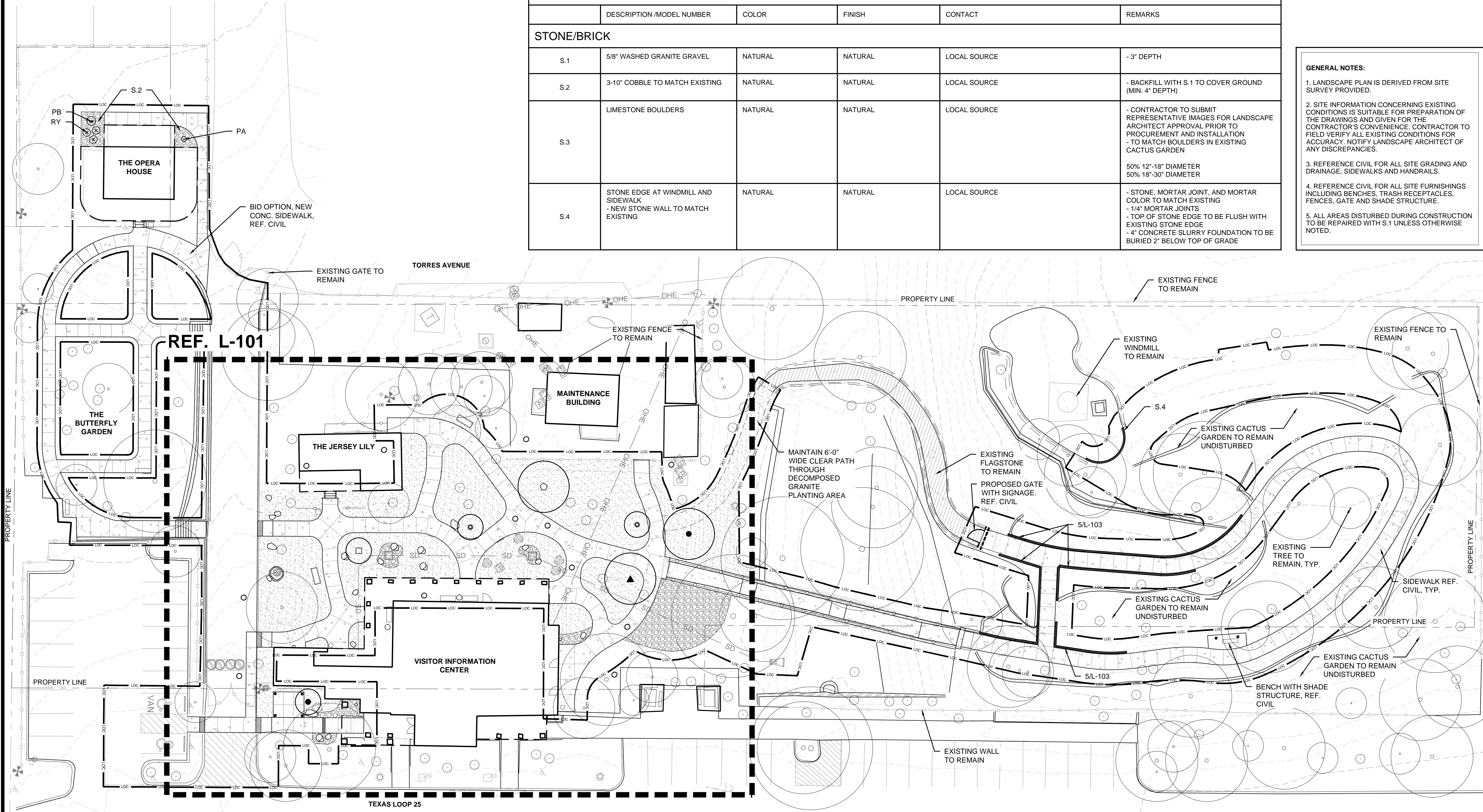
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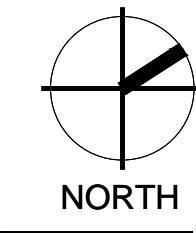
MATERIALS SCHEDULE					
	DESCRIPTION / MODEL NUMBER	COLOR	FINISH	CONTACT	REMARKS
<b>STONE/BRICK</b>					
S.1	5/8" WASHED GRANITE GRAVEL	NATURAL	NATURAL	LOCAL SOURCE	- 3" DEPTH
S.2	3-10" COBBLE TO MATCH EXISTING	NATURAL	NATURAL	LOCAL SOURCE	- BACKFILL WITH S.1 TO COVER GROUND (MIN. 4" DEPTH)
S.3	LIMESTONE BOULDERS	NATURAL	NATURAL	LOCAL SOURCE	- CONTRACTOR TO SUBMIT REPRESENTATIVE IMAGES FOR LANDSCAPE ARCHITECT APPROVAL PRIOR TO PROCUREMENT AND INSTALLATION - TO MATCH BOULDERS IN EXISTING CACTUS GARDEN 50% 12"-18" DIAMETER 50% 18"-30" DIAMETER
S.4	STONE EDGE AT WINDMILL AND SIDEWALK - NEW STONE WALL TO MATCH EXISTING	NATURAL	NATURAL	LOCAL SOURCE	- STONE, MORTAR JOINT, AND MORTAR COLOR TO MATCH EXISTING - 1/4" MORTAR JOINTS - TOP OF STONE EDGE TO BE FLUSH WITH EXISTING STONE EDGE - 4" CONCRETE SLURRY FOUNDATION TO BE BURIED 2" BELOW TOP OF GRADE

**GENERAL NOTES:**

- LANDSCAPE PLAN IS DERIVED FROM SITE SURVEY PROVIDED.
- SITE INFORMATION CONCERNING EXISTING CONDITIONS IS SUITABLE FOR PREPARATION OF THE DRAWINGS AND GIVEN FOR THE CONTRACTOR'S CONVENIENCE. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS FOR ACCURACY. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.
- REFERENCE CIVIL FOR ALL SITE GRADING AND DRAINAGE, SIDEWALKS AND HANDRAILS.
- REFERENCE CIVIL FOR ALL SITE FURNISHINGS INCLUDING BENCHES, TRASH RECEPTACLES, FENCES, GATE AND SHADE STRUCTURE.
- ALL AREAS DISTURBED DURING CONSTRUCTION TO BE REPAIRED WITH S.1 UNLESS OTHERWISE NOTED.

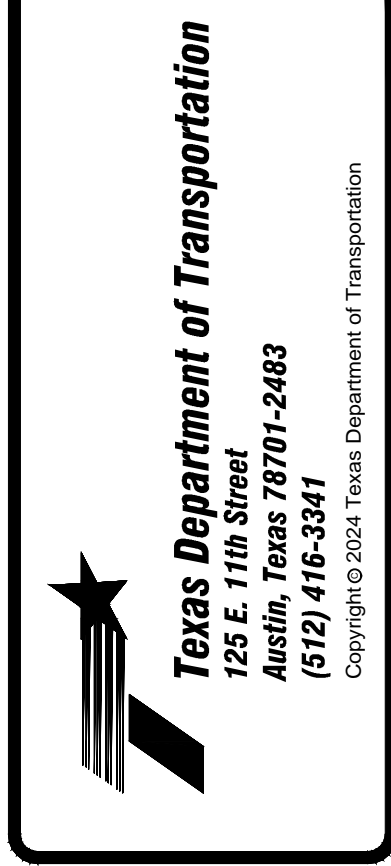


**L1 OVERALL PLANTING PLAN**  
 SCALE: 1" = 20'-0"  
 0 10' 20' 40'  
 GRAPHIC SCALE 1"=20'-0"



JULY 31, 2024  
 CIRCLE V LANDSCAPE ARCHITECTURE  
 P.O. Box 170822  
 Austin, Texas 78717  
 (816) 565-1021

**PLANTING PLAN**

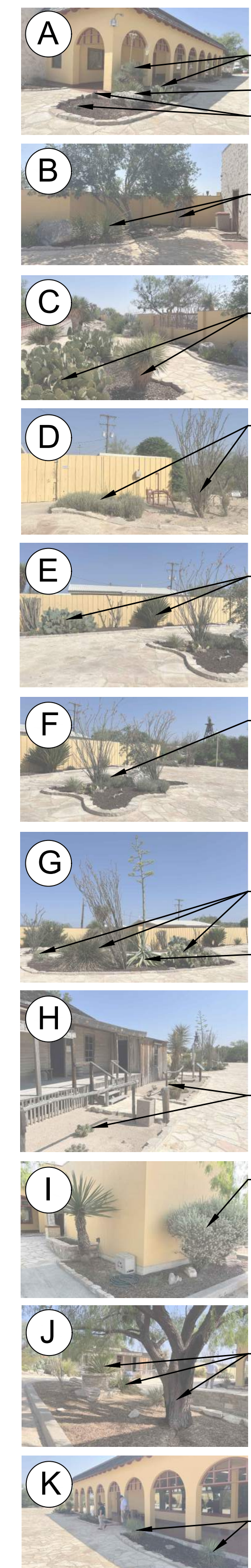
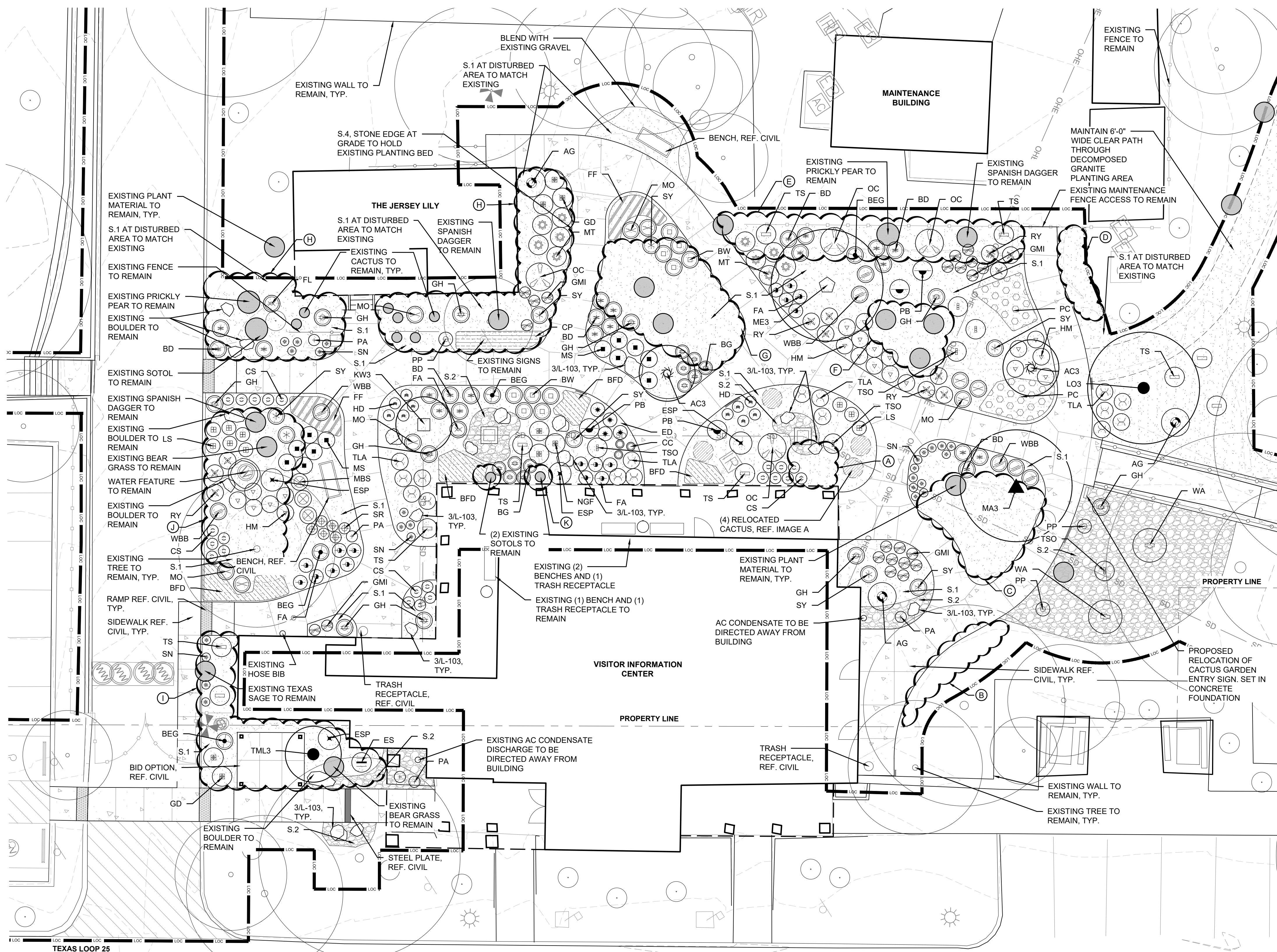


**TxDOT LANGTRY  
 TRAVEL INFORMATION CENTER  
 SITE RENOVATIONS  
 LANGTRY, TX**

Revisions  
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 Drawn by:  
 KC  
 CSJ NO.:  
 6473-05-001  
 Date  
 JULY 31, 2024  
 Sheet No.  
**L-100**  
 of sheets

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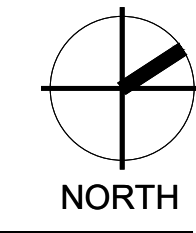




- A EXISTING PLANT MATERIAL TO REMAIN  
BOULDER TO REMAIN  
CACTUS TO BE RELOCATED
- B EXISTING PLANT MATERIAL TO REMAIN
- C EXISTING PLANT MATERIAL TO REMAIN
- D EXISTING PLANT MATERIAL TO REMAIN
- E EXISTING PLANT MATERIAL TO REMAIN
- F EXISTING PLANT MATERIAL TO REMAIN
- G EXISTING PLANT MATERIAL TO REMAIN  
EXISTING AGAVE TO BE REMOVED
- H EXISTING PLANT MATERIAL TO REMAIN
- I EXISTING PLANT MATERIAL TO REMAIN
- J EXISTING PLANT MATERIAL TO REMAIN
- K EXISTING PLANT MATERIAL TO REMAIN

**L1 PLANTING PLAN ENLARGEMENT**  
 SCALE: 1" = 10'-0"  
 0 5' 10' 20'  
 GRAPHIC SCALE 1"=10'-0"

**GENERAL NOTES:**  
 1. ALL EXISTING PLANT MATERIAL WITHIN CLOUDED AREAS TO REMAIN.  
 2. REFERENCE CIVIL FOR ALL DEMO SITE GRADING, AND DRAINAGE.  
 3. PLANTING SYMBOLS ARE SHOWN AT FULL MATURITY. LOCATE CENTER OF SYMBOL AS SHOWN IN PLANS TO ALLOW PLANT MATERIAL TO REACH FULL MATURITY WITHOUT HEAVY TRIMMING/MAINTENANCE. NO PLANTS SHOULD SPILL ONTO WALKWAYS AT FULL MATURITY.



JULY 31, 2024  
 CIRCLE V LANDSCAPE ARCHITECTURE  
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# PLANTING PLAN ENLARGEMENT

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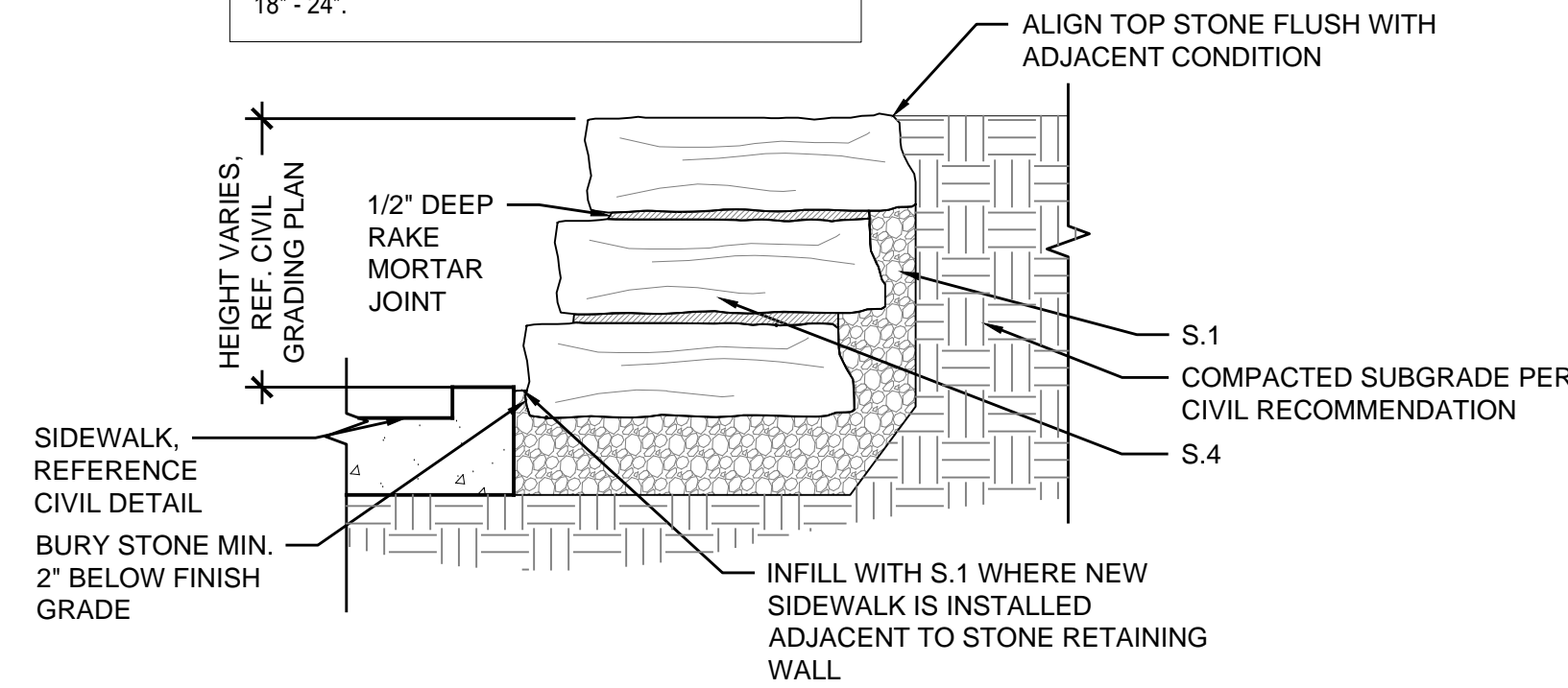
**SLA** ARCHITECTS  
 2004 Quail Creek Drive, Suite 200  
 Victoria Falls, Texas 76088  
 Phone: 747.67.7476; Fax: 747.371.0553

**TxDOT LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATIONS LANGTRY, TX**

Revisions  
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 6473-05-001  
 Date  
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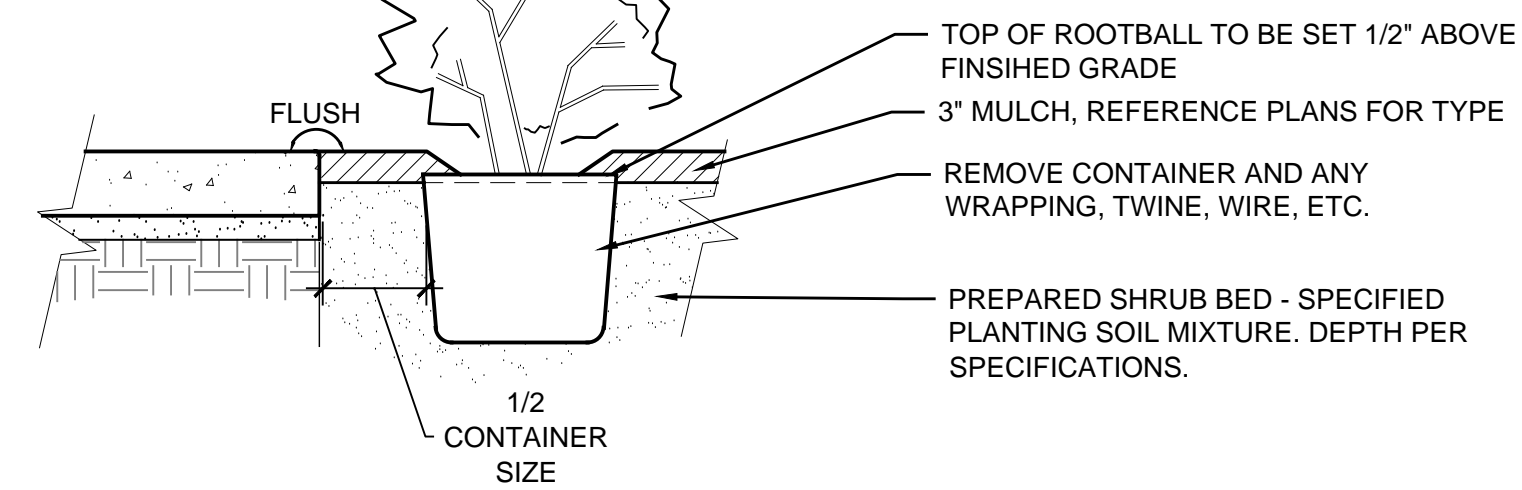


- NOTES:**
1. ALL BOULDER PLACEMENTS TO BE FLAGGED AND VERIFIED IN FIELD BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
  2. CONTRACTOR TO ALLOW FOR TWO FIELD ADJUSTMENTS.
  3. ALL DRY STACK STONE TO MATCH EXISTING STONE BORDER.
  4. CONTRACTOR TO ALIGN NEW STONE WALL WITH EXISTING STONE TO ENSURE BOTH WALLS ARE FLUSH CONDITION.
  5. CONTRACTOR TO MAINTAIN A CONSISTENT TRANSITION BETWEEN BOTH WALL.
  6. CONTRACTOR TO INSTALL 1" WEEP HOLE EVERY 18" - 24".

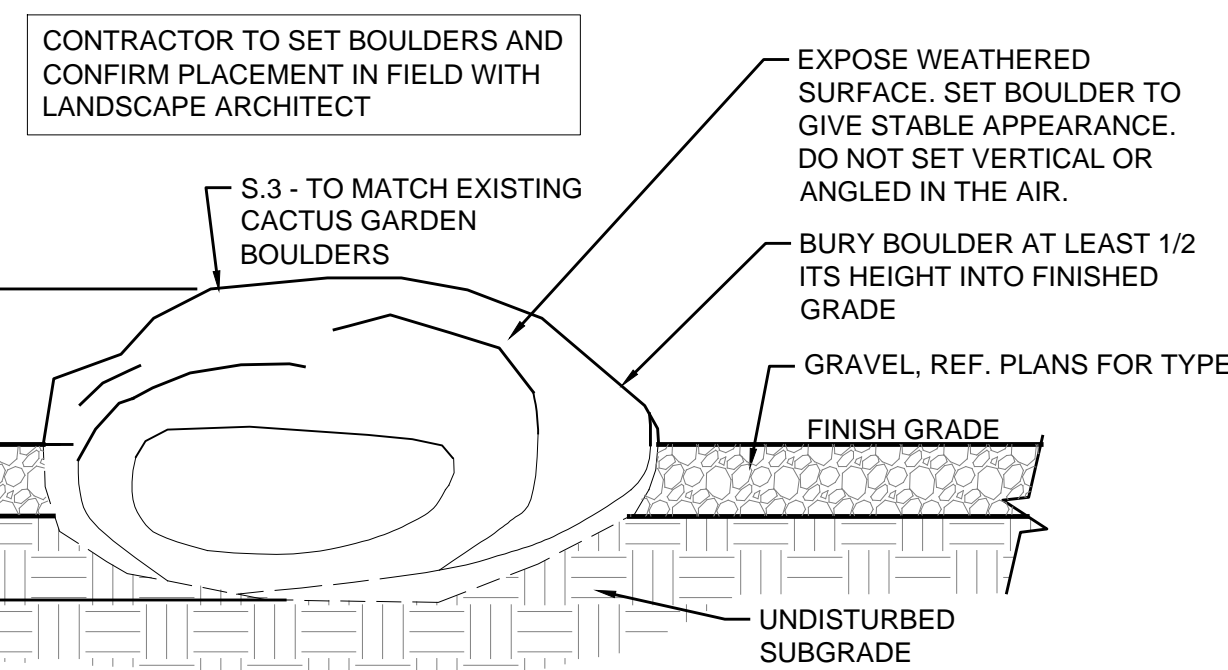


**5 STACKED STONE WALL**  
SECTION VIEW SCALE: NTS

- NOTES:**
- REFER TO PLANS AND PLANT LIST FOR ALL PLANT TYPES, SPACING INFORMATION AND SIZE INFORMATION.
- PLANTING PIT TO BE MINIMUM 2X HORIZONTAL DIMENSION OF ROOTBALL

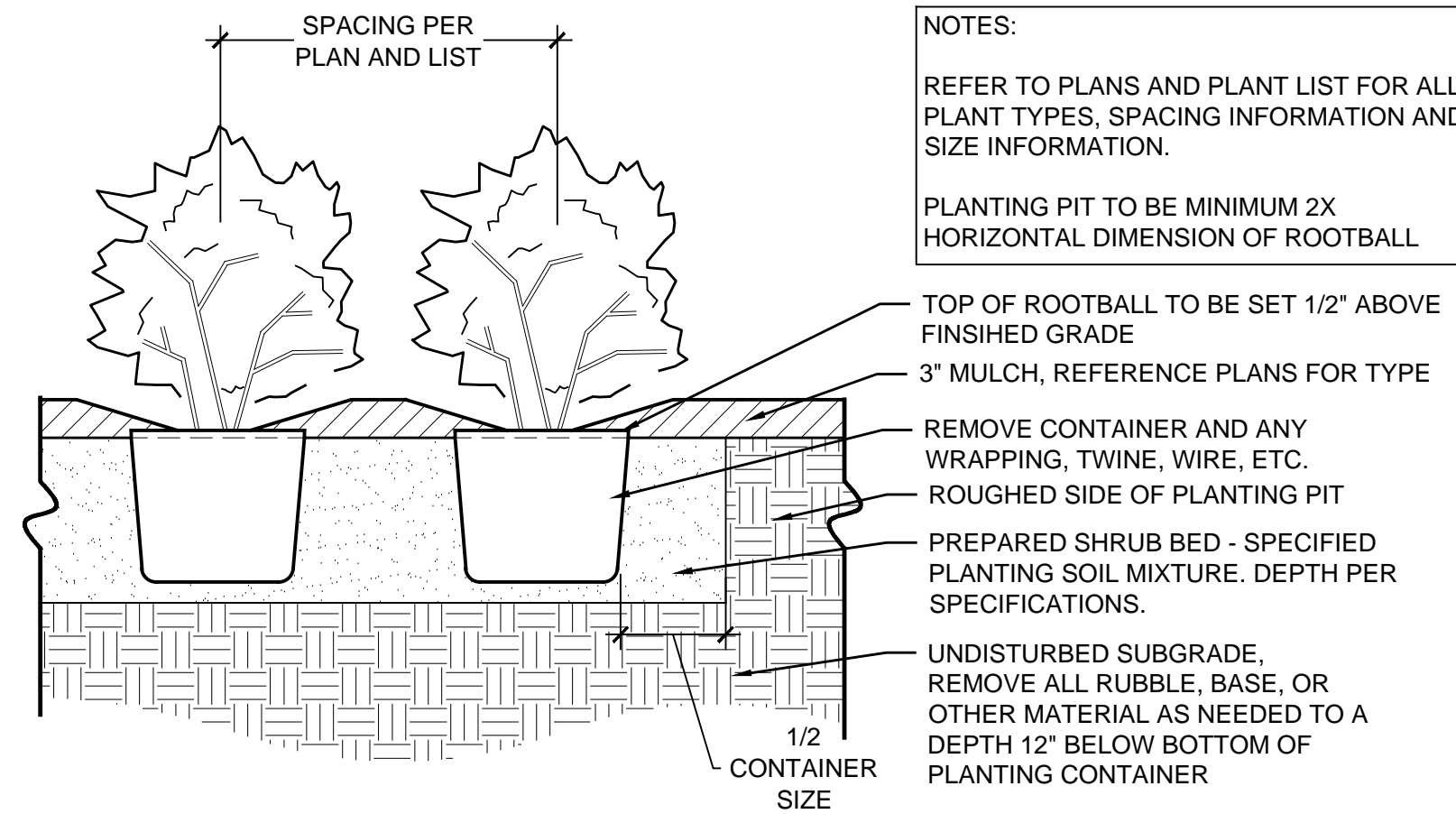


**4 PLANTING AT SIDEWALK**  
SECTION VIEW SCALE: NTS

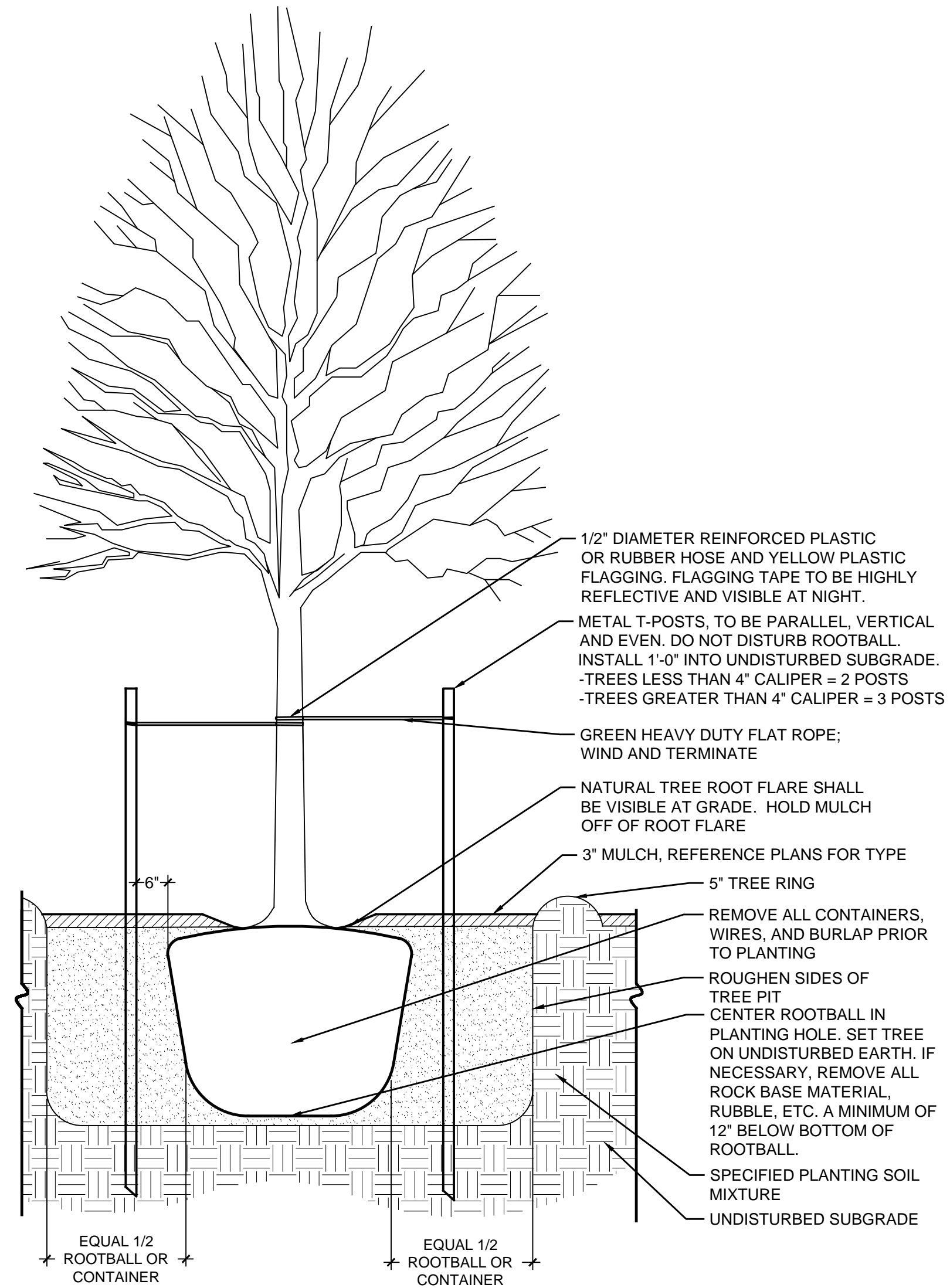


**3 BOULDER INSTALLATION**  
SECTION VIEW SCALE: NTS

- NOTES:**
- REFER TO PLANS AND PLANT LIST FOR ALL PLANT TYPES, SPACING INFORMATION AND SIZE INFORMATION.
- PLANTING PIT TO BE MINIMUM 2X HORIZONTAL DIMENSION OF ROOTBALL



**2 SHRUB, GRASS, AND GROUNDCOVER PLANTING**  
SECTION VIEW SCALE: NTS



**1 TREE PLANTING**  
SECTION VIEW SCALE: NTS



JULY 31, 2024



CIRCLE V LANDSCAPE ARCHITECTURE  
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(816) 565-1021

# PLANTING DETAILS

Revisions

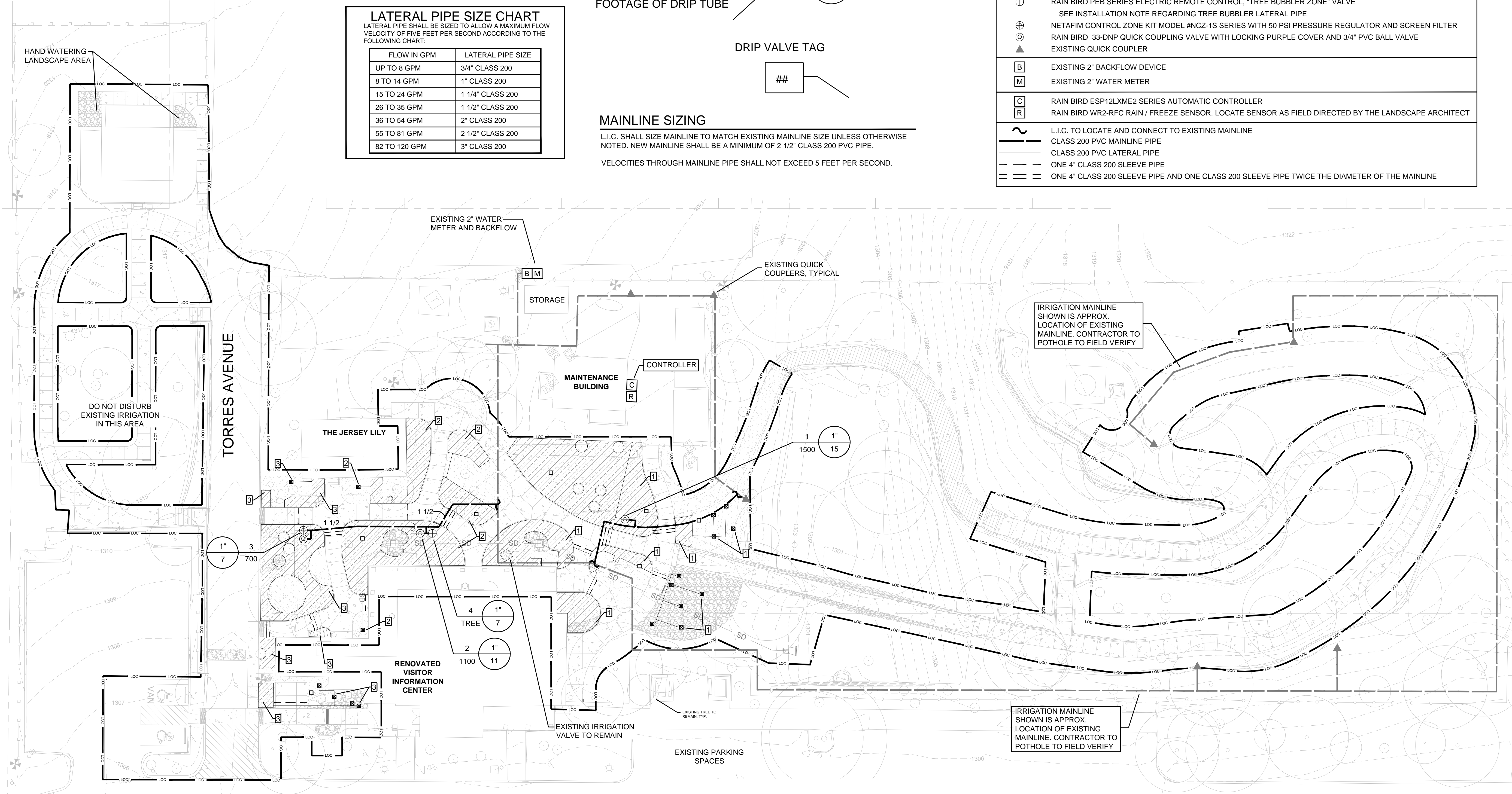
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CSJ NO.:  
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Date  
JULY 31, 2024  
Sheet No.

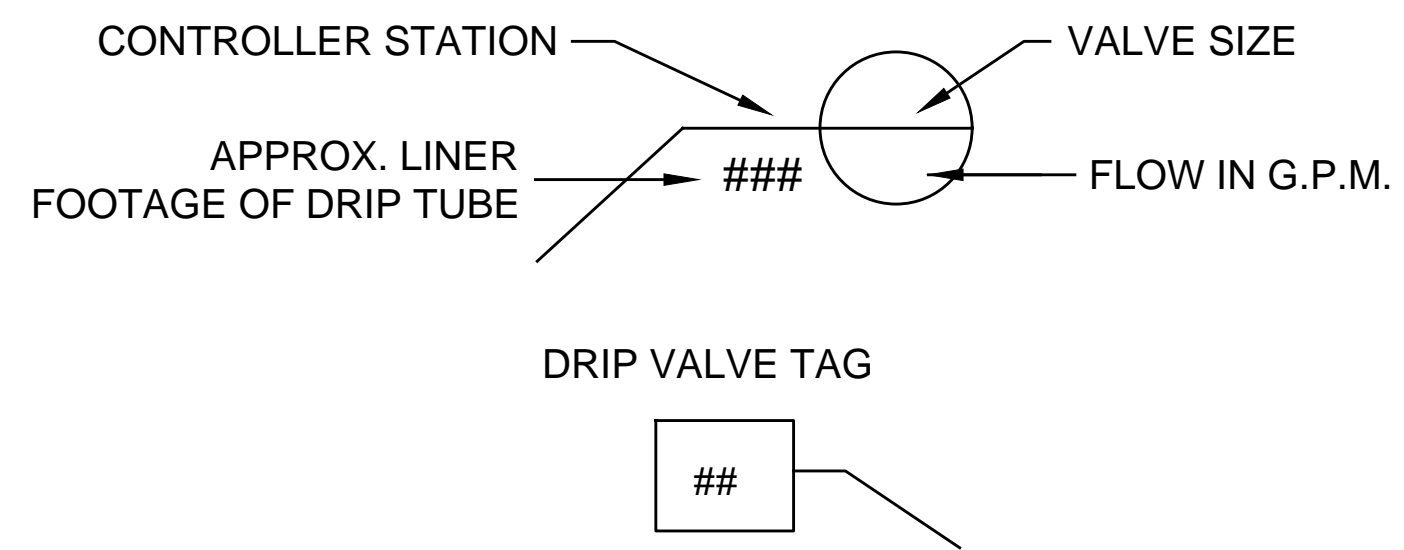
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of sheets





**LATERAL PIPE SIZE CHART**  
 LATERAL PIPE SHALL BE SIZED TO ALLOW A MAXIMUM FLOW VELOCITY OF FIVE FEET PER SECOND ACCORDING TO THE FOLLOWING CHART:

FLOW IN GPM	LATERAL PIPE SIZE
UP TO 8 GPM	3/4" CLASS 200
8 TO 14 GPM	1" CLASS 200
15 TO 24 GPM	1 1/4" CLASS 200
26 TO 35 GPM	1 1/2" CLASS 200
36 TO 54 GPM	2" CLASS 200
55 TO 81 GPM	2 1/2" CLASS 200
82 TO 120 GPM	3" CLASS 200

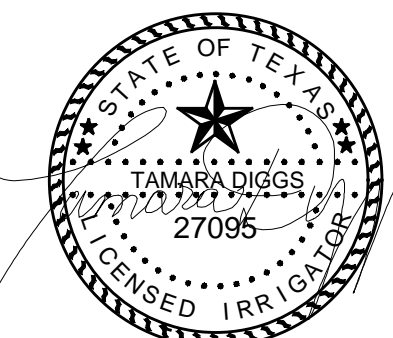


**MAINLINE SIZING**  
 L.I.C. SHALL SIZE MAINLINE TO MATCH EXISTING MAINLINE SIZE UNLESS OTHERWISE NOTED. NEW MAINLINE SHALL BE A MINIMUM OF 2 1/2" CLASS 200 PVC PIPE.  
 VELOCITIES THROUGH MAINLINE PIPE SHALL NOT EXCEED 5 FEET PER SECOND.

**IRRIGATION LEGEND**

- NETAFIM TECHLINE CV SERIES TREE DRIP TUBE RINGS  
SEE INSTALLATION NOTE REGARDING TREE BUBBLER LATERAL PIPE
- NETAFIM TECHLINE TLHCVR5-12 SERIES DRIP TUBE IN SHRUB BED INSTALLED AT 2" DEPTH  
SEE INSTALLATION NOTE REGARDING DRIP TUBE LAYOUT IN SHRUB BEDS.
- RAIN BIRD XERI-BUG SINGLE / MULTI OUTLET (XB-T-10-PC / XBT-10-6) POINT SOURCE DRIP EMITTERS  
SEE INSTALLATION NOTE REGARDING EMITTER LAYOUT AND CONNECTION TO DRIP VALVE ASSEMBLY
- RAIN BIRD PEB SERIES ELECTRIC REMOTE CONTROL, "TREE BUBBLER ZONE" VALVE  
SEE INSTALLATION NOTE REGARDING TREE BUBBLER LATERAL PIPE
- NETAFIM CONTROL ZONE KIT MODEL #NCZ-1S SERIES WITH 50 PSI PRESSURE REGULATOR AND SCREEN FILTER
- RAIN BIRD 33-DNP QUICK COUPLING VALVE WITH LOCKING PURPLE COVER AND 3/4" PVC BALL VALVE
- EXISTING QUICK COUPLER
- EXISTING 2" BACKFLOW DEVICE
- EXISTING 2" WATER METER
- RAIN BIRD ESP12LXME2 SERIES AUTOMATIC CONTROLLER
- RAIN BIRD WR2-RFC RAIN / FREEZE SENSOR. LOCATE SENSOR AS FIELD DIRECTED BY THE LANDSCAPE ARCHITECT
- L.I.C. TO LOCATE AND CONNECT TO EXISTING MAINLINE
- CLASS 200 PVC MAINLINE PIPE
- CLASS 200 PVC LATERAL PIPE
- ONE 4" CLASS 200 SLEEVE PIPE
- ONE 4" CLASS 200 SLEEVE PIPE AND ONE CLASS 200 SLEEVE PIPE TWICE THE DIAMETER OF THE MAINLINE

**11 OVERALL IRRIGATION PLAN**  
 SCALE: 1" = 20'-0"  
 GRAPHIC SCALE 1"=20'-0"



**chatam designs LLC**  
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 (972) 998-7013 chrisdiggs@chatamdesigns.com LI0010311

IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), (MC-235), P.O. BOX 13087, AUSTIN, TEXAS 78711-3087. T.C.E.Q.'S WEBSITE IS: WWW.TCEQ.TEXAS.GOV.

**IRRIGATION PLAN**

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**TxDOT LANGTRY**  
 TRAVEL INFORMATION CENTER  
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 6473-05-001  
 Date  
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 Sheet No.  
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**INSTALLATION NOTES**

GENERAL

- ALL WORK SHALL BE PERFORMED BY A LICENSED IRRIGATION CONTRACTOR (L.I.C.).
- L.I.C. SHALL CONFIRM PLAN SITE CONDITIONS PRIOR TO INSTALL. L.I.C. SHALL NOT PROCEED WITH INSTALL IF SITE CONDITIONS DIFFER FROM PLAN OR UNLESS NOTIFIED BY OWNER.
- TEN (10) DAYS PRIOR TO INSTALL, L.I.C. TO CONFIRM STATIC PRESSURE OF A MINIMUM OF 65.0 PSI. IF STATIC PRESSURE IS LESS THAN 65.0 PSI, WORK SHALL NOT COMMENCE UNTIL NOTIFIED BY LANDSCAPE DESIGNER. DESIGN PRESSURE IS 65.00.
- L.I.C. SHALL CONTACT PROPER AUTHORITIES AND CONFIRM ALL UTILITY LOCATIONS PRIOR TO INSTALL.
- L.I.C. SHALL CONFORM TO ALL STATE AND LOCAL IRRIGATION AND PLUMBING CODES. ALL STATE AND LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES HEREIN AND SHALL BE ADDRESS BEFORE ANY CONSTRUCTION BEGINS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS. IN CASE OF CONFLICT BETWEEN THESE PLANS AND LOCAL AND/OR STATE CODES, CODES SHALL PREVAIL.
- THE IRRIGATION PLAN IS GENERALLY DIAGRAMMATIC; COORDINATE IRRIGATION INSTALLATION WITH UTILITY INSTALLATIONS. ACTUAL LOCATION OF IRRIGATION EQUIPMENT MAY NEED TO BE ADJUSTED BASED ON ACTUAL SITE CONDITIONS.
- FOR CLARITY PURPOSES, SOME IRRIGATION LINES AND EQUIPMENT ARE SHOWN IN HARDSCAPE AREAS; THESE LINES SHALL BE INSTALLED IN A COMMON TRENCH OR AT THE BACK OF CURB IN LANDSCAPE AREAS. MINOR FIELD ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- L.I.C. SHALL SECURE ALL REQUIRED PERMITS AT NO ADDITIONAL COST TO OWNER.
- L.I.C. SHALL MEET WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK, AND SHALL OBTAIN ALL APPLICABLE PLANS & DOCUMENTS. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE PLANS AND REPORT ANY CONFLICTS OR DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IMMEDIATELY.
- L.I.C. SHALL PROVIDE OWNER WITH WATERING SCHEDULE, CONTROLLER CHART, WARRANTY INFORMATION, AND ALL APPLICABLE EQUIPMENT OWNER'S MANUAL AFTER INSTALLATION.

SPECIFICATIONS

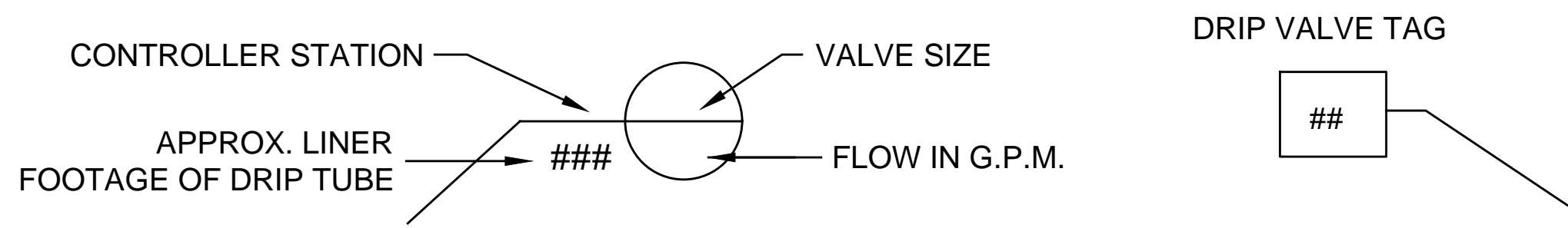
- THE PROPOSED LOCATIONS OF ALL ABOVE- GROUND EQUIPMENT INCLUDING BACKFLOW PREVENTERS, CONTROLLERS AND WEATHER SENSORS SHALL BE STAKED BY THE L.I.C. FOR APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE BEFORE THESE ITEMS ARE INSTALLED.
- BACKFLOW PREVENTERS SHALL BE INSTALLED AND LOCATED PER LOCAL CODE WITH A BALL VALVE ON THE UPSIDE OF THE BACKFLOW PREVENTER. BELOW GROUND D.C.A.S SHALL BE INSTALLED WITH A W.Y.E. FILTER ON THE UPSIDE OF THE BACKFLOW AND DOWNSTREAM OF THE BALL VALVE AND SHALL BE BOXED AND LOCATED PER LOCAL CODE.
- MINIMUM DISTANCE BETWEEN MAIN LINE AND LATERAL LINE FITTINGS TO BE 18".
- LATERAL PIPE SHALL BE INSTALLED AT A MINIMUM DEPTH OF 12". MAINLINE PIPE AND WIRES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 18".
- LATERAL PIPE TO TREE BUBBLER AND EMITTER HEADS IS OMITTED FOR GRAPHIC CLARITY. CONNECT TREE BUBBLER HEADS TO VALVES WITH SAME SIZE LATERAL PIPE AS INDICATED ON PLANS, WITH A MAXIMUM VELOCITY OF FIVE FEET PER SECOND. CONNECT EMITTER HEADS TO NEAREST DRIP ZONE IF NOT OTHERWISE INDICATED.
- ALL PVC PIPE AND FITTINGS TO BE INSTALLED USING COLORED PRIMER PRIOR TO APPLYING PVC CEMENT. (SEE UNIFORM PLUMBING CODE SECTION 316 OR THE INTERNATIONAL PLUMBING CODE SECTION 605).
- L.I.C. SHALL COORDINATE IRRIGATION INSTALLATION WITH PLANTING PLAN AND SITE CONDITIONS. L.I.C. SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AND MINIMAL OVER SPRAY WITH NO ADDITIONAL COST TO OWNER.
- ALL QUICK COUPLERS SHALL BE INSTALLED USING RIGID SCHEDULE 80 PVC SWING JOINT ASSEMBLIES UNLESS OTHERWISE NOTED.
- IN REGARDS TO EXISTING TREES, NO MACHINE TRENCHING SHALL OCCUR IN EXISTING ROOT ZONES. HAND TRENCH IN EXISTING ROOT ZONES ONLY. WHEN HAND TRENCHING, NO ROOTS LARGER THAN 1" DIAMETER SHALL BE CUT. STAKE ALL PROPOSED TRENCH ROUTES NEAR EXISTING TREES FOR APPROVAL BY THE LANDSCAPE ARCHITECT BEFORE DIGGING BEGINS.
- GENERAL CONTRACTOR TO PROVIDE ELECTRICAL POWER WITHIN FIVE FEET OF CONTROLLER LOCATION. L.I.C. TO PROVIDE FINAL HARD WIRING TO CONTROLLER.
- 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL. SINGLE CONDUCTOR 'IRRIGATION WIRE'. WIRE SPLICES SHALL BE PROTECTED BY APPROVED PRODUCT MANUFACTURER WATERPROOF CONNECTORS, OR WHEN NOT SPECIFIED BY THE MANUFACTURER, WIRE SPLICES SHALL BE PROTECTED BY 3M D.B.Y. CONNECTORS. ALL FIELD SPLICES SHALL BE LOCATED IN A ROUND VALVE BOX OF SUFFICIENT SIZE TO ALLOW FOR INSPECTION UNLESS OTHERWISE NOTED.
- VALVE BOXES SHALL BE INSTALLED FLUSH TO GRADE AND SUPPORTED BY BRICKS, IF NEEDED. A MINIMUM OF FOUR INCHES OF CLEAN PEA GRAVEL SHALL BE LOCATED BELOW THE VALVE WITH A MINIMUM 1" AIR GAP BETWEEN THE TOP OF THE GRAVEL AND THE BOTTOM OF THE VALVE. A MINIMUM OF A 12" X 7" RECTANGULAR VALVE BOX WITH A PURPLE LID SHALL BE INSTALLED FOR EACH QUICK COUPLER. A MINIMUM OF A 12" X 7" RECTANGULAR VALVE BOX SHALL BE INSTALLED FOR EACH ELECTRICAL VALVE, UNLESS NOTED OTHERWISE.
- L.I.C. TO PROVIDE ONE QUICK COUPLER KEY WITH SWIVEL HOSE ELL FOR EVERY SIX QUICK COUPLER VALVES. ONE SET MINIMUM REQUIRED IF QUICK COUPLERS ARE INDICATED.

DRIP

- WHEN DRIP IS SPECIFIED FOR SHRUBS AND GROUND COVER, DRIP TUBE SHALL INCLUDE PRE-INSTALLED .53 GPH DRIP EMITTERS AT 12" INTERVALS INSTALLED IN CENTER FED GRIDS WITH 18" ROW SPACING (SEE LEGEND FOR SPECIFICATIONS). INDIVIDUAL DRIP TUBE RUNS SHALL NOT EXCEED 150 LINEAR FEET AND SHALL BE STAKED EVERY 18". PVC LATERAL 'TRUNK' LINES SHALL BE INSTALLED 10" DEEP AND SET 2" BELOW FINISHED SOIL GRADE. FLUSH VALVES SHALL BE INSTALLED AT THE FARTHEST POINTS FROM THE ZONE VALVE. USE 17 MM BARBED FITTINGS FOR DRIP LINE CONNECTIONS. THE MAXIMUM OPERATING PRESSURE FOR DRIP TUBE SHALL BE 50 PSI. INSTALL DRIP LINE PERPENDICULAR TO SLOP FACE. SAME MANUFACTURER CHECK VALVES SHALL BE INSTALLED FOR EVERY 4.5 FEET OF ELEVATION CHANGE WITHIN THE DRIP ZONE. INSTALL ONE MAINTENANCE 'FLAG' FOR EACH DRIP ZONE WHICH SHALL INCLUDE A 12" POP UP SPRAY HEAD AND A COMPLETELY CLOSED SPRAY NOZZLE. THE POP UP HEAD SHALL BE CONNECTED TO THE DRIP ZONE PIPE AND SET FLUSH GRADE. INSTALLED AT THE FARTHEST DISTANCE FROM THE DRIP VALVE ASSEMBLY. INSTALL THE MAINTENANCE 'FLAG' ADJACENT TO EDGING OR IN LOW PLANTINGS FOR EASE OF VIEWING.

**IRRIGATION LEGEND**

□	NETAFIM TECHLINE CV SERIES TREE DRIP TUBE RINGS SEE INSTALLATION NOTE REGARDING TREE BUBBLER LATERAL PIPE
▨	NETAFIM TECHLINE TLHCVKR5-12 SERIES DRIP TUBE IN SHRUB BED INSTALLED AT 2' DEPTH SEE INSTALLATION NOTE REGARDING DRIP TUBE LAYOUT IN SHRUB BEDS.
■	RAIN BIRD XERI-BUG SINGLE / MULTI OUTLET ( XB-T-10-PC / XBT-10-6 ) POINT SOURCE DRIP EMITTERS SEE INSTALLATION NOTE REGARDING EMITTER LAYOUT AND CONNECTION TO DRIP VALVE ASSEMBLY
⊕	RAIN BIRD PEB SERIES ELECTRIC REMOTE CONTROL, "TREE BUBBLER ZONE" VALVE SEE INSTALLATION NOTE REGARDING TREE BUBBLER LATERAL PIPE
⊕	NETAFIM CONTROL ZONE KIT MODEL #NCZ-1S SERIES WITH 50 PSI PRESSURE REGULATOR AND SCREEN FILTER
⊙	RAIN BIRD 33-DNP QUICK COUPLING VALVE WITH LOCKING PURPLE COVER AND 3/4" PVC BALL VALVE
▲	EXISTING QUICK COUPLER
B	EXISTING 2" BACKFLOW DEVICE
M	EXISTING 2" WATER METER
C	RAIN BIRD ESP12LXME2 SERIES AUTOMATIC CONTROLLER
R	RAIN BIRD WR2-RFC RAIN / FREEZE SENSOR. LOCATE SENSOR AS FIELD DIRECTED BY THE LANDSCAPE ARCHITECT
~	L.I.C. TO LOCATE AND CONNECT TO EXISTING MAINLINE
—	CLASS 200 PVC MAINLINE PIPE
- - -	CLASS 200 PVC LATERAL PIPE
- - - -	ONE 4" CLASS 200 SLEEVE PIPE
- - - - -	ONE 4" CLASS 200 SLEEVE PIPE AND ONE CLASS 200 SLEEVE PIPE TWICE THE DIAMETER OF THE MAINLINE



METHODS OF IRRIGATION SYSTEM MODIFICATIONS

- SALVAGE EXISTING IRRIGATION CONTROL WIRE / MAINLINE WHERE POSSIBLE.
- UTILIZE EXISTING SLEEVES WHERE POSSIBLE, BORE WHERE REQUIRED.
- TEMPORARY IRRIGATION TO BE PROVIDED FOR AREAS OUTSIDE THE PERMANENT SYSTEM.
- REUSE EXISTING HEADS WHERE POSSIBLE. IF DESIRED, REPLACE EXISTING HEADS WITH NEW SPRAYS, ROTORS, OR DRIP IRRIGATION. IN AREAS WHERE SITE RENOVATIONS OCCUR, REINSTALL IRRIGATION.
- PRIOR TO CONSTRUCTION, IRRIGATION CONTRACTOR SHALL COORDINATE AND CAP EXISTING LINES, REROUTE EXISTING CONTROL WIRE AND LINES WHERE POSSIBLE TO ENSURE SYSTEM OPERATION OF AREAS TO REMAIN ACTIVE DURING CONSTRUCTION.
- REPLACE EXISTING CONTROLLER WITH NEW CONVENTIONAL WIRED OR TWO WIRE SYSTEM. CONTROLLER TO INCLUDE WEATHER BASED FEATURES FOR CONSERVATION PURPOSES. MAY REQUIRE ADDITIONAL FEE BASED ON CONTROLLER TYPE.
- RECOMMEND INSTALLATION OF BOOSTER PUMP FOR THE EXISTING IRRIGATION SYSTEM TO PROVIDE OPTIMAL PRESSURE.
  - NEW VARIABLE SPEED, PRESSURE START BOOSTER PUMP TO PROVIDE A MINIMUM OF 60 GPM AT 30 PSI BOOST. IRRIGATION PUMP ELECTRICAL SERVICE SHALL BE COORDINATED AND PROVIDED BY OTHERS. BOOSTER PUMP TO BE INSTALLED WITHIN HEATED / INSULATED ENCLOSURE.

**COORDINATION WITH EXISTING IRRIGATION**

THE CONTRACTOR SHALL VISIT THE SITE BEFORE CONSTRUCTION BEGINS TO BECOME FAMILIAR WITH THE EXISTING SYSTEM LAYOUT. REROUTE, REPAIR, OR REINSTALL EXISTING EQUIPMENT, INCLUDING MAINLINE AND CONTROL WIRES, AS REQUIRED, TO MAINTAIN CONTINUED AUTOMATIC OPERATION OF ALL AREAS OUTSIDE THE LIMITS OF WORK. PROTECT EXISTING EQUIPMENT WITHIN THE LIMITS OF WORK, WHICH IS INTENDED TO REMAIN. CONTRACTOR SHALL KEEP EXISTING IRRIGATION ( OUTSIDE OF THE SCOPE OF WORK ) OPERABLE DURING CONSTRUCTION. L.I.C. SHALL RE-WORK EXISTING IRRIGATION TO INCLUDE AND ACCOUNT FOR NEW PLANTINGS. RE-WORKED IRRIGATION SHALL BE INSTALLED ACCORDING TO STATE SPECIFICATIONS.

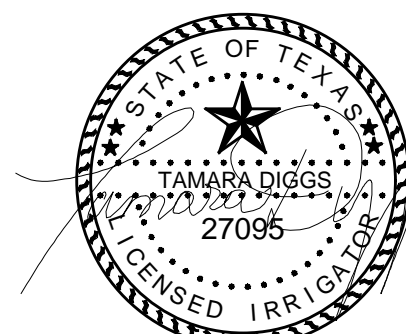
\*THE IRRIGATION CONTRACTOR SHALL CONFIRM THE FOLLOWING REQUIREMENTS FOR CONNECTION TO THE EXISTING MAINLINE PIPE AND CONTROL WIRE OF EXISTING CONTROLLER BEFORE WORK BEGINS:

CONFIRM MAINLINE PIPE IS SIZED TO ALLOW A MAXIMUM FLOW VELOCITY OF 5 FEET PER SECOND.

CONFIRM NEW CONTROLLER HAS CAPACITY TO OPERATE NEW AND EXISTING ZONES. L.I.C. TO ADD ADDITIONAL MODULES AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.

CONFIRM THAT EXISTING VALVES WILL OPERATE WITH NEW CONTROLLER AS SPECIFIED. L.I.C. TO REPLACE EXISTING IRRIGATION VALVES WITH NEW IRRIGATION VALVES AS SPECIFIED IF EXISTING VALVES WILL NOT OPERATE WITH NEW CONTROLLER, AT NO ADDITIONAL COST TO THE OWNER. L.I.C. SHALL EXTEND CONTROL WIRE FROM ALL NEW AND EXISTING VALVES TO NEW CONTROLLER.

NEW SHRUB AND GROUND COVER BEDS SHALL RECEIVE NEW IRRIGATION AS INDICATED ON THE PLAN, INSTALLED AS DIRECTED. DISTURBED TURF AREAS SHALL RECEIVE NEW IRRIGATION OR RENOVATIONS TO THE EXISTING SYSTEM, PROVIDING COMPLETE COVERAGE TO ALL AFFECTED AREAS. L.I.C. SHALL LOCATE AND CONNECT TO THE EXISTING SYSTEM MAINLINE AND CONTROLLERS. NEW OR RENOVATED TURF HEADS SHALL BE ZONED SEPARATELY FROM SHRUB IRRIGATION. NEW IRRIGATION PIPES SHALL BE SIZE TO ALLOW A MAXIMUM FLOW VELOCITY OF FIVE FEET PER SECOND. RENOVATIONS SHALL INCLUDE MEETING ALL CURRENT CODES, INCLUDING THE ADDITION OF A BALL VALVE AND WYE FILTER IF A D.C.A. BACKFLOW PREVENTER IS PRESENTLY USED. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL DEMONSTRATE PROPER, AUTOMATIC COVERAGE TO ALL AREAS WITH MINIMUM OPERATING PRESSURES OF 25 PSI AT SPRAY HEAD NOZZLES AND 35 PSI AT ROTARY HEAD NOZZLES.



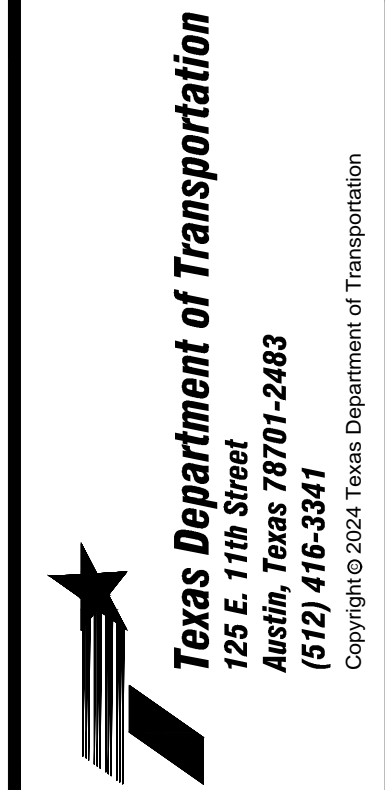
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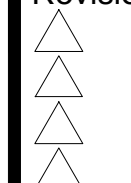
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**IRRIGATION NOTES**



**TxDOT LANGTRY  
TRAVEL INFORMATION CENTER  
SITE RENOVATIONS  
LANGTRY, TX**

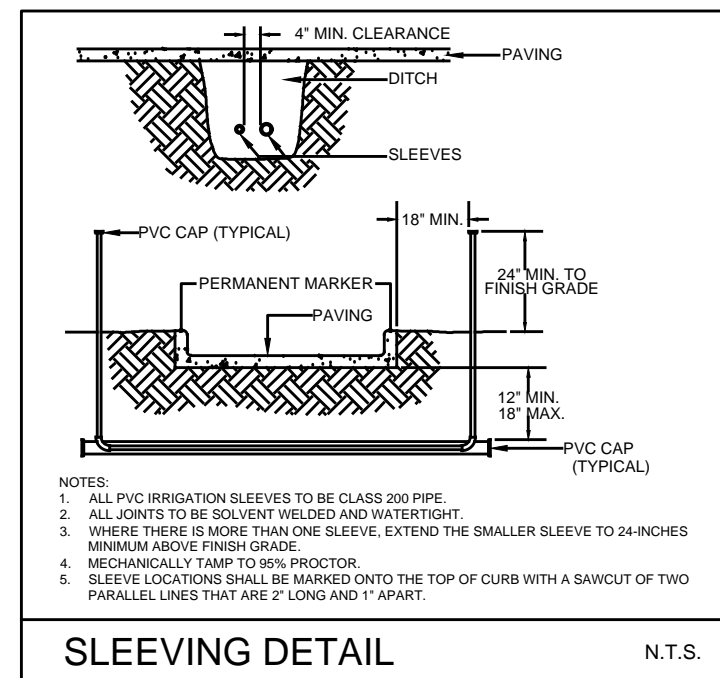
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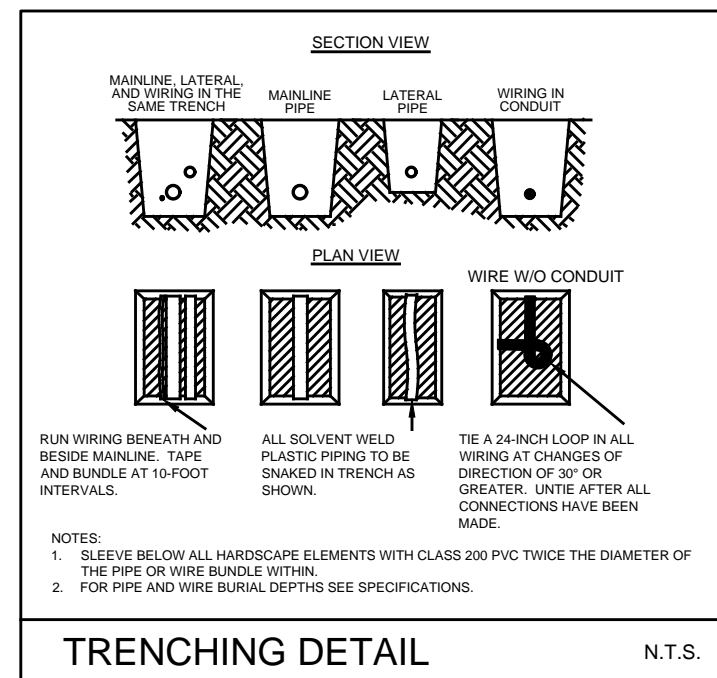
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Date  
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Sheet No.

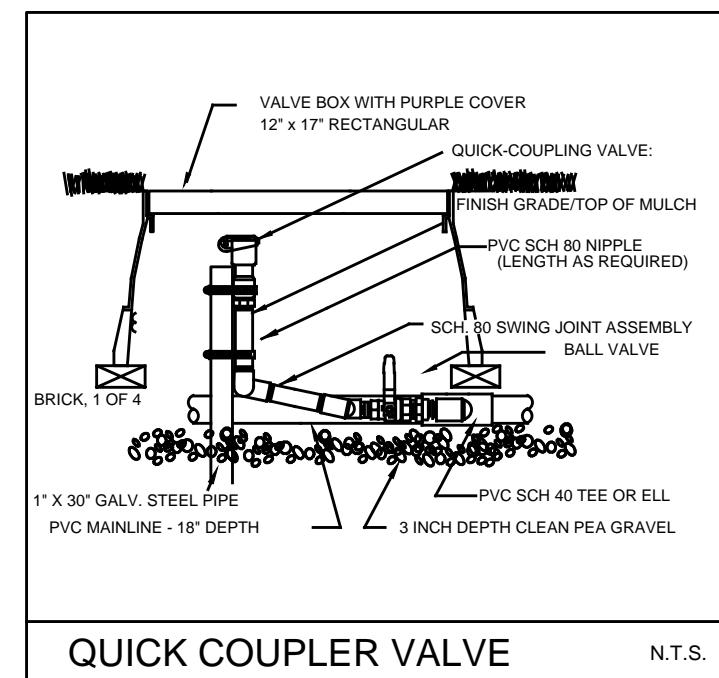
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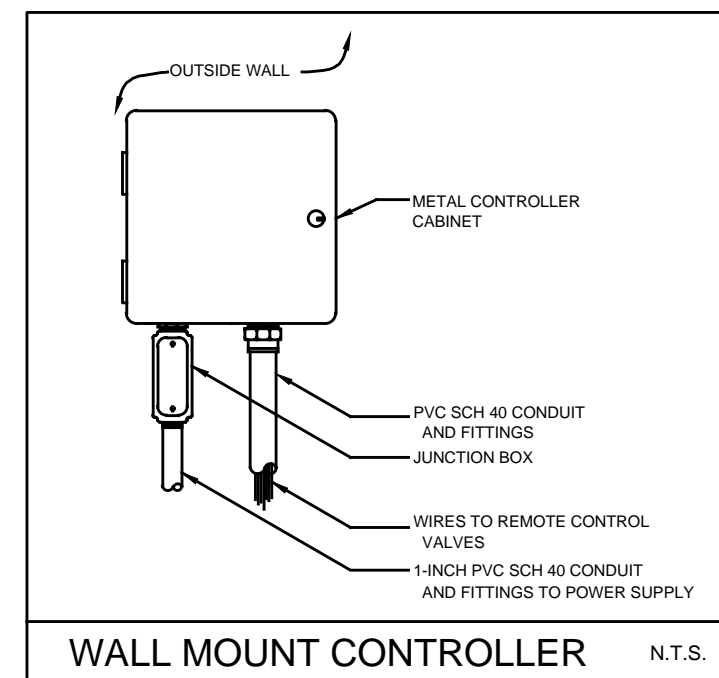
SLEEVEING DETAIL N.T.S.



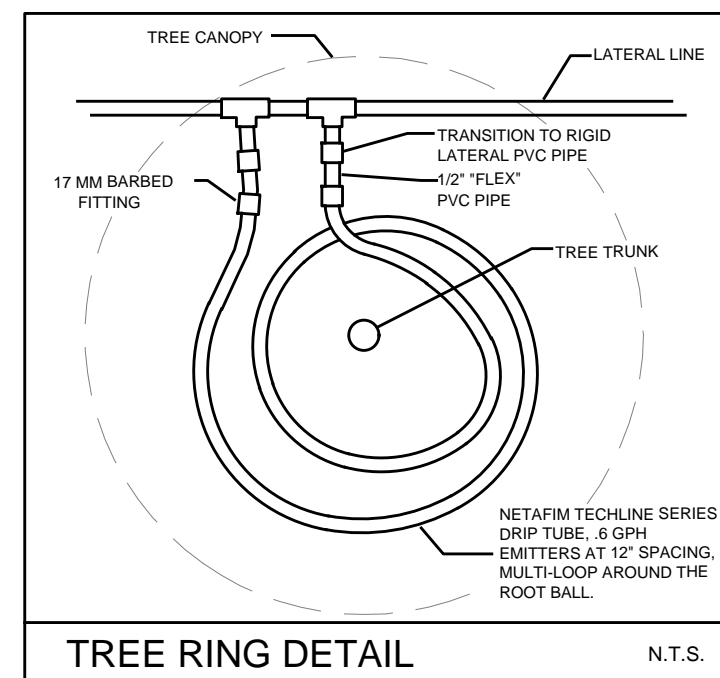
TRENCHING DETAIL N.T.S.



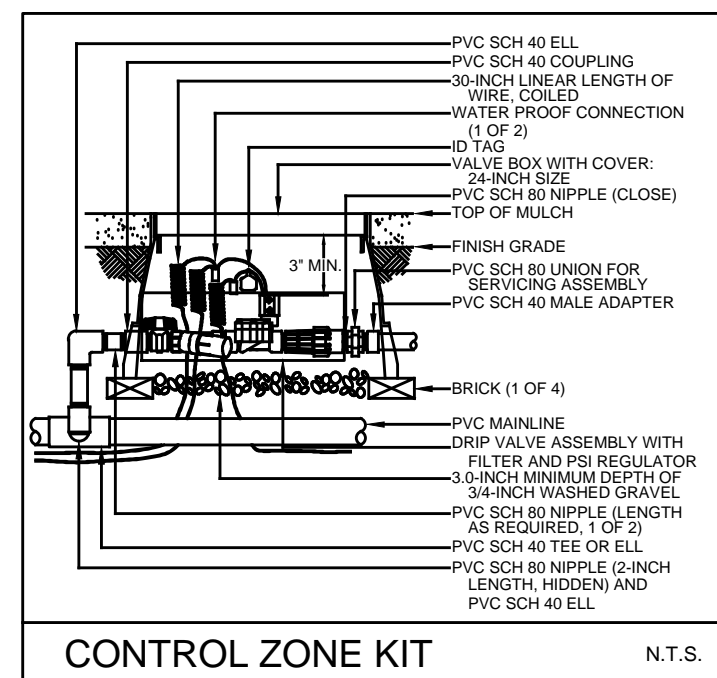
QUICK COUPLER VALVE N.T.S.



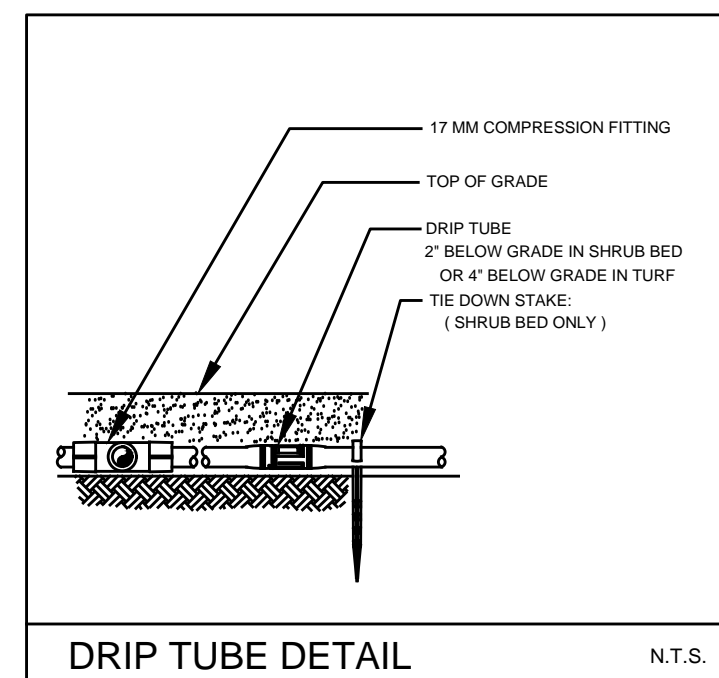
WALL MOUNT CONTROLLER N.T.S.



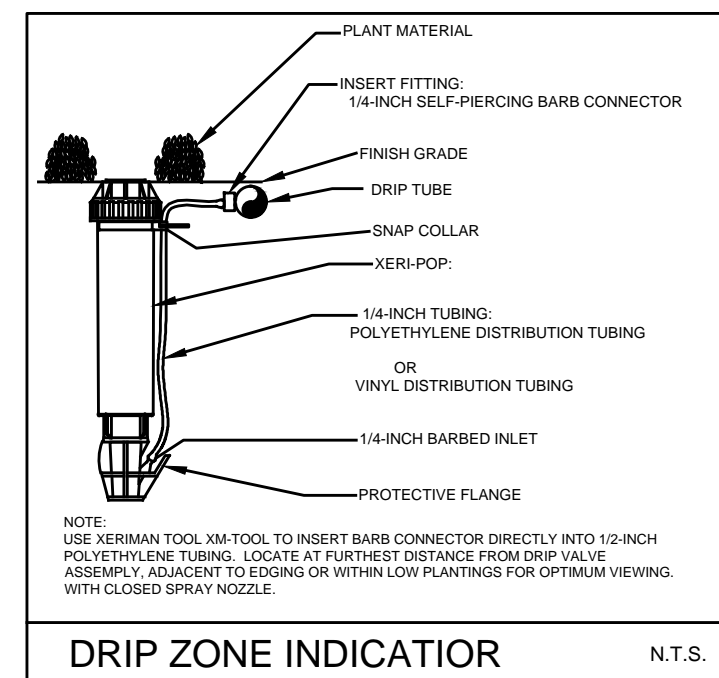
TREE RING DETAIL N.T.S.



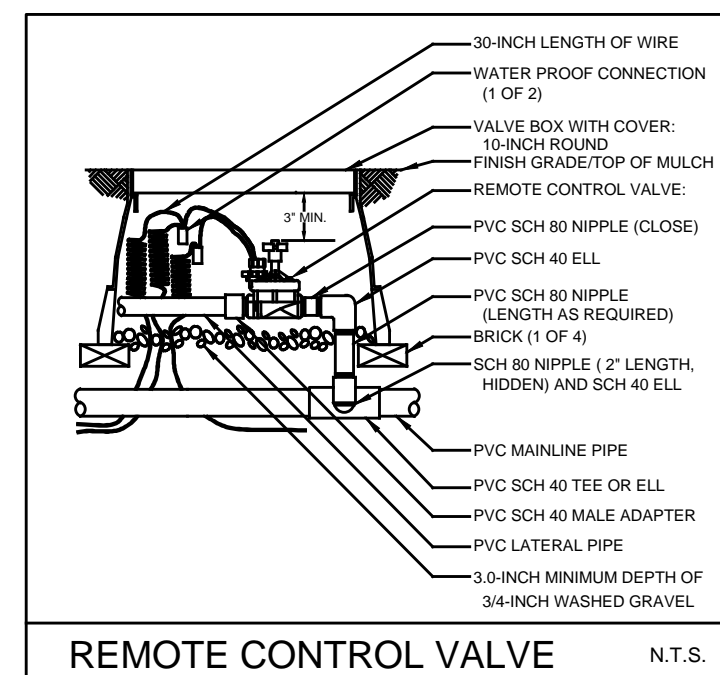
CONTROL ZONE KIT N.T.S.



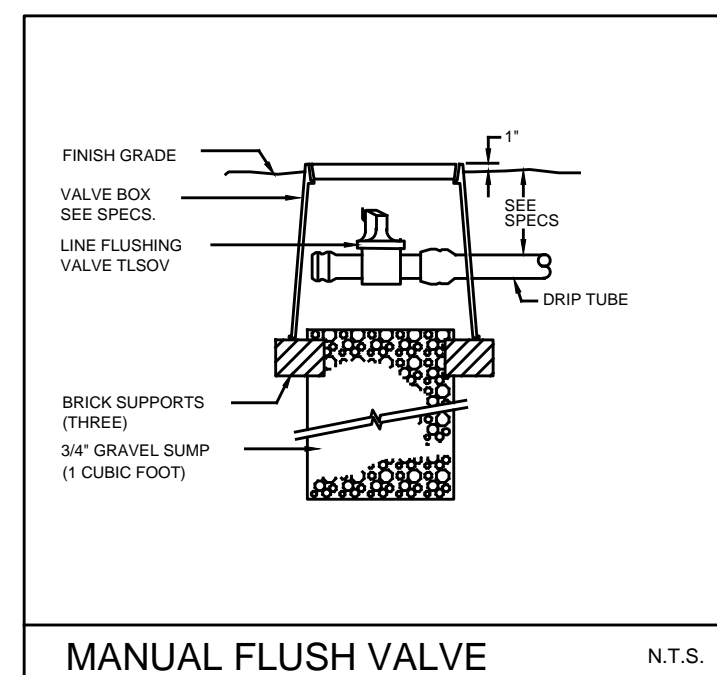
DRIP TUBE DETAIL N.T.S.



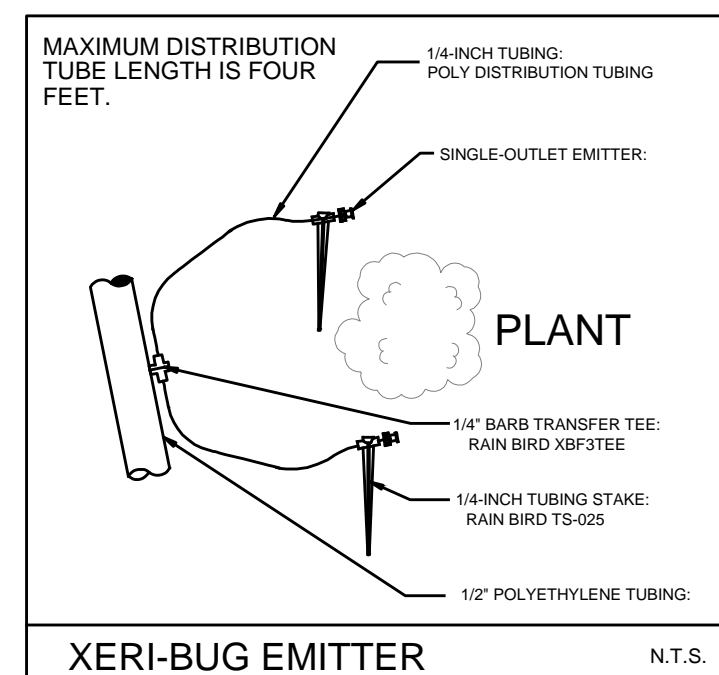
DRIP ZONE INDICATOR N.T.S.



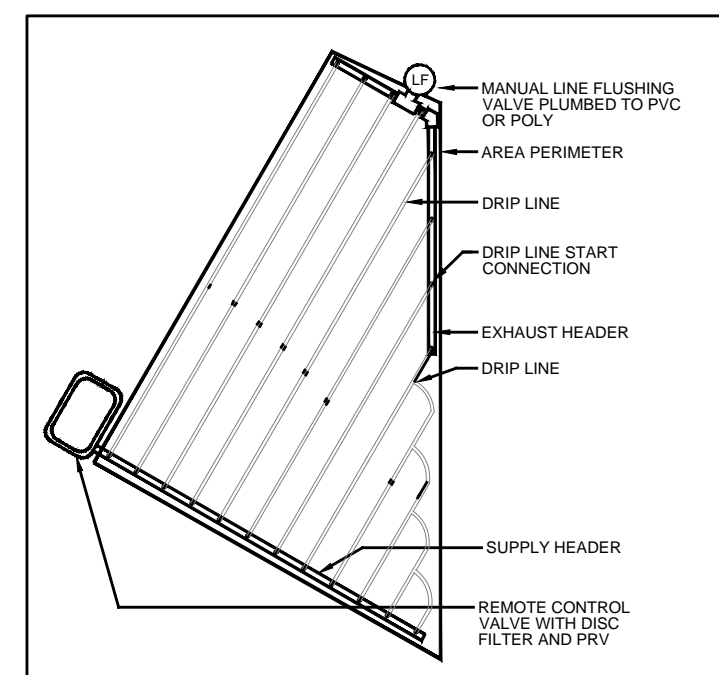
REMOTE CONTROL VALVE N.T.S.



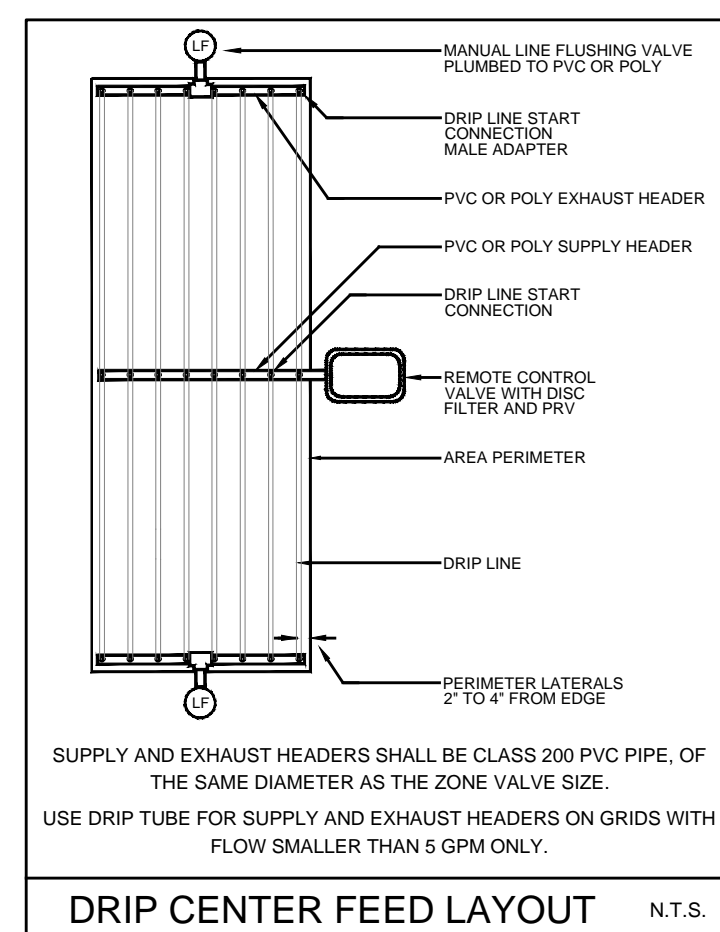
MANUAL FLUSH VALVE N.T.S.



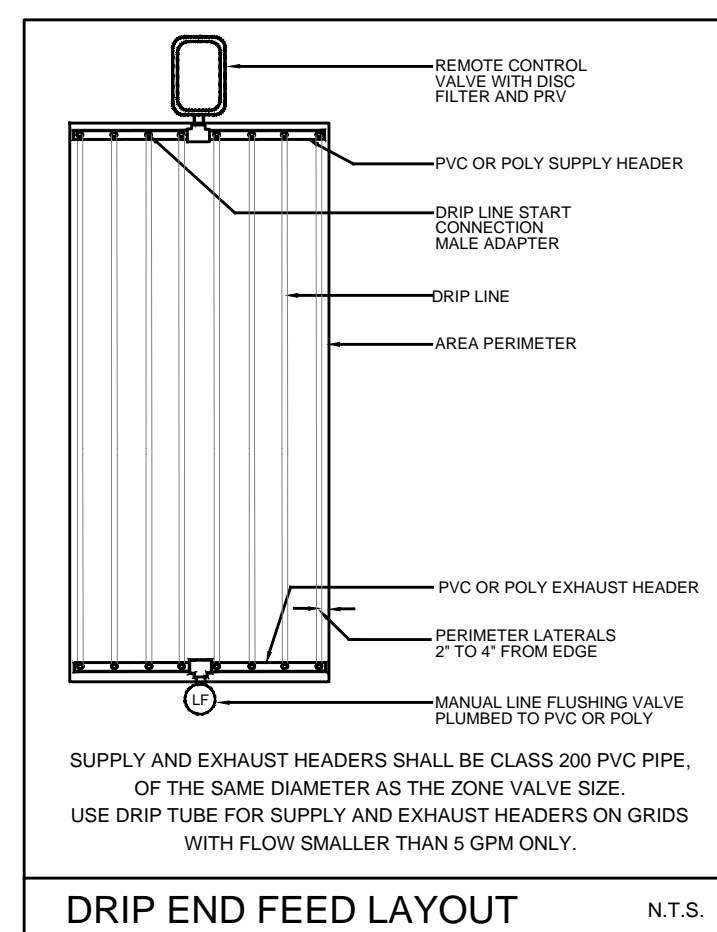
XERI-BUG EMITTER N.T.S.



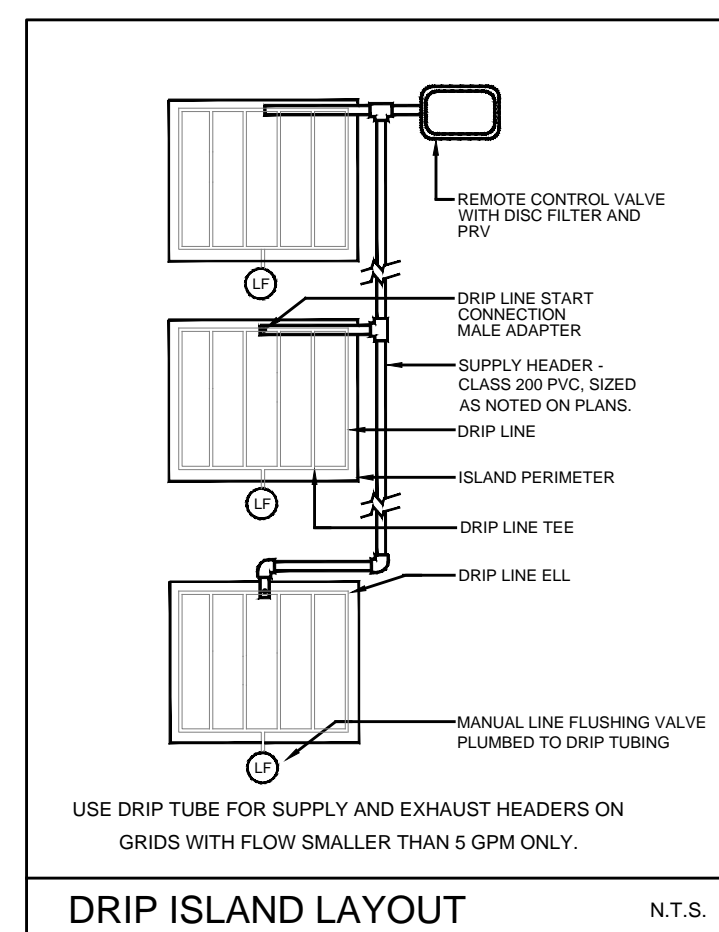
DRIP IRREGULAR LAYOUT N.T.S.



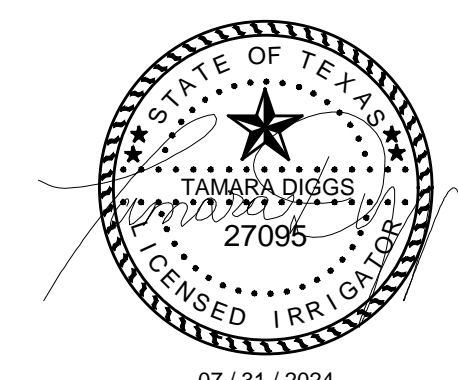
DRIP CENTER FEED LAYOUT N.T.S.



DRIP END FEED LAYOUT N.T.S.



DRIP ISLAND LAYOUT N.T.S.



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# IRRIGATION DETAILS

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**TxDOT LANGTRY**  
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of sheets