ALLIGATOR CREEK TRAIL PHASE 1 CONTRACT #NB

100% CONSTRUCTION DOCUMENTS 3/12/2024

LOCATION MAP
SCALE: 1"=400'

SHEET LIST

Sheet Number	Sheet Title
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L1.0	OVERALL LANDSCAPE CONSTRUCTION PLAN
L1.1–L1.7	ENLARGED LANDSCAPE CONSTRUCTION PLAN
L1.8	LANDSCAPE CONSTRUCTION DETAILS

NOTES:

PROJECT DESCRIPTION:
- 6313 LINEAR FEET 10 FOOT WIDE TRAIL LOCATED ON A 46 ACRE TRACT IN NEW BRAUNFELS, TEXAS BETWEEN OAK CREEK ESTATES PHASE 1 & 2

DESIGN CODES:
- AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES (2012)

RESTRICTIONS:
- FEMA FLOOD ZONE AE PER MAP NUMBER 48091C0455F DATED SEPTEMBER 2, 2009

PREPARED FOR:

City of New Braunfels

VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
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STATE OF TEXAS
JEFFREY S. TONDRE
85609
LICENSED
PROFESSIONAL ENGINEER
3/12/2024

SHEET C1

FOR CONSTRUCTION

City of New Braunfels

General Notes (revised March 2023)

General

1. All work shall conform to the Texas Department of Transportation (TxDOT) Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, November 2014, and the City of New Braunfels details and standards.
2. All work shall be performed in accordance with all applicable federal, state, and local laws, regulations, and ordinances.
3. The contractor shall always maintain a copy of the latest contract construction plans and specifications on-site.
4. The contractor shall obtain all permits and inspections required to complete the work (no separate pay item).
5. The contractor shall provide an emergency telephone number for evenings, weekends, and holidays before construction. The contractor shall respond to the city within two hours of the initial contact.
6. The contractor's personnel, including subcontractors, shall always wear identifying clothing or hats on-site.
7. The contractor shall field verify and protect all existing utilities prior to construction. The contractor shall comply with Texas excavation laws, contact Texas-811 72 hours before any work in the area, and maintain current locates throughout the project. The contractor shall coordinate all work individually with adjacent utilities in the area, including but not limited to: CenterPoint Energy (gas), NBU electric, NBU water, AT&T communications, Spectrum cable, City Public Works Department, City Fire Department, and TxDOT.
8. The contractor shall preserve all survey monuments and site markings provided. The contractor shall be responsible for all construction staking required for the successful completion of the project.
9. The contractor shall verify project elevations. The term "match existing" shall signify both horizontal and vertical alignment.
10. The contractor shall prepare a construction phasing plan detailing limits of construction for each phase. The phasing plan shall be submitted to the city for approval prior to construction. The contractor will not be allowed to work out of phase unless written approval has been obtained from the city for the phase change. The phasing plan shall include traffic control and haul routes.
11. The contractor is responsible for all subsidiary work and the means and methods necessary to complete the project.
12. The contractor shall provide written notification to the city and design engineer of discrepancies between the construction plans and specifications. The more stringent requirements shall govern unless otherwise directed in writing by the city.
13. The contractor shall provide written notification to the city and design engineer of discrepancies between the site conditions and the construction plans prior to construction. The contractor shall assume full responsibility for all necessary revisions due to failure to give such notification.

Site:

1. The contractor shall assume sole and complete responsibility for job site conditions during the construction of the project, including the security and safety of all persons and property; this requirement shall apply continuously and not be limited to normal working hours.
2. The contractor shall keep all areas within and adjacent to construction areas free from overgrown vegetation and all construction debris and be safe for pedestrian and vehicle traffic before, during, and after construction.
3. The contractor shall implement best management practices regarding dust, dirt, and erosion control. Contractor may be responsible for additional mitigation upon request of owner. The street pavement, driveways, sidewalks, and walkways within and adjacent to the project shall be swept free of mud and all debris removed from the work area daily.
4. The contractor shall install and maintain the project sign in accordance with city standards and specifications.
5. The contractor shall remove, protect, relocate, or reinstall items requested by the city as directed by the owner.
6. The contractor shall repair any damage caused by the contractor outside of the designated work area. Any existing off-site improvements that are damaged or undercut by the contractor's operations shall be repaired or replaced as directed by the engineer and approved by the city the existing improvements at the contractor's expense (no separate pay item).
7. The contractor shall remove all waste materials. The city shall approve the location for the disposal of construction materials prior to construction. The contractor shall not place any waste material in the 100-year flood plain. No waste materials shall be placed in existing lows that will block or alter flow limits of existing or natural drainage.
8. Drainage improvements sufficient to mitigate the impact of construction shall be installed prior to adding impervious cover. All drainage improvements shall begin at the outfall to ensure positive drainage throughout construction.
9. The contractor shall maintain a safe, drivable surface free from potholes, rutting, and hazardous conditions throughout the project.

Erosion control:

1. The contractor shall develop and implement a Stormwater Pollution Prevention Plan (SW3P) and submit it to the city prior to construction. The SW3P shall include all disturbed areas by the construction, including borrow, staging, and storage areas. The SW3P with required inspection reports must be kept up to date and kept on the construction site at all times. The contractor shall prepare a Notice of Intent (NOI) and secure a permit from Texas Commission on Environmental Quality (TCEQ) for large construction sites of 5 or more acres of disturbed area with a copy of the NOI and the required construction site notice posted at the construction entrance in clear view of the public during the construction. For large construction sites, after the site is 70% or greater stabilized so that there is no further danger of erosion and sedimentation pollution from the site disturbed areas, the contractor must prepare and submit a Notice of Termination (NOT) to TCEQ. A copy of the NOI and not must be submitted to the city for each project. See TCEQ regulations for SW3P requirements.
2. All erosion control measures shall be in place prior to any construction activities. The erosion control measures shall remain in place and functional until after the proposed improvements are in place and vegetation is established. The contractor is ultimately responsible for effectively controlling erosion and sedimentation.
3. Adjustments and repairs to the erosion control devices shall be made as needed at the contractor's expense.
4. Stabilized construction area shall be constructed of 3 in x 5 in rock to be placed at a minimum length of 25 ft and maintained so that construction debris does not fall within the city right-of-way. The right-of-way must be cleared of mud, rocks, dust, etc., at all times.
5. Seed/sod shall be furnished to establish ground cover over all disturbed areas as required by the contract documents. The contractor shall not wait until the completion of the entire project before doing this work. The project shall not be considered for acceptance by the city unless the establishment of 80% ground cover is ensured.
Seeding to establish vegetation within constructed earthen channels, basins and disturbed areas shall be conducted per Item 164 (seeding for erosion control of TxDOT's Standard Specifications). Only seed types and mixes specified for the San Antonio District (District 15) in tables 1 and 2 under Item 164 shall be utilized. During the cool season (Sept 1-Nov 30), cereal rye and seed species specified for the San Antonio District in table 3 may be used.
6. It may be deemed necessary to incorporate topsoil and soil amendments (i.e., compost/ fertilizer) into existing soil in order to facilitate vegetation growth. Topsoil, compost, and fertilizer additions shall be conducted according to Items 160, 161 and 166 of TxDOT's Standard Specifications.
7. Areas requiring permanent vegetation (earthen channels, ponds, etc.) are required to meet Item 160 of TxDOT's Standard Specifications. Testing per TEX-128-E may be required at the city's request.
8. Watering may be necessary to facilitate and expedite the sprouting and growth of vegetation. Item 168 of TxDOT's Standard Specifications shall be adhered to for vegetative watering.
9. If extended drought conditions exist that hinder or prohibit the growth and establishment of vegetation, the contractor shall provide a plan to the city describing the measures that will be taken to stabilize earthen drainage infrastructure until a time when growing conditions become more favorable.

Traffic:

1. The contractor shall be responsible for ensuring that all traffic control devices and barricades are properly installed and maintained in accordance with the plans, specifications, and Texas Manual on Uniform Traffic Control Devices (TXMUTCD).
2. These notes do not, in and of themselves, constitute a traffic control plan. In the event that these plans do not include traffic control, or that the contractor wishes to vary from traffic control included with the construction plans, the contractor shall submit a traffic control plan to the city for review and approval prior to construction. The city inspector and engineering representative will only be responsible to inspect the traffic control devices and barricades. If, in the opinion of the city inspector or engineering representative, the traffic control devices do not conform to established standards or are incorrectly placed or are insufficient in quantity to protect the general public, the city inspector shall have the option to stop construction operations at no expense to the city until such time as the conditions are corrected by the contractor.
3. The contractor shall notify the city immediately if there is any conflict between the TXMUTCD and traffic control requirements within the contract documents.
4. If the need arises, the city inspector or engineering representative may require the relocation and additional traffic control devices and barricades at the contractor's expense.
5. The contractor shall notify TxDOT, county, adjacent city, and private owner prior to working at their owned or maintained roadway and intersection.
6. For all road closure requests, the contractor shall submit and obtain City approval of a traffic control plan and work schedule at least two (2) weeks prior to commencing work associated with the road closure.
7. Work around schools shall be scheduled to minimize impacts to the school. Streets and access shall not be closed during the time students are being dropped off and picked up from school. Work within a school zone can only occur between the hours of 9 am and 3 pm as approved by the city.
8. The contractor shall provide access for the delivery of mail by the U.S. Postal Service, and collection of solid waste and recycling, whether public or private.
9. The contractor shall always maintain access to all commercial and residential driveways. The contractor shall provide a 48-hour minimum notice to property owners and the city before any driveway access modification.
10. During asphalt overlay, the contractor shall allow resident traffic access to the street with proper guidance, direction, flagger and traffic control and only at such time that damage will not occur to the new asphalt overlay or to the vehicles.
11. The contractor shall keep all traffic control devices, barricades, and reflective markings free from dust and debris. The contractor shall clean the devices monthly and at the direction of the city.

Utilities:

1. The existence and location of underground utilities indicated on the plans are taken from available records and are not guaranteed. The location and depth of existing utilities are approximate only and shall be investigated and verified by the contractor before starting work. The contractor shall be held responsible for any damage to and for the maintenance and protection of the existing utilities whether shown or noted on the plans, including but not limited to existing water, sanitary sewer, gas, storm sewers, electric and telecommunication lines, and services.
2. The contractor shall verify the location of all utilities three (3) weeks minimum in advance of all work activities.
3. In the event of damage to underground facilities, whether shown or not in the plans, the contractor shall make necessary repairs to restore the facility back in service and at no cost to the city. Repairs shall conform to the requirements of the utility or agency servicing the facility.
4. The contractor shall coordinate with and gain approval from the utility company owning the facility prior to relocation or adjustment as required for conformance to project alignment or grades. Adjustment of all existing manholes, that remain in service to project grades shall be the contractor's responsibility.
5. Occupational Safety and Health Administration (OSHA) regulations prohibit operations that will bring persons or equipment within an energized line. Where workers and/or equipment have to work close to an energized electrical line, the contractor shall notify the electrical power company involved and make whatever adjustments necessary to ensure the safety of those workmen.
6. Due to Federal Regulations, gas companies must always maintain access to gas valves. The contractor must protect and work around any gas valves that are in the project area.
7. The contractor will abide by all applicable federal, state, and local laws governing excavation. The contractor and the contractor's independently retained employee or safety consultant shall implement a trench safety program in accordance with OSHA standards governing the presence and activities of individuals working in and around trench excavation.
8. All utility trench fill material shall be placed in uniform layers not to exceed 12 in. loose outside of pavement and 6 in. loose under pavement. Determine the maximum lift thickness based on the ability of the compacting equipment to adequately meet the required density. Each layer of material shall be compacted to 95% density, ± 2% optimum moisture as determined by test methods TEX-113-E, TEX-114-E, TEX-115-E. Density tests shall be taken at a minimum of 100 linear feet intervals for each lift as determined by the city inspector.
9. The contractor shall notify the city inspector 48 hours prior to the backfill of any utility trenches to schedule density tests as required.

Tree protection:

1. The contractor shall protect all trees within the project limits and trees outside the project limits that the project may impact.
2. No utility or street excavation work shall begin in areas where tree preservation and treatment measures have not been completed and approved.
3. Tree protection fencing shall be required, and tree protection fencing shall be installed, maintained, and repaired by the contractor during site construction.
4. Exposed roots shall be covered at the end of the day using techniques such as covering with soil, mulch or a root protection zone will be established around each tree or any vegetation to be preserved. A root protection zone shall be an area defined by the radius extending outward from the trunk of tree a distance of 1 ft per diameter inch of the tree radius at breast height of 4.5 ft. As an example, a 10 in diameter tree would have a 10 ft radius root protection zone around the tree.
5. No equipment, vehicles or materials shall operate or be stored within the root protection zone of any tree near the project. No clean-out areas shall be constructed so that the material will be in or adjacent to the root protection zone.
6. Roots or branches in conflict with the construction shall be cut cleanly according to TxDOT Roadside Vegetation Maintenance Manual. All oak wounds shall be painted over within 30 minutes to prevent oak wilt.
7. Trees must be maintained in good health throughout the construction process. Maintenance may include watering the root protection zone and or washing foliage.
8. No wires, nails or other materials may be attached to the protected trees.
9. Trees, which are damaged or lost due to the contractor's negligence during construction, shall be mitigated to the city's satisfaction.
10. Trees, tree limbs, bushes and shrubs located in the city street or alley right-of-way or permanent easements which interfere with the proposed construction activities may be neatly trimmed by the contractor only after approval from the city inspector. There shall be no separate pay for additional cost or effort incurred by the contractor where required to work around and/or under existing trees or for the removal of additional branches and shrubs.
11. Saplings, shrubs, or bushes to be cleared from the protected root zone area of a large tree shall be removed by hand as designated by the city inspector.

Roadway:

1. All roadway compaction tests shall be coordinated with the city inspector. Flexible base or fill material shall be placed in uniform layers not to exceed 6 in compacted. Each layer of material, inclusive of subgrade, shall be compacted as specified and tested for density and moisture in accordance with test methods TEX-113-E, TEX-114-E, TEX-115-E. The number and location of required tests shall be determined by the geotechnical engineer and approved by the city inspector. At a minimum, tests shall be taken every 100 linear feet for each lift. Upon completion of tests, the geotechnical engineer will provide the city inspector with all testing documentation and a certification stating that the placement of flexible base, fill material, and subgrade has been completed per the contract documents.
2. The contractor shall provide a 48-hour minimum notice to the city inspector prior to any work requiring material testing.
3. The contractor shall schedule a pre-pave inspection and coordination meeting 72 hours prior to placing asphalt.
4. Unless noted otherwise in the contract documents, asphaltic concrete pavement shall be Type "D" hot mix asphalt as defined in TxDOT's standard specifications.
5. The city will not accept the use of recycled asphalt pavement (RAP) or recycled asphalt shingles (RAS) in asphalt mixtures for new roadways. Any debris inclusions within new asphalt pavements will result in asphalt removal and replacement from curb to curb for limits to be determined by the city.
6. The asphaltic concrete surface course shall be plant mixed, hot laid Type "D" meeting the specification requirements of TxDOT Item 340. The mix shall be designed for stability of at least 35 and shall be compacted to between 92 and 97 percent of the maximum theoretical density as determined by TxDOT test method TEX-227-F. The asphalt cement content by percent of total mixture weight shall fall within a tolerance of +0.5 percent from a specific mix design.
7. A TxDOT Type II B-B blue reflective raised pavement marker shall be installed in the center of the roadway adjacent to all fire hydrants. In locations where hydrants are situated on corners, blue reflective raised pavement markers shall be installed on both approaches which front of the hydrant. The raised pavement marker shall meet TxDOT material, epoxy, and adhesive specifications.
8. All concrete for flatwork, including curb and gutter, sidewalks, and driveways, shall be Class A with a minimum compressive strength of 3,000 psi. Material testing methods and frequency shall be as described in Item 421 of the TxDOT standard specifications.

Groundwater:

1. It shall be the responsibility of the contractor to immediately notify the city if the presence of groundwater within the site is evident. Upon notification, the project engineer shall respond with plan revisions for the mitigation of the groundwater issue. The city shall respond within two (2) business days upon receipt of the mitigation plan. All construction activity impacted by the discovery of groundwater shall be suspended until the city grants written approval for the groundwater mitigation plan.

Development:

1. The engineer of record is responsible for the adequacy of the construction plans and meeting all professional practice requirements of applicable federal, state, and local statutes, codes, regulations, rules, ordinance, or standards for the project.
2. The contractor shall contact the City of New Braunfels to schedule a preconstruction meeting before construction.
3. For public infrastructure or grading permits:
   a. The contractor shall coordinate material testing and inspections with the project inspector before 12 pm and a minimum of 48 hours before the requested inspection as outlined in the pre-construction meeting.
   b. Each inspection request is allotted one (1) hour unless additional time is requested.
4. For commercial permits:
   a. The contractor shall coordinate inspection requests with the Building Department as outlined by the approved permit.
   b. Each inspection request is allotted one (1) hour unless additional time is requested.
5. Approval of the construction plans and associated permit is invalid if construction has not commenced within-one year of construction plan approval.
6. Stabilized construction area shall be constructed of 3 in x 5 in rock to be placed a minimum length of 25 ft and maintained so that construction debris does not fall within the city right-of-way. Right-of-way must be cleared from mud, rocks, etc. at all times.
7. The engineer of record is responsible for the erosion and stormwater control design to mitigate off-site impacts in all phases of construction.
8. The contractor is responsible for installing improvements sufficient to mitigate the impact of drainage and stormwater runoff during construction.
9. The elevation of the lowest floor shall be at least 10 in above the finished grade of the surrounding ground, which shall be sloped in a fashion so as to direct stormwater away from the structure. Properties adjacent to stormwater conveyance structures must have floor slab elevation or bottom of floor joists a minimum of one foot above the 100-year water flow elevation in the structure. Driveways serving houses on the downhill side of the street shall have a properly sized cross swale preventing runoff from entering the garage.
10. Proctors shall be sampled from on-site material (on-site is defined as limits of construction for the construction plans). The City inspector shall be present for material sampling and a copy of the proctor results shall be delivered to the city inspector prior to any density tests.
11. The contractor shall ensure that sidewalks, curb ramps, and driveways are built in accordance with Americans with Disabilities Act (ADA) standards.
12. No valves and hydrants shall be constructed within sidewalks, curbs, curb ramps, and driveways.
13. The contractor shall furnish and install all regulatory and warning signs, street name signs, and sign mounts in accordance with the construction plans.
14. The contractor shall install all pavement markings in accordance with the construction plans. The contractor shall notify the city inspector at least 48 hours before the installation of all sealer and final markings.
15. When all of the improvements are found to be constructed and completed in accordance with the approved plans and specifications, and upon receipt of one set of "Record Drawing" plans, and a digital copy of all plans (PDF copy) the city shall accept such improvements subject to the guaranty of material and workmanship provisions required by city code.

Additional Notes:

1. Contractor shall keep all nuisance grasses, weeds, debris, trash and rubbish clear and clean throughout the duration of the contracted project timeline within the entire workzone and/or any disturbed area's.

Deleted Notes:

1. All temporary driveways shall be constructed with 2" of road base, gravel, HMAC or other approved all-weather material. Temporary driveways shall be rolled and/or compacted to prevent rutting. Contractor shall maintain all temporary driveways until the final driveway material is placed and accepted.

Note Modification:

1. If needed

LEGEND

Symbol	Description	Symbol	Description
●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.	— 675 —	EXISTING CONTOURS
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)	—(675)—	PROPOSED CONTOURS
R.O.W.	RIGHT OF WAY	(yellow fill)	CONCRETE SIDEWALK
BSL	BUILDING SETBACK LINE	— — —	ALLIGATOR CREEK CENTERLINE
RCP	REINFORCED CONCRETE PIPE	——	FLOODWAY
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE	— —	100 YR FLOOD PLAIN
VOL.	VOLUME	— —	500 YR FLOOD PLAIN
PG.	PAGE		
EX.	EXISTING		
ESM'T	EASEMENT		
—□—	FENCE		

REQUIRED PERMITS & WORK ORDERS

THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND WORK ORDERS FROM THE VARIOUS GOVERNMENTAL AND UTILITY AGENCIES REQUIRED FOR CONSTRUCTION. KNOWN PERMIT AND WORK ORDER REQUIREMENTS AT TIME OF PLAN PREPARATION ARE DESCRIBED AS FOLLOWS:

SITEWORK & FLOOD PERMIT	BUILDING INSPECTIONS DEPT. 550 LANDA ST. NEW BRAUNFELS, TX 78130 PHONE: (830) 221-4000

GENERAL CONCRETE NOTES

1. All forms shall be well braced and straight.
2. All steel shall be free of grease, scale, & dirt.
3. Concrete shall reach a minimum strength of 2500 psi at 28 day test. Concrete shall not be placed in excess of 5" slump without prior approval of the engineer.
4. All #3 reinforcing bars shall be astm a-615 40 grade steel, all #4 or larger bars shall be astm a-615 grade 60.
5. Contractor shall verify all the dimensions.
6. If rock is encountered, the total depth of the beams may be reduced only with the approval of the engineer, prior to pre-pour inspection.
7. Laps and splices shall be minimum of 30 bar diameter. 2- #6 corner bars shall be installed at the exterior corners (Top & Bottom).
8. All bars shall be tied at every intersection. All steel shall be supported to prohibit lateral or vertical movement.
9. Slab/Paving reinforcing matrix to be 12" on center unless indicated otherwise.
10. Concrete truck mixer; turn counter to be "0" at the batch plant and the number of turns at the form site not to exceed "300".
11. The time from charging the concrete truck to placing in the forms shall not exceed 45 minutes at 95 degree fahrenheit ambient temperature.
12. In all soil types, the roots of existing trees that extend under the slab shall be cut and medicated with an asphaltic compound (pruning paint).

TREE PRESERVATION NOTES

1. TREE PRESERVATION: Tree Preservation Requirements shall be accomplished in accordance with section 144-5.3 of the current Unified Development Code of the City of New Braunfels, Texas.
2. All conditions necessitating the removal or pruning of a tree shall be reviewed by Landscape Architect. Locations of any improvements with the potential of impacting trees shall be staked/delineated prior to the field review. Contractor will be required to make reasonable adjustments in layout of elements (including curbs, paving and walks) per approval of Owner.
3. All woody material to be removed shall be chipped into mulch. Subsequent mulch material may be placed on site within RPZ's at trees adjacent to construction & natural areas. Material not used on site is to be removed and properly disposed of by Contractor.
4. Significant & heritage trees shall be removed only under the following situations only with prior approval of Landscape Architect & Owner:
   A. Cut/fill greater than three (3")inches to take place beneath the dripline of a tree exceeds 50% of the root protection zone (rpz).
   B. Construction of a building or other improvements require the removal of more than 30% of the viable portion of a tree crown.
   C. Poor condition of tree.
5. Barricade fencing shall be placed to protect RPZ of all trees to remain unless otherwise approved by Landscape Architect to provide access to work. In these instances the minimum distance for barricade fencing from trunk shall be equal to 50% minimum of RPZ. Minimum distance barricade to be erected is 5'-0" from trunk of tree or clump of trees for trees 10" caliper or less. Refer to tree preservation related details for tree barricade fencing and root protection zone work restrictions.
6. Construction envelope at site improvements shall be limit of area within selective cleared area which can be completely disturbed by construction. Any significant or heritage trees encountered are to be reviewed on an individual basis to determine modification to location of pathway/trail/improvements. Routing of utilities to be confirmed with Landscape Architect and Owner; make adjustments as directed at no additional cost to contract.
7. Contractor shall provide a City Certified professional Arborist for proper tree pruning and all tree care and maintenance practices.
8. Contractor shall not clean painting equipment or any other materials under the existing tree canopies.

SOILS & SUBGRADE

THE CONTRACTOR SHALL PREPARE THE SUB-GRADE TO ALLOW FOR THE INSTALLATION OF A MINIMUM OF 5" OF TOPSOIL IN TURF AREAS BACK OF CURB. SUBGRADE SHALL BE GRADED TO ALLOW FOR PROPER DRAINAGE OF WATER. REFER TO CIVIL ENGINEER'S DRAWINGS FOR GRADING AND DRAINAGE. EXISTING SOILS SHALL NOT BE USED FOR TURF AREAS.

EXCAVATED MATERIALS OR OTHER MATERIALS REMOVED FROM SITE (NOT USED ON SITE) SHALL BE TESTED AND PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. CONTRACTOR SHALL PROVIDE A RECEIPT FROM LANDFILL COMPANY UPON REQUEST.

ALL DISTURBED AREAS, BOTTOM OF CREEK AND SIDE SLOPES SHALL BE RECOMPACTED AND REVEGETATED WITH NATIVE GRASS SEED IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.

Any discrepancy or conflict with the Drawings and Specifications shall be brought to the attention of the Engineer. Discrepancies or conflicts not brought to the Engineer's attention and clarified during the bidding of the Project will be deemed to have been bid or proposed in the more costly or difficult manner, and the better quality or greater quantity of the Work shall be provided by the Contractor in accordance with Engineer's interpretation.

REVISIONS		
Δ	DESC.	DATE
1		
2		
3		
4		

STATE OF TEXAS
JEFFREY S. TONDRE
85609
LICENSED PROFESSIONAL ENGINEER
3/12/2024

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City of New Braunfels

GENERAL NOTES
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024

Vertical Scale 1"=
Horizontal Scale 1"=
0

SHEET
C2

PROJ NO. 3032.002

Mar 12, 2024 - 12:04pm
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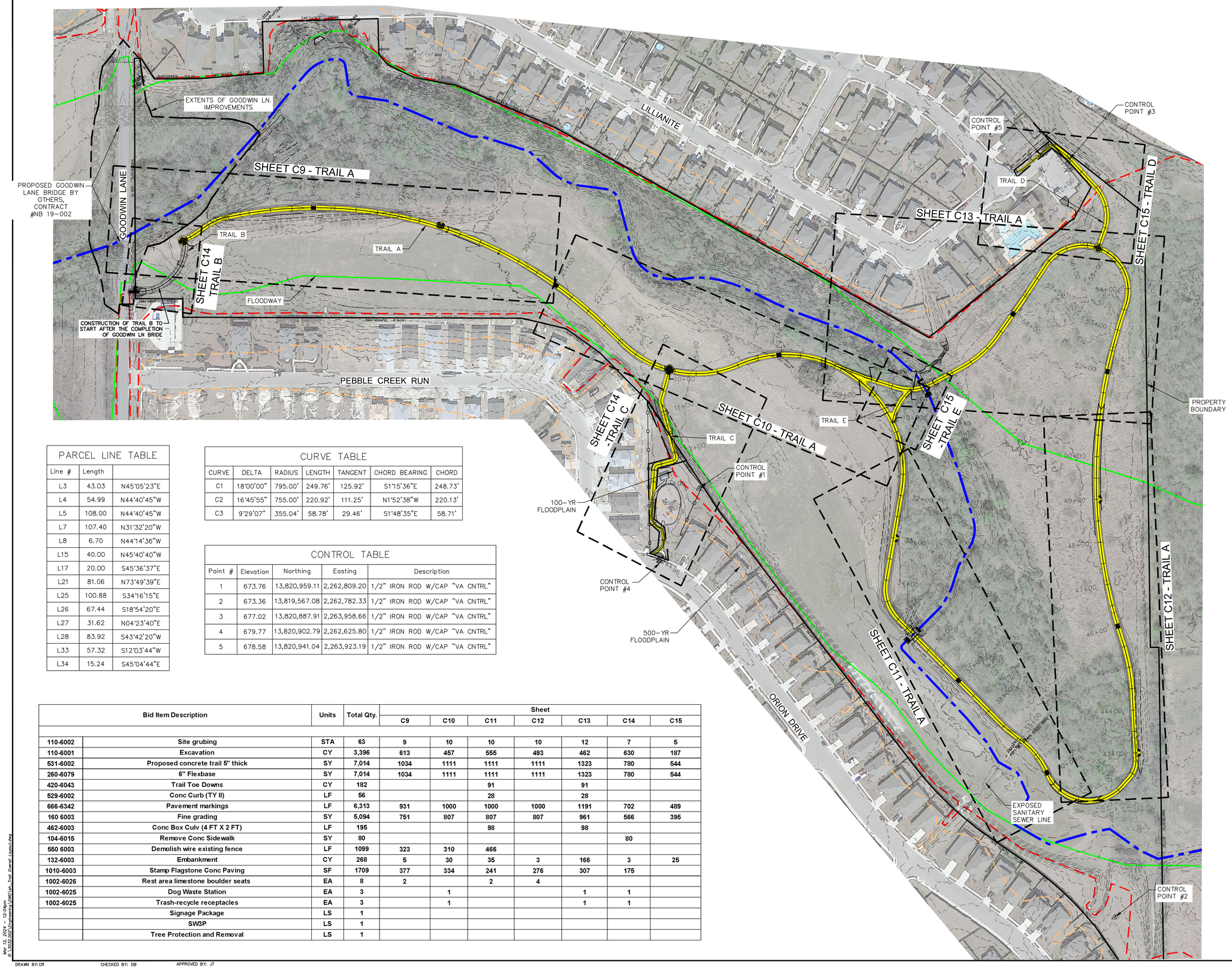
DRAWN BY:CR CHECKED BY: DB APPROVED BY: JT



SCALE: 1"=100'

PARCEL LINE TABLE		
Line #	Length	
L3	43.03	N45°05'23"E
L4	54.99	N44°40'45"W
L5	108.00	N44°40'45"W
L7	107.40	N31°32'20"W
L8	6.70	N44°14'36"W
L15	40.00	N45°40'40"W
L17	20.00	S45°36'37"E
L21	81.06	N73°49'39"E
L25	100.88	S34°16'15"E
L26	67.44	S18°54'20"E
L27	31.62	N04°23'40"E
L28	83.92	S43°42'20"W
L33	57.32	S12°03'44"W
L34	15.24	S45°04'44"E

CURVE TABLE						
CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD BEARING	CHORD
C1	18°00'00"	795.00'	249.76'	125.92'	S1°15'36"E	248.73'
C2	16°45'55"	755.00'	220.92'	111.25'	N1°52'38"W	220.13'
C3	9°29'07"	355.04'	58.78'	29.46'	S1°48'35"E	58.71'

CONTROL TABLE				
Point #	Elevation	Northing	Easting	Description
1	673.76	13,820,959.11	2,262,809.20	1/2" IRON ROD W/CAP "VA CNTRL"
2	673.36	13,819,567.08	2,262,782.33	1/2" IRON ROD W/CAP "VA CNTRL"
3	677.02	13,820,887.91	2,263,958.66	1/2" IRON ROD W/CAP "VA CNTRL"
4	679.77	13,820,902.79	2,262,625.80	1/2" IRON ROD W/CAP "VA CNTRL"
5	678.58	13,820,941.04	2,263,923.19	1/2" IRON ROD W/CAP "VA CNTRL"

	Bid Item Description	Units	Total Qty.	Sheet						
				C9	C10	C11	C12	C13	C14	C15
110-6002	Site grubing	STA	63	9	10	10	10	12	7	5
110-6001	Excavation	CY	3,396	613	457	555	493	462	630	187
531-6002	Proposed concrete trail 5" thick	SY	7,014	1034	1111	1111	1111	1323	780	544
260-6079	6" Flexbase	SY	7,014	1034	1111	1111	1111	1323	780	544
420-6043	Trail Toe Downs	CY	182			91		91		
529-6002	Conc Curb (TY II)	LF	56			28		28		
666-6342	Pavement markings	LF	6,313	931	1000	1000	1000	1191	702	489
160 6003	Fine grading	SY	5,094	751	807	807	807	961	566	395
462-6003	Conc Box Culv (4 FT X 2 FT)	LF	195			98		98		
104-6015	Remove Conc Sidewalk	SY	80						80	
550 6003	Demolish wire existing fence	LF	1099	323	310	466				
132-6003	Embankment	CY	268	5	30	35	3	166	3	25
1010-6003	Stamp Flagstone Conc Paving	SF	1709	377	334	241	276	307	175	
1002-6026	Rest area limestone boulder seats	EA	8	2		2	4			
1002-6025	Dog Waste Station	EA	3		1			1	1	
1002-6025	Trash-recycle receptacles	EA	3		1			1	1	
	Signage Package	LS	1							
	SW3P	LS	1							
	Tree Protection and Removal	LS	1							

Mar 12, 2024 – 12:04pm
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DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT

REVISIONS			
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4			
Δ	DESC.		DATE

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

City of New Braunfels

TRAIL OVERALL LAYOUT AND CONTROL PLAN
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024

Vertical Scale 1"=
Horizontal Scale 1"=100'
0 50' 100' 150

SHEET
C3

PROJ NO. 3032.002

LEGEND

- SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.
- FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)
- R.O.W. RIGHT OF WAY
- BSL BUILDING SETBACK LINE
- RCP REINFORCED CONCRETE PIPE
- GETCA GAS, ELECTRIC, TELEPHONE, CABLE
- VOL. VOLUME
- PG. PAGE
- EX. EXISTING
- ESM'T EASEMENT
- FENCE
- SF SILT FENCE
- ROCK FILTER DAM
- LIMITS OF CONSTRUCTION
- CONCRETE WASHOUT
- CONSTRUCTION ENTRANCE
- 675 EXISTING CONTOURS
- 675 PROPOSED CONTOURS
- CONCRETE SIDEWALK
- ALLIGATOR CREEK CENTERLINE
- FLOODWAY
- 100 YR FLOOD PLAIN
- 500 YR FLOOD PLAIN

AREA DISTURBED (ACRES)	AREA UNDISTURBED (ACRES)	TOTAL AREA (ACRES)
2.17	43.02	45.19

SEQUENCE OF MAJOR ACTIVITIES

* INSTALLATION OF TEMPORARY BEST MANAGEMENT PRACTICES (2.17 ACRES)
* MASS GRADING (2.17 ACRES)
* DRAINAGE PIPE INSTALLATION (0.03 ACRES)
* FINAL SITE GRADING (2.17 ACRES)
* FINAL PAVING OF TRAIL HEAD AND TRAILS (2.17 ACRES)
* REMOVAL OF TEMPORARY BEST MANAGEMENT PRACTICES (2.17 ACRES)

REVISIONS		
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Δ	DESC.	DATE

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

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CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
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Firm Registration No: F-159

City of New Braunfels

STORMWATER POLLUTION PREVENTION PLAN
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024
Vertical Scale 1"=
Horizontal Scale 1"=100'
0 50' 100' 150'

SHEET
C4

PROJ NO. 3032.002

Mar 12, 2024 - 12:04pm
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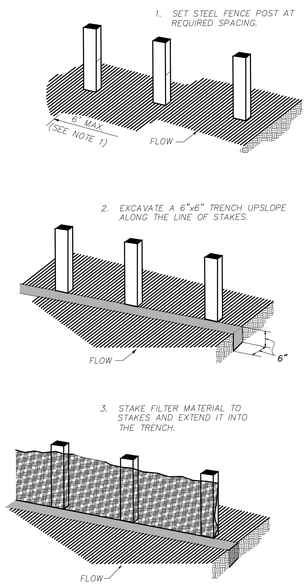
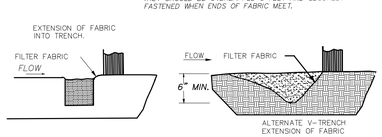
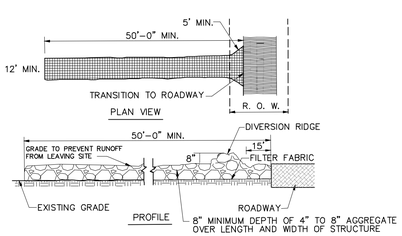


GENERAL NOTES:

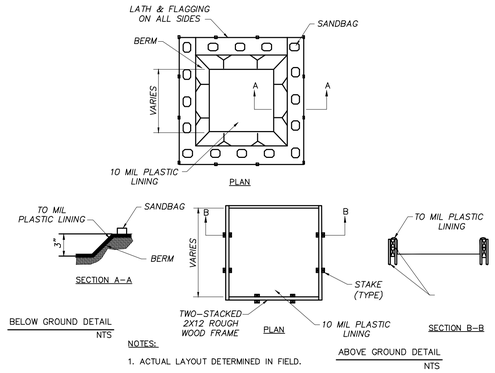
1. STEEL POSTS TO BE SET AT 3-FOOT MAXIMUM SPACING WITH MINIMUM EMBEDMENT OF 1-FOOT. IF FACTORY PREASSEMBLE FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAXIMUM.
2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 3 FEET AND SECURELY FASTENED WHEN ENDS OF FABRIC MEET.



1 SILT FENCE
N.T.S.



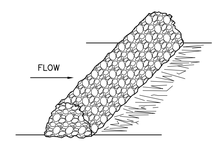
2 STABILIZED CONSTRUCTION EXIT
N.T.S.

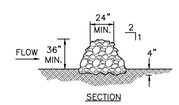


NOTES:

1. ACTUAL LAYOUT DETERMINED IN FIELD.

3 CONCRETE WASHOUT AREA





4 ROCK FILTER DAM
NTS

SEDIMENTATION AND EROSION CONTROLS

A. SILT FENCE

(1) Fences are to be constructed along level contours.

(2) The ends of the fence shall be turned upstream to prevent bypass of stormwater.

(3) Steel posts which support the silt fence shall be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of one foot.

(4) The toe of the silt fence shall be trenched in with a spade or mechanical trencher, so that the downslope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g. pavement), weight fabric flap with washed gravel on uphill side to prevent flow under fence.

(5) The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.

(6) Silt fence should be securely fastened to each steel support post or to woven wire. Which is in turn attached to the steel fence post. There shall be a 6" double overlap, securely fastened where ends of fabric meet.

(7) Inspection shall be made weekly or after each rainfall. Repair or replacement shall be made promptly as needed.

(8) Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of in an approved site and in such a manner as to not contribute to the additional siltation.

B. ROCK FILTER DAM

(1) Rock filter dams should be constructed downstream from disturbed areas to intercept sediment from overload runoff and / or concentrated flow. The dams should be sized to filter a maximum flow thru rate of 60 GPM / FT squared of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.
(2) Type 3 (36" high with wire mesh) may be used in stream flow and should be secured to the stream bed.
(3) If shown on the plans or directed by the engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and / or downstream at dreainage structures, and in roadway ditches and channels to collect sediment.
(4) Materials (aggregates, wire mesh, sandbags, etc.) shall be as indicated by the specification for rock filter dams for erosion and sedimentation control.
(5) The rock filer dam dimensions shall be indicated on the storm water pollution prevention plans.
(6) Side slopes should be 2:1 or flatter. Dams within the safety zone shall have side slopes of 6:1 or flatter.
(7) Maintain a minimum of 1' between top of rock filter dam weir and top embankment for filter dams at sediment traps
(8) Filter dams should be embedded a minimum of 4" into the existing ground.
(9) Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height and slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hod rings. In stream use, the mesh should be secured or staked to the stream bed prior to aggregate placement.
(10) Flow outlet should be onto a stabilized area (vegetation, rock, etc.)
(11) the guidlines shown hereon are suggestions only and may be modified by the engineer.

C. STABILIZED CONSTRUCTION EXIT

(1) Stone size – 3 to 5 inches crushed rock.

(2) Length – as effective, but not less than 50 feet, unless depth of lot is less than 150 feet from edge of pavement where length must only be 30 feet.

(3) Thickness – not less than 8 inches.

(4) Width – not less than full width of all points of ingress or egress.

(5) Washing – when necessary, wheels shall be cleaned to remove sediment prior to entrance onto public roadway. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch or watercourse using approved methods.

(6) Maintenance – the entrance shall be maintained in condition which will prevent tracking or flowing of sediment onto public roadways. This may require periodic top dressing with additional stone as conditions demand, and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public roadway, must be removed immediately.

(7) Drainage – entrance must be properly graded or incorporate a drainage swale to prevent runoff from leaving the construction site.

D. CONCRETE WASHOUT

(1) Dig into ground or build above grade, place hay bales or an alternative BMP around the perimeter about 10" x 10", and overlay plastic sheeting free of tears or holes and secure to hay bales.
(2) Vinyl washout containers with filter bags are permitted which provide easier installation and maintenance and are reuseable
(3) Concrete washouts should be placed in easily accessible locations with solid (gravel or rock) approaches, a minimum of 50' feet from storm drains, open ditches, and surface waters.
(4) Slurry from concrete saw cutting should be continuously vacuumed and recovered for disposal.

ADDITIONAL NOTES:

(1) Upon completion of construction all disturbed areas shall be revegetated to 70% of existing conditions in accordance with the SWPPP and TPDES requirements.

(2) This project will not use any off-site material, waste/borrow/fill, or equipment storage areas.

(3) This site is not located adjacent to any surface waters.

(4) This site will not have any locations where storm water discharges directly to a surface water body.

REVISIONS

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JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

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CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

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City of New Braunfels

STORM WATER POLLUTION PREVENTION PLAN DETAILS
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024
Vertical Scale 1"=
Horizontal Scale 1"=
0

SHEET
C5

PROJ NO. 3032.002

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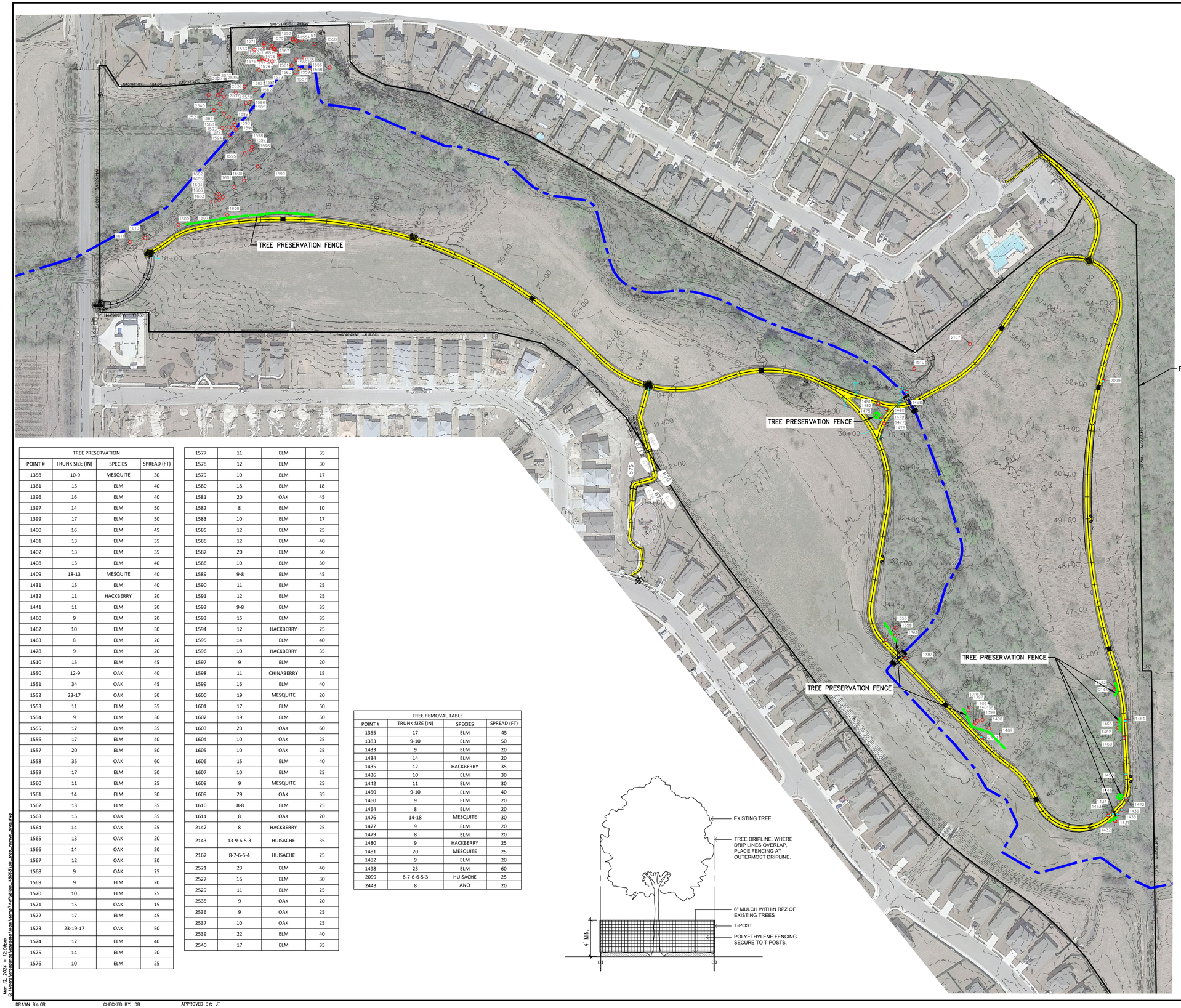
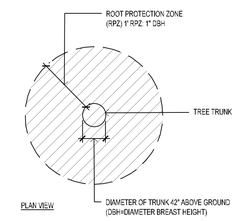


SCALE: 1"=100'

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.	— 675 —	EXISTING CONTOURS
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)	—675—	PROPOSED CONTOURS
			CONCRETE SIDEWALK
R.O.W.	RIGHT OF WAY		ALLIGATOR CREEK CENTERLINE
BSL	BUILDING SETBACK LINE		FLOODWAY
RCP	REINFORCED CONCRETE PIPE		100 YR FLOOD PLAIN
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE		500 YR FLOOD PLAIN
VOL.	VOLUME		TREE PRESERVATION FENCE
PG.	PAGE		EXISTING TREE
EX.	EXISTING		DEMOLISHED TREE
ESM'T	EASEMENT		
—o—	FENCE		



ROOT PROTECTION ZONE NOTES :

1. ALL TREES TO BE PRESERVED SHALL BE PROTECTED AGAINST INJURY OR DAMAGE, INCLUDING SOIL COMPACTION, BREAKING OR SKINNING OF ROOTS, TRUNKS, OR BRANCHES DURING CONSTRUCTION OPERATIONS. A MINIMUM OF 50% OF THE RPZ SHALL BE PRESERVED AT NATURAL GRADE. NO CUTTING, FILLING, TRENCHING, ROOT DISTURBANCE, SOIL DISTURBANCE, OR CONSTRUCTION IMPACTS SHALL OCCUR CLOSER TO THE TRUNK THAN 1/2 THE RPZ RADIUS.
2. PROTECT DESIGNATED TREE WITH A TEMPORARY MINIMUM 4' HEIGHT FENCING. SEE DETAIL 2/L1.1.
3. ERECT TEMPORARY FENCING BEFORE COMMENCING SITE PREPARATION WORK. MAINTAIN FENCING DURING FULL CONSTRUCTION PERIOD. REMOVE FENCING ONLY WHEN ALL HARDSCAPE CONSTRUCTION WORK IS COMPLETED.
4. PROTECT ALL EXISTING TREES FROM DISPOSAL OR STORAGE OF CONSTRUCTION MATERIALS OR VEHICLE PARKING. PROTECT TREES FROM SPREADING OF SPOILED SOIL OVER RPZ.
5. INSTALL AND MAINTAIN 6" SHREDDED MULCH WITHIN RPZ THROUGHOUT CONSTRUCTION. SEE DTL 2/LXX.
6. REPAIR PRESERVED TREES DAMAGED BY CONSTRUCTION OPERATIONS PER ARBORIST INDUSTRY STANDARDS. ALL BROKEN BRANCHES AND EXPOSED ROOTS OF EXISTING TREES SHALL BE CUT CLEANLY. ALL OAK SPECIES MUST BE PAINTED WITH TREE WOUND DRESSING WITHIN 30 MINUTES.
7. THE PROPOSED FINISHED GRADE AND ELEVATION WITHIN THE RPZ OF ANY EXISTING TREE SHALL NOT BE RAISED OR LOWERED MORE THAN THREE (3) INCHES. FINISHED GRADE AND ELEVATION ABOVE OR BELOW 3" SHALL INCLUDED TREE WELLS/RETAINING WALLS OUTSIDE THE RPZ.
8. REPLACE TREES SCHEDULED TO REMAIN THAT ARE REMOVED OR DAMAGED BEYOND REPAIR BY CONSTRUCTION OPERATIONS, AS DETERMINED BY LANDSCAPE ARCHITECT OR CITY REPRESENTATIVE, WITH TREE(S) OF SIMILAR SIZE AND SPECIES. COST FOR TREE REPLACEMENT SHALL BE DETERMINED IN ACCORDANCE WITH THE TREE EVALUATION FORMULA AS DESCRIBED IN "A GUIDE TO THE PROFESSIONAL EVALUATION OF LANDSCAPE TREES, SPECIMEN SHRUBS, AND EVERGREENS" AS PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE.
9. ALL COSTS FOR REPAIR AND REPLACEMENT OF PRESERVED TREES DAMAGED BY CONSTRUCTION OPERATIONS OR LACK OF ADEQUATE PROTECTION DURING CONSTRUCTION SHALL BE BORNE BY CONTRACTOR.
10. A CERTIFIED ARBORIST IS REQUIRED FOR CONTRACTOR OR SUBCONTRACTOR EMPLOYED TO PRUNE, TREAT OR REMOVE TREES.
11. CITY OF SAN ANTONIO TREE MAINTENANCE LICENSE REQUIRED FOR CONTRACTOR OR SUBCONTRACTOR EMPLOYED TO PRUNE, TREAT OR REMOVE TREES.

TREE PRESERVATION			
POINT #	TRUNK SIZE (IN)	SPECIES	SPREAD (FT)
1358	10-9	MESQUITE	30
1361	15	ELM	40
1396	16	ELM	40
1397	14	ELM	50
1399	17	ELM	50
1400	16	ELM	45
1401	13	ELM	35
1402	13	ELM	35
1408	15	ELM	40
1409	18-13	MESQUITE	40
1431	15	ELM	40
1432	11	HACKBERRY	20
1441	11	ELM	30
1460	9	ELM	20
1462	10	ELM	30
1463	8	ELM	20
1478	9	ELM	20
1510	15	ELM	45
1550	12-9	OAK	40
1551	34	OAK	45
1552	23-17	OAK	50
1553	11	ELM	35
1554	9	ELM	30
1555	17	ELM	35
1556	17	ELM	40
1557	20	ELM	50
1558	35	OAK	60
1559	17	ELM	50
1560	11	ELM	25
1561	14	ELM	30
1562	13	ELM	35
1563	15	OAK	35
1564	14	OAK	25
1565	13	OAK	20
1566	14	OAK	20
1567	12	OAK	20
1568	9	OAK	25
1569	9	ELM	20
1570	10	ELM	25
1571	15	OAK	15
1572	17	ELM	45
1573	23-19-17	OAK	50
1574	17	ELM	40
1575	14	ELM	20
1576	10	ELM	25
1577	11	ELM	35
1578	12	ELM	30
1579	10	ELM	17
1580	18	ELM	18
1581	20	OAK	45
1582	8	ELM	10
1583	10	ELM	17
1585	12	ELM	25
1586	12	ELM	40
1587	20	ELM	50
1588	10	ELM	30
1589	9-8	ELM	45
1590	11	ELM	25
1591	12	ELM	25
1592	9-8	ELM	35
1593	15	ELM	35
1594	12	HACKBERRY	25
1595	14	ELM	40
1596	10	HACKBERRY	35
1597	9	ELM	20
1598	11	CHINABERRY	15
1599	16	ELM	40
1600	19	MESQUITE	20
1601	17	ELM	50
1602	19	ELM	50
1603	23	OAK	60
1604	10	OAK	25
1605	10	OAK	25
1606	15	ELM	40
1607	10	ELM	25
1608	9	MESQUITE	25
1609	29	OAK	35
1610	8-8	ELM	25
1611	8	OAK	20
2142	8	HACKBERRY	25
2143	13-9-6-5-3	HUISACHE	35
2167	8-7-6-5-4	HUISACHE	25
2521	23	ELM	40
2527	16	ELM	30
2529	11	ELM	25
2535	9	OAK	20
2536	9	OAK	25
2537	10	OAK	25
2539	22	ELM	40
2540	17	ELM	35

TREE REMOVAL TABLE			
POINT #	TRUNK SIZE (IN)	SPECIES	SPREAD (FT)
1355	17	ELM	45
1383	9-10	ELM	50
1433	9	ELM	20
1434	14	ELM	20
1435	12	HACKBERRY	35
1436	10	ELM	30
1442	11	ELM	30
1450	9-10	ELM	40
1460	9	ELM	20
1464	8	ELM	20
1476	14-18	MESQUITE	30
1477	9	ELM	20
1479	8	ELM	20
1480	9	HACKBERRY	25
1481	20	MESQUITE	25
1482	9	ELM	20
1498	23	ELM	60
2099	8-7-6-6-5-3	HUISACHE	25
2443	8	ANQ	20

REVISIONS		
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Δ	DESC.	DATE

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

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City of New Braunfels

TREE PRESERVATION PLAN

ALLIGATOR CREEK TRAIL

NEW BRAUNFELS, TEXAS

DATE: Mar. 2024

Vertical Scale 1"=
Horizontal Scale 1"=100'
0 50' 100' 150'

SHEET
C6

PROJ NO. 3032.002

Mar 12, 2024 - 12:08pm
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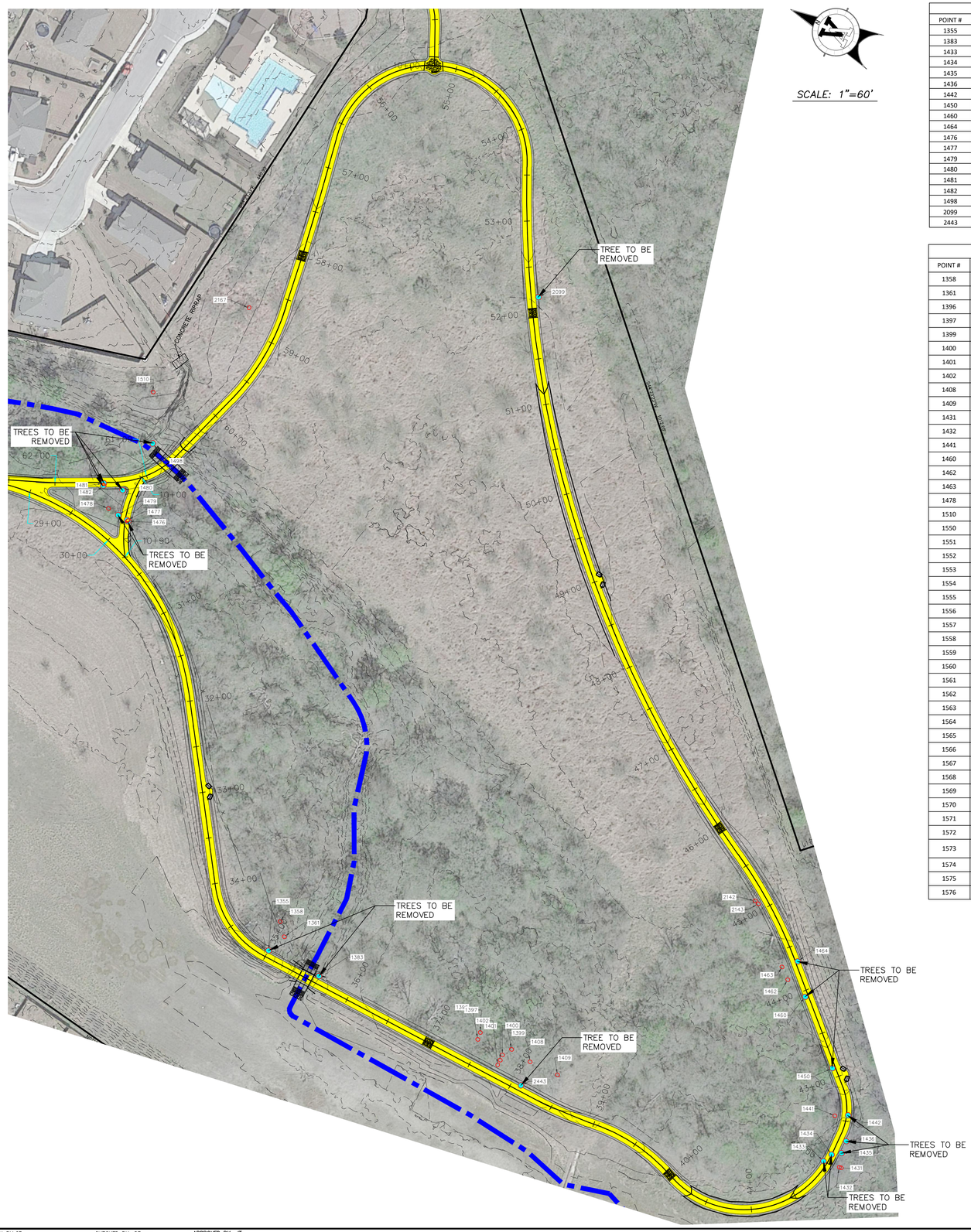

SCALE: 1"=60'

TREE REMOVAL TABLE			
POINT #	TRUNK SIZE (IN)	SPECIES	SPREAD (FT)
1355	17	ELM	45
1383	9-10	ELM	50
1433	9	ELM	20
1434	14	ELM	20
1435	12	HACKBERRY	35
1436	10	ELM	30
1442	11	ELM	30
1450	9-10	ELM	40
1460	9	ELM	20
1464	8	ELM	20
1476	14-18	MESQUITE	30
1477	9	ELM	20
1479	8	ELM	20
1480	9	HACKBERRY	25
1481	20	MESQUITE	25
1482	9	ELM	20
1498	23	ELM	60
2099	8-7-6-6-5-3	HUISACHE	25
2443	8	ANQ	20

TREE PRESERVATION			
POINT #	TRUNK SIZE (IN)	SPECIES	SPREAD (FT)
1358	10-9	MESQUITE	30
1361	15	ELM	40
1396	16	ELM	40
1397	14	ELM	50
1399	17	ELM	50
1400	16	ELM	45
1401	13	ELM	35
1402	13	ELM	35
1408	15	ELM	40
1409	18-13	MESQUITE	40
1431	15	ELM	40
1432	11	HACKBERRY	20
1441	11	ELM	30
1460	9	ELM	20
1462	10	ELM	30
1463	8	ELM	20
1478	9	ELM	20
1510	15	ELM	45
1550	12-9	OAK	40
1551	34	OAK	45
1552	23-17	OAK	50
1553	11	ELM	35
1554	9	ELM	30
1555	17	ELM	35
1556	17	ELM	40
1557	20	ELM	50
1558	35	OAK	60
1559	17	ELM	50
1560	11	ELM	25
1561	14	ELM	30
1562	13	ELM	35
1563	15	OAK	35
1564	14	OAK	25
1565	13	OAK	20
1566	14	OAK	20
1567	12	OAK	20
1568	9	OAK	25
1569	9	ELM	20
1570	10	ELM	25
1571	15	OAK	15
1572	17	ELM	45
1573	23-19-17	OAK	50
1574	17	ELM	40
1575	14	ELM	20
1576	10	ELM	25
1577	11	ELM	35
1578	12	ELM	30
1579	10	ELM	17
1580	18	ELM	18
1581	20	OAK	45
1582	8	ELM	10
1583	10	ELM	17
1585	12	ELM	25
1586	12	ELM	40
1587	20	ELM	50
1588	10	ELM	30
1589	9-8	ELM	45
1590	11	ELM	25
1591	12	ELM	25
1592	9-8	ELM	35
1593	15	ELM	35
1594	12	HACKBERRY	25
1595	14	ELM	40
1596	10	HACKBERRY	35
1597	9	ELM	20
1598	11	CHINABERRY	15
1599	16	ELM	40
1600	19	MESQUITE	20
1601	17	ELM	50
1602	19	ELM	50
1603	23	OAK	60
1604	10	OAK	25
1605	10	OAK	25
1606	15	ELM	40
1607	10	ELM	25
1608	9	MESQUITE	25
1609	29	OAK	35
1610	8-8	ELM	25
1611	8	OAK	20
2142	8	HACKBERRY	25
2143	13-9-6-5-3	HUISACHE	35
2167	8-7-6-5-4	HUISACHE	25
2521	23	ELM	40
2527	16	ELM	30
2529	11	ELM	25
2535	9	OAK	20
2536	9	OAK	25
2537	10	OAK	25
2539	22	ELM	40
2540	17	ELM	35

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)
R.O.W.	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
RCP	REINFORCED CONCRETE PIPE
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE
VOL.	VOLUME
PG.	PAGE
EX.	EXISTING
ESM'T	EASEMENT
—o—	FENCE
— 675 —	EXISTING CONTOURS
—675—	PROPOSED CONTOURS
	CONCRETE SIDEWALK
	ALLIGATOR CREEK CENTERLINE
	FLOODWAY
	100 YR FLOOD PLAIN
	500 YR FLOOD PLAIN
	EXISTING TREE
	DEMOLISHED TREE

REVISIONS

Δ	DESC.	DATE
1		
2		
3		
4		

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
3/12/2024

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VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

City of New Braunfels

TREE REMOVAL PLAN
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024

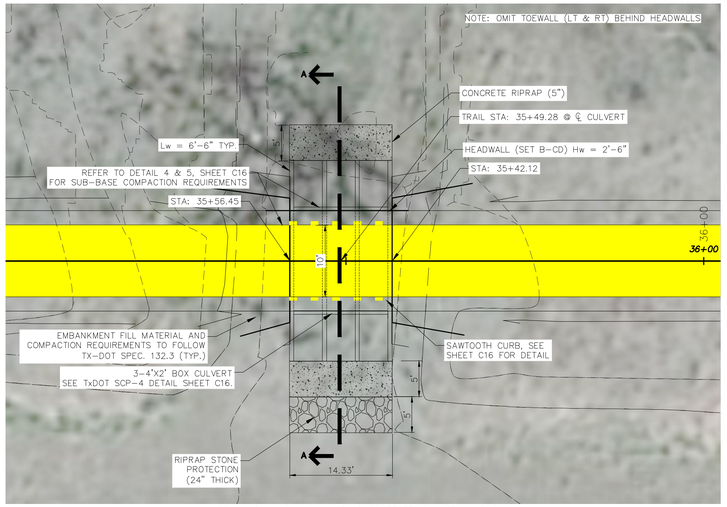
Vertical Scale 1"=
Horizontal Scale 1"=60'
0 30 60 90

SHEET
C7

PROJ NO. 3032.002

Mar 12, 2024 - 12:13pm
R:\3032.002\Engineering\DWG\th_tree_remove_pres.dwg

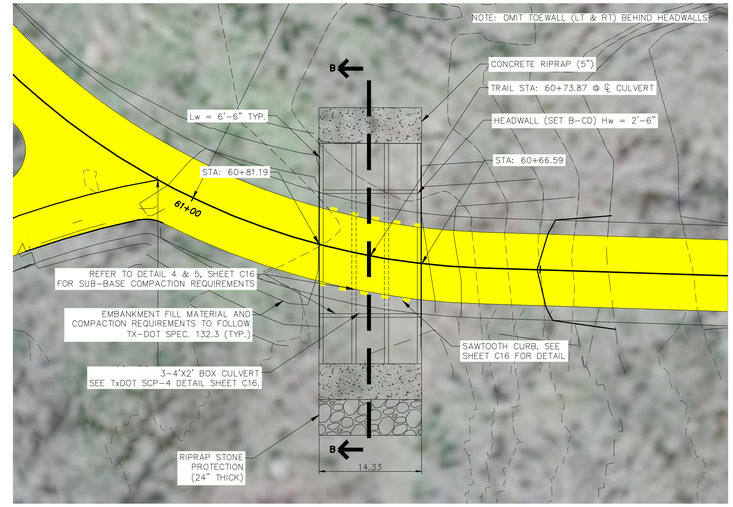
DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT



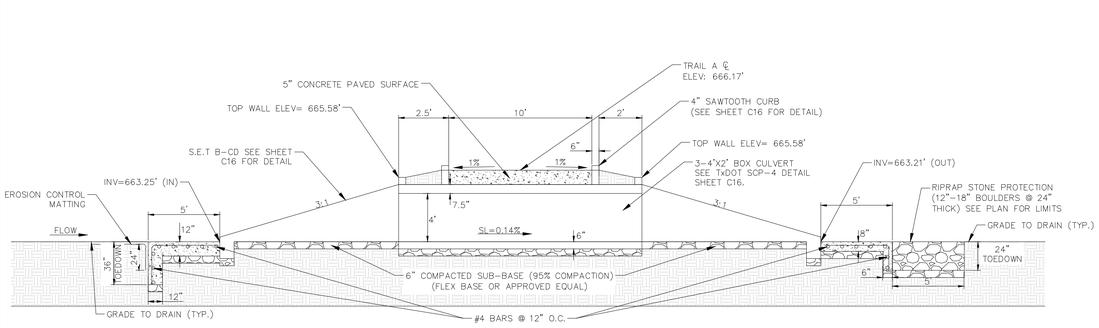
STREAM CROSSING #1
STA: 35+49.28

SCALE: 1"=10'

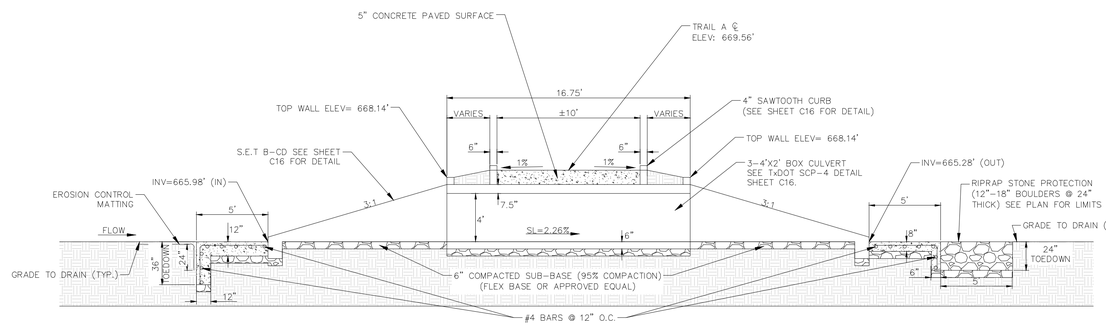
SCALE: 1"=10'



STREAM CROSSING #2
STA: 60+73.93



STREAM CROSSING #1 CROSS
SECTIONAL DETAIL A-A



STREAM CROSSING #2 CROSS
SECTIONAL DETAIL B-B

REVISIONS		
1		
2		
3		
4		
Δ	DESC.	DATE

JEFFREY S. TONDRE
85609
LICENSED
PROFESSIONAL ENGINEER
3/12/2024

VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

City of New Braunfels

TRAIL CULVERT DETAILS

ALLIGATOR CREEK TRAIL

NEW BRAUNFELS, TEXAS

DATE: Mar. 2024

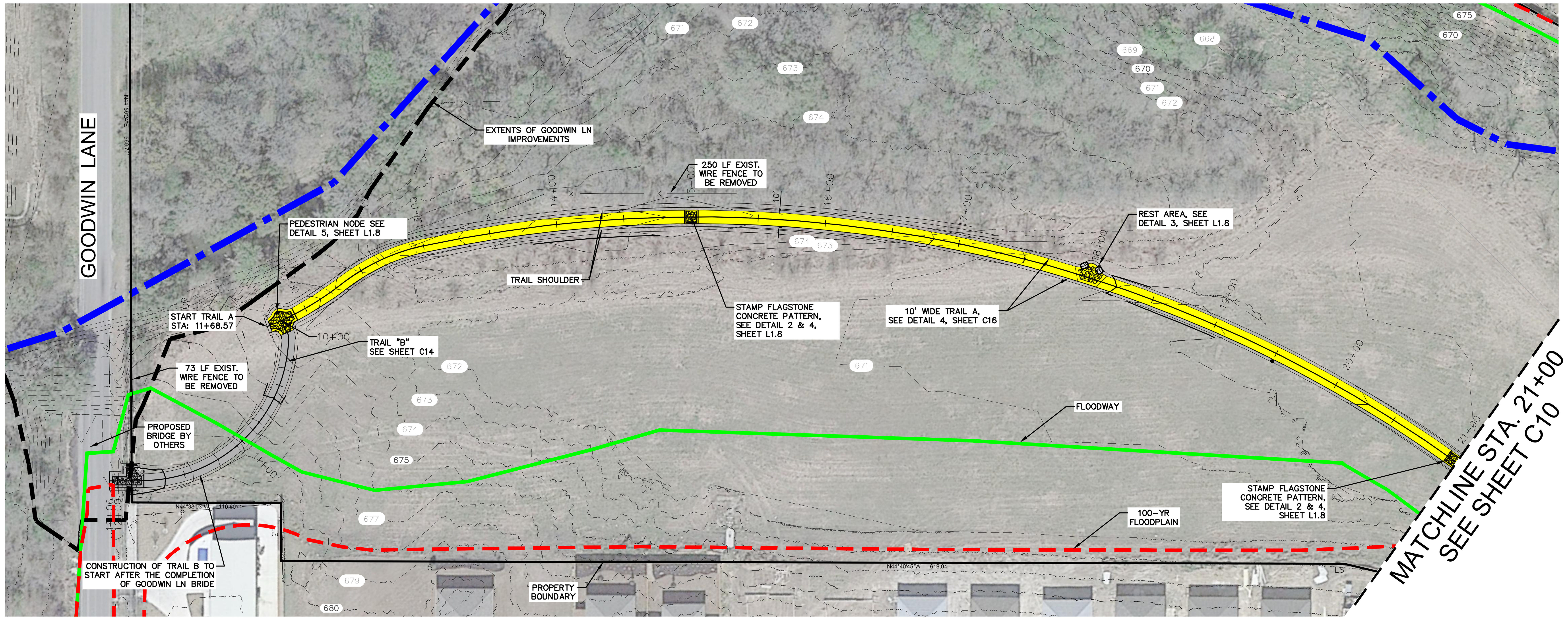
Vertical Scale 1"=N/A
Horizontal Scale 1"=10'
0 5' 10' 15'

SHEET
C8

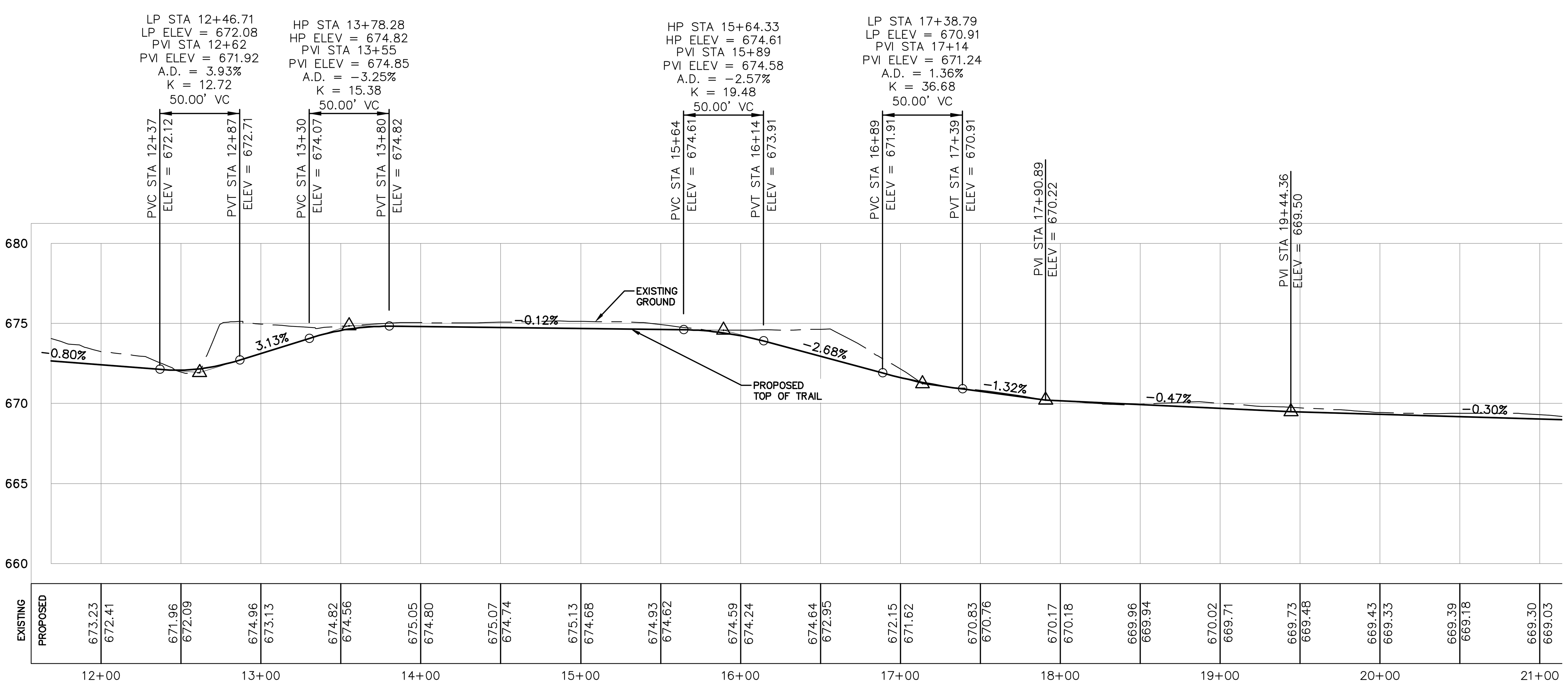
PROJ NO. 3032.002

Mar 12, 2024 - 12:08pm
R:\3032.002\Engineering\DWG\ch_Trail Details.dwg

DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT



TRAIL A



TRAIL A PROFILE

SCALE: 1"=50'

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)
R.O.W.	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
RCP	REINFORCED CONCRETE PIPE
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE
VOL.	VOLUME
PG.	PAGE
EX.	EXISTING
ESM'T	EASEMENT
—□—	FENCE
— 675 —	EXISTING CONTOURS
—(675)—	PROPOSED CONTOURS
(yellow)	CONCRETE SIDEWALK
	ALLIGATOR CREEK CENTERLINE
	FLOODWAY
	100 YR FLOOD PLAIN
	500 YR FLOOD PLAIN

HORIZONTAL ALIGNMENT REPORT

```
***********************************************************************
ALIGNMENT NAME: ALIGN TRAIL A CL
STATION RANGE: START:  10+00.00, END: 21+00.00
***********************************************************************

BEGIN ALIGN TRAIL A CL
  N 13,822,323.7470  E 2,262,226.1973                        10+00.00

LINE (1)
  S50°36'06"E   108.795'
  N 13,822,254.6941  E 2,262,310.2690                        11+08.80
LINE (1)

CURVE (2)
  BC   N 13,822,254.6941  E 2,262,310.2690                   11+08.80
  CTR  N 13,822,423.8621  E 2,262,449.2163
  PI   N 13,822,214.4666  E 2,262,359.2458

    DIRECTION BACK  S50°36'06"E
      RADIUS     218.916'
      DELTA      32°17'35"(LT)
      LENGTH     123.386'
      TANGENT    63.380'
      CHORD DIRECTION     S66°44'54"E  DISTANCE  121.759'
    DIRECTION AHEAD S82°53'42"E

  EC   N 13,822,206.6273  E 2,262,422.1388                   12+32.18
CURVE (2)

  REVERSING CURVE

CURVE (3)
  BC   N 13,822,206.6273  E 2,262,422.1388                   12+32.18
  CTR  N 13,822,057.7791  E 2,262,403.5854
  PI   N 13,822,202.3515  E 2,262,456.4422

    DIRECTION BACK  S82°53'42"E
      RADIUS     150.000'
      DELTA      25°57'20"(RT)
      LENGTH     67.951'
      TANGENT    34.569'
      CHORD DIRECTION     S69°55'02"E  DISTANCE  67.372'
    DIRECTION AHEAD S56°56'22"E

  EC   N 13,822,183.4932  E 2,262,485.4142                   13+00.13
CURVE (3)

  COMPOUND CURVE

CURVE (4)
  BC   N 13,822,183.4932  E 2,262,485.4142                   13+00.13
  CTR  N 13,821,375.7795  E 2,261,959.6637
  PI   N 13,821,896.1866  E 2,262,926.8051

    DIRECTION BACK  S56°56'22"E
      RADIUS     963.751'
      DELTA      57°18'38"(RT)
      LENGTH     963.998'
      TANGENT    526.660'
      CHORD DIRECTION     S28°17'03"E  DISTANCE  924.311'
    DIRECTION AHEAD S0°22'16"W

  EC   N 13,821,369.5374  E 2,262,923.3940                   22+64.13
CURVE (4)

  N 13,820,935.5885  E 2,263,236.7159                        62+91.10
END ALIGN TRAIL A CL

***********************************************************************
ALIGNMENT LENGTH: 5,291.101'
***********************************************************************
```

REVISIONS

	DESC.	DATE
1		
2		
3		
4		
Δ		

JEFFREY S. TONDRE
85609
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
3/12/2024

VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

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City of New Braunfels

TRAIL PATH A PLAN AND PROFILE
STA 11+68-21+00
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

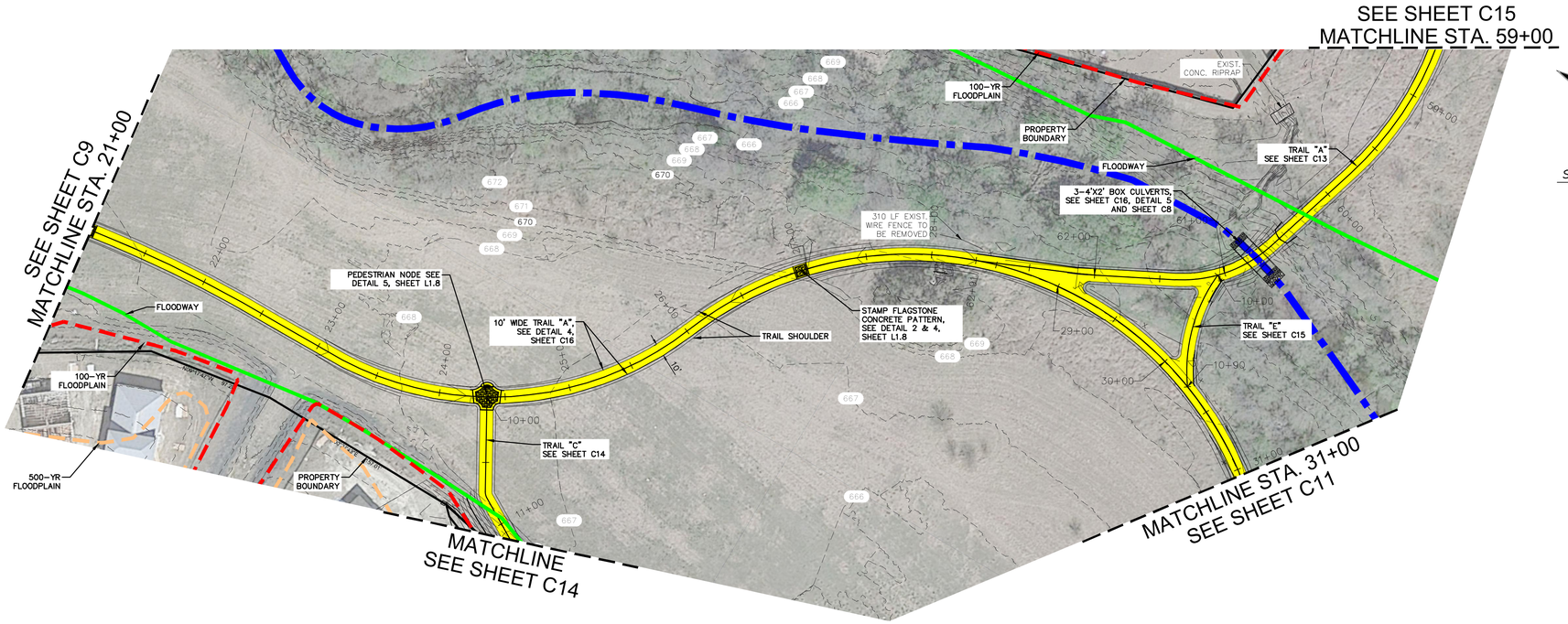
DATE: Mar. 2024

Vertical Scale 1"=5'
Horizontal Scale 1"=50'
0 25' 50' 75'

SHEET
C9

PROJ NO. 3032.002

DRAWN BY: CR   CHECKED BY: DB   APPROVED BY: JT

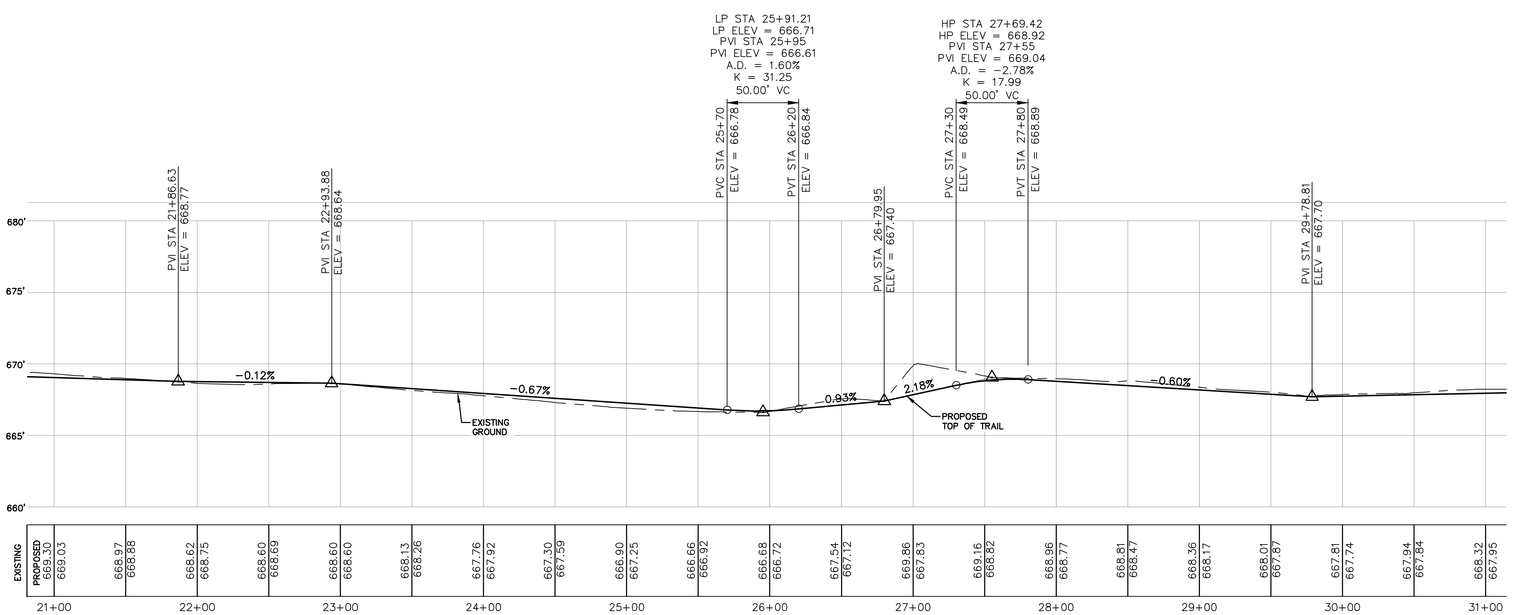


TRAIL A

SCALE: 1"=50'

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)
R.O.W.	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
RCP	REINFORCED CONCRETE PIPE
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE
VOL.	VOLUME
PG.	PAGE
EX.	EXISTING
ESM'T	EASEMENT
—o—	FENCE
— 675 —	EXISTING CONTOURS
—675—	PROPOSED CONTOURS
	CONCRETE SIDEWALK
	ALLIGATOR CREEK CENTERLINE
	FLOODWAY
	100 YR FLOOD PLAIN
	500 YR FLOOD PLAIN



TRAIL A PROFILE

HORIZONTAL ALIGNMENT REPORT

```
**********************************************************************
ALIGNMENT NAME: ALIGN TRAIL A CL
STATION RANGE: START: 21+00.00, END: 31+00.00
**********************************************************************

BEGIN ALIGN TRAIL A CL

  EC    N 13,821,369.5374  E 2,262,923.3940          22+64.13
CURVE (4)

LINE (5)
  **NON-TANGENT** RADIAL BEARING S89°37'44"E
  S0°56'26"E   57.143'
  N 13,821,312.4019  E 2,262,924.3153                23+21.27
LINE (5)

  **NON-TANGENT** RADIAL BEARING S87°05'17"W
CURVE (6)
  BC    N 13,821,312.4019  E 2,262,924.3153          23+21.27
  CTR   N 13,821,324.8485  E 2,263,168.9990
  PI    N 13,821,236.1061  E 2,262,928.1964

    DIRECTION BACK   S2°54'43"E
      RADIUS     245.000'
      DELTA      34°38'11"(LT)
      LENGTH     148.107'
      TANGENT    76.394'
      CHORD DIRECTION    S20°13'49"E   DISTANCE   145.862'
    DIRECTION AHEAD  S37°32'54"E

  EC    N 13,821,175.5377  E 2,262,974.7536          24+69.38
CURVE (6)

  COMPOUND CURVE

CURVE (7)
  BC    N 13,821,175.5377  E 2,262,974.7536          24+69.38
  CTR   N 13,821,324.8485  E 2,263,168.9990
  PI    N 13,821,121.6536  E 2,263,016.1727

    DIRECTION BACK   S37°32'54"E
      RADIUS     245.000'
      DELTA      31°00'30"(LT)
      LENGTH     132.593'
      TANGENT    67.963'
      CHORD DIRECTION    S53°03'09"E   DISTANCE   130.981'
    DIRECTION AHEAD  S68°33'24"E

  EC    N 13,821,096.8075  E 2,263,079.4317          26+01.97
CURVE (7)

  REVERSING CURVE

  **NON-TANGENT** RADIAL BEARING N21°21'41"E
CURVE (8)
  BC    N 13,821,096.8075  E 2,263,079.4317          26+01.97
  CTR   N 13,820,842.4004  E 2,262,979.9283
  PI    N 13,821,051.7830  E 2,263,194.5490

    DIRECTION BACK   S68°38'19"E
      RADIUS     273.174'
      DELTA      48°41'34"(RT)
      LENGTH     232.157'
      TANGENT    123.609'
      CHORD DIRECTION    S44°17'32"E   DISTANCE   225.233'
    DIRECTION AHEAD  S19°56'45"E

  EC    N 13,820,935.5885  E 2,263,236.7159          28+34.13
CURVE (8)

  COMPOUND CURVE

  **NON-TANGENT** RADIAL BEARING N70°03'14"E
CURVE (9)
  BC    N 13,820,935.5885  E 2,263,236.7159          28+34.13
  CTR   N 13,820,842.4002  E 2,262,979.9327
  PI    N 13,820,826.5700  E 2,263,276.2795

    DIRECTION BACK   S19°56'46"E
      RADIUS     273.170'
      DELTA      46°00'28"(RT)
      LENGTH     219.352'
      TANGENT    115.976'
      CHORD DIRECTION    S3°03'28"W   DISTANCE   213.506'
    DIRECTION AHEAD  S26°03'42"W

  EC    N 13,820,722.3866  E 2,263,225.3272          30+53.48
CURVE (9)

  COMPOUND CURVE

  **NON-TANGENT** RADIAL BEARING S63°56'19"E
CURVE (10)
  BC    N 13,820,722.3866  E 2,263,225.3272          30+53.48
  CTR   N 13,820,842.4011  E 2,262,979.9298
  PI    N 13,820,659.2197  E 2,263,194.4347

    DIRECTION BACK   S26°03'41"W
      RADIUS     273.173'
      DELTA      28°52'12"(RT)
      LENGTH     137.645'
      TANGENT    70.316'
      CHORD DIRECTION    S40°29'47"W   DISTANCE   136.193'
    DIRECTION AHEAD  S54°55'53"W

  EC    N 13,820,618.8189  E 2,263,136.8832          31+91.13
CURVE (10)

END ALIGN TRAIL A CL

**********************************************************************
ALIGNMENT LENGTH: 5,291.101'
**********************************************************************
```

REVISIONS		DATE
1		
2		
3		
4		
Δ	DESC.	

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

VICKREY & ASSOCIATES, LLC
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12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

City of New Braunfels

TRAIL PATH A PLAN AND PROFILE
STA 21+00-31+00
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

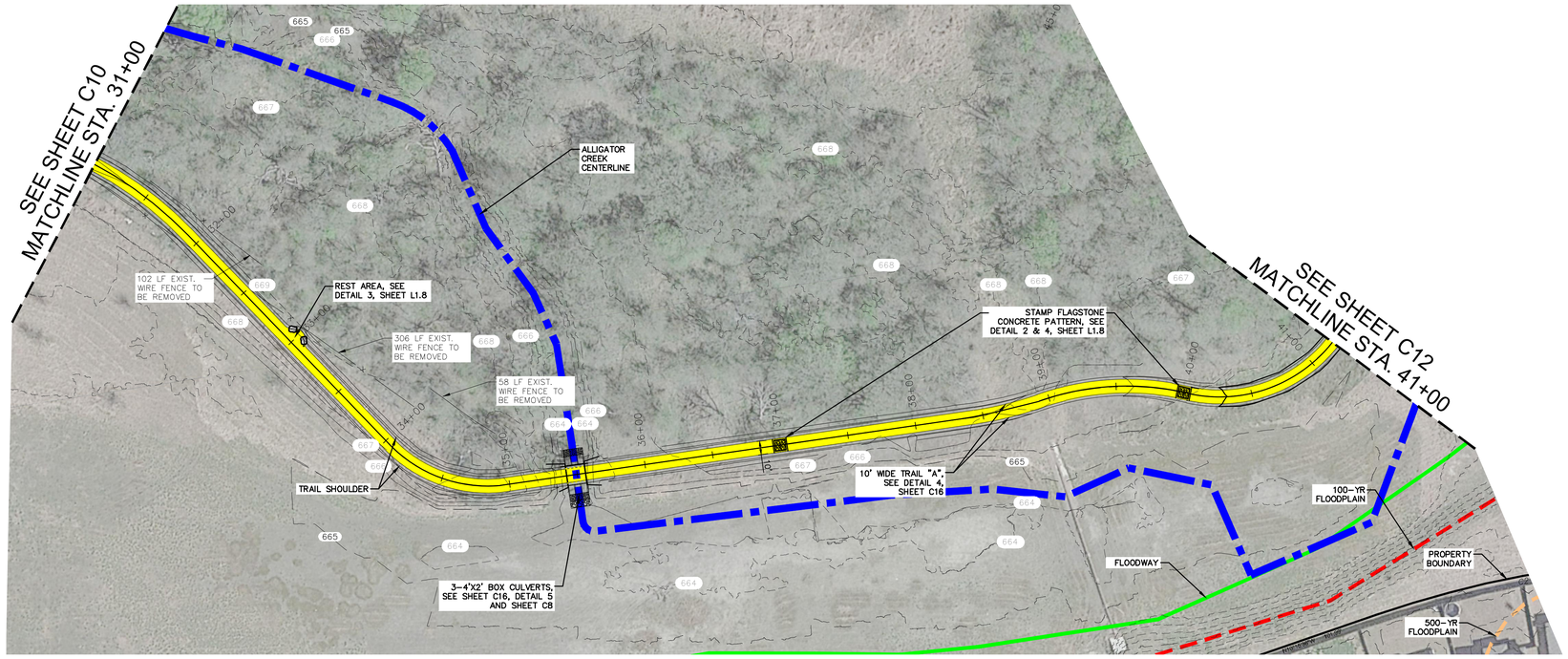
DATE: Mar. 2024
Vertical Scale 1"=5'
Horizontal Scale 1"=50'
0 25' 50' 75'

SHEET
C10

PROJ NO. 3032.002

Mar 12, 2024 - 12:08pm
R:\3032.002\Engineering\DWG\alt_Trail A pp20.dwg

DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT

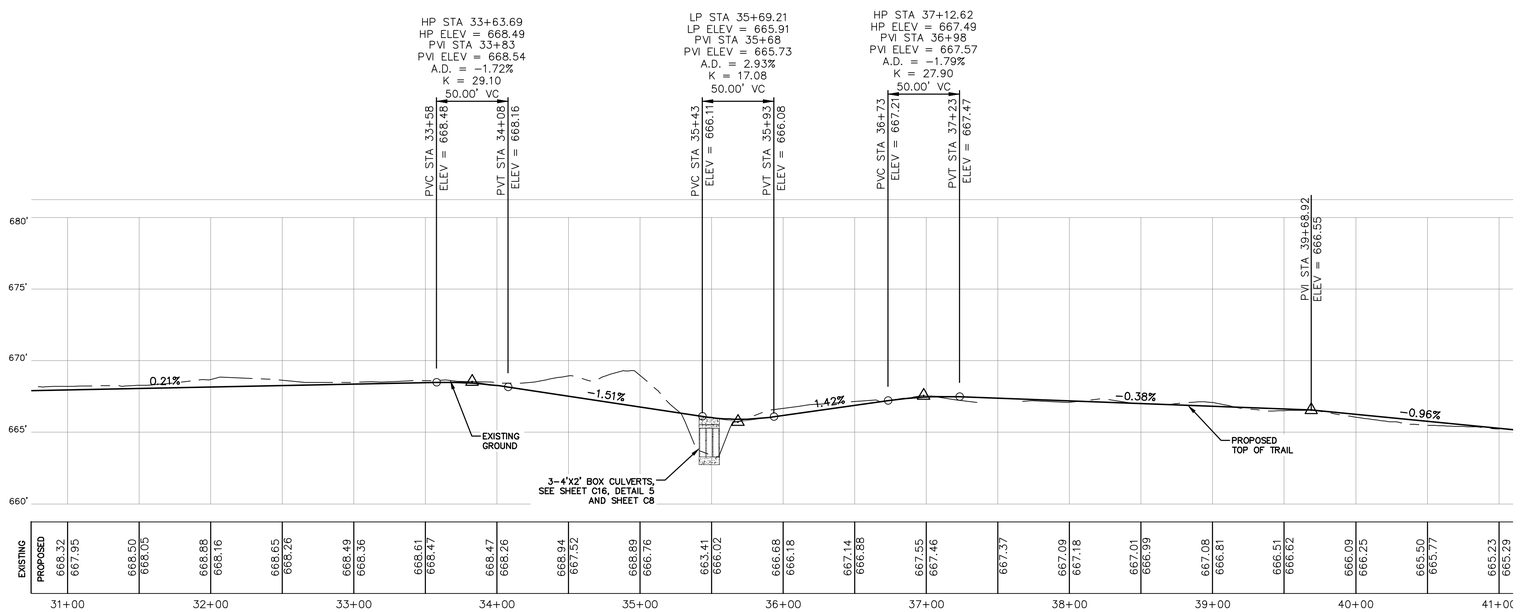


TRAIL A

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.	— 675 —	EXISTING CONTOURS
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)	—675—	PROPOSED CONTOURS
R.O.W.	RIGHT OF WAY		CONCRETE SIDEWALK
BSL	BUILDING SETBACK LINE		ALLIGATOR CREEK CENTERLINE
RCP	REINFORCED CONCRETE PIPE		FLOODWAY
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE		100 YR FLOOD PLAIN
VOL.	VOLUME		500 YR FLOOD PLAIN
PG.	PAGE		
EX.	EXISTING		
ESM'T	EASEMENT		
—o—	FENCE		

SCALE: 1"=50'



TRAIL A PROFILE

HORIZONTAL ALIGNMENT REPORT

```
*****************************************************************************
ALIGNMENT NAME:  ALIGN TRAIL A CL
STATION RANGE:  START:  31+00.00,  END:  41+00.00
*****************************************************************************

BEGIN ALIGN TRAIL A CL
CURVE (10)
  BC    N 13,820,722.3866   E 2,263,225.3272                    30+53.48
  CTR   N 13,820,842.4011   E 2,262,979.9298
  PI    N 13,820,659.2197   E 2,263,194.4347

    DIRECTION BACK   S26°03'41"W
       RADIUS      273.173'
       DELTA       28°52'12"(RT)
       LENGTH      137.645'
       TANGENT     70.316'
       CHORD DIRECTION     S40°29'47"W   DISTANCE   136.193'
    DIRECTION AHEAD  S54°55'53"W

  EC    N 13,820,618.8189   E 2,263,136.8832                    31+91.13
CURVE (10)

LINE (11)
  S54°55'53"W    212.422'
  N 13,820,496.7705   E 2,262,963.0237                          34+03.55
LINE (11)

CURVE (12)
  BC    N 13,820,496.7705   E 2,262,963.0237                    34+03.55
  CTR   N 13,820,414.9241   E 2,263,020.4794
  PI    N 13,820,469.1457   E 2,262,923.6717

    DIRECTION BACK   S54°55'53"W
       RADIUS      100.000'
       DELTA       51°21'24"(LT)
       LENGTH      89.634'
       TANGENT     48.080'
       CHORD DIRECTION     S29°15'11"W   DISTANCE   86.664'
    DIRECTION AHEAD  S3°34'29"W

  EC    N 13,820,421.1591   E 2,262,920.6740                    34+93.18
CURVE (12)

LINE (13)
  **NON-TANGENT** RADIAL BEARING N86°25'31"W
  S0°38'29"W    350.566'
  N 13,820,070.6154   E 2,262,916.7499                          38+43.75
LINE (13)

  **NON-TANGENT** RADIAL BEARING N89°21'31"W
CURVE (14)
  BC    N 13,820,070.6154   E 2,262,916.7499                    38+43.75
  CTR   N 13,820,067.8167   E 2,263,166.7343
  PI    N 13,820,046.2171   E 2,262,916.4767

    DIRECTION BACK   S0°38'29"W
       RADIUS      250.000'
       DELTA       11°08'56"(LT)
       LENGTH      48.646'
       TANGENT     24.400'
       CHORD DIRECTION     S4°55'59"E   DISTANCE   48.569'
    DIRECTION AHEAD  S10°30'26"E

  EC    N 13,820,022.2264   E 2,262,920.9263                    38+92.39
CURVE (14)

  REVERSING CURVE

  **NON-TANGENT** RADIAL BEARING N79°26'07"E
CURVE (15)
  BC    N 13,820,022.2264   E 2,262,920.9263                    38+92.39
  CTR   N 13,819,986.8513   E 2,262,731.2570
  PI    N 13,819,966.1314   E 2,262,931.3886

    DIRECTION BACK   S10°33'53"E
       RADIUS      192.940'
       DELTA       32°57'05"(RT)
       LENGTH      110.962'
       TANGENT     57.062'
       CHORD DIRECTION     S5°54'39"W   DISTANCE   109.439'
    DIRECTION AHEAD  S22°23'11"W

  EC    N 13,819,913.3696   E 2,262,909.6562                    40+03.36
CURVE (15)

LINE (16)
  **NON-TANGENT** RADIAL BEARING S67°36'49"E
  S21°51'15"W   0.047'
  N 13,819,913.3260   E 2,262,909.6388                          40+03.40
LINE (16)

  **NON-TANGENT** RADIAL BEARING N68°41'53"W
CURVE (17)
  BC    N 13,819,913.3260   E 2,262,909.6388                    40+03.40
  CTR   N 13,819,875.1812   E 2,263,007.4650
  PI    N 13,819,762.1147   E 2,262,850.6777

    DIRECTION BACK   S21°18'07"W
       RADIUS      105.000'
       DELTA       114°11'54"(LT)
       LENGTH      209.279'
       TANGENT     162.300'
       CHORD DIRECTION     S35°47'50"E   DISTANCE   176.318'
    DIRECTION AHEAD  N87°06'14"E

  EC    N 13,819,770.3153   E 2,263,012.7704                    42+12.68
CURVE (17)

END ALIGN TRAIL A CL

*****************************************************************************
ALIGNMENT LENGTH:  5,291.101'
*****************************************************************************
```

REVISIONS		DATE
1		
2		
3		
4		
Δ	DESC.	

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

City of New Braunfels

TRAIL PATH A PLAN AND PROFILE
STA 31+00-41+00
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024

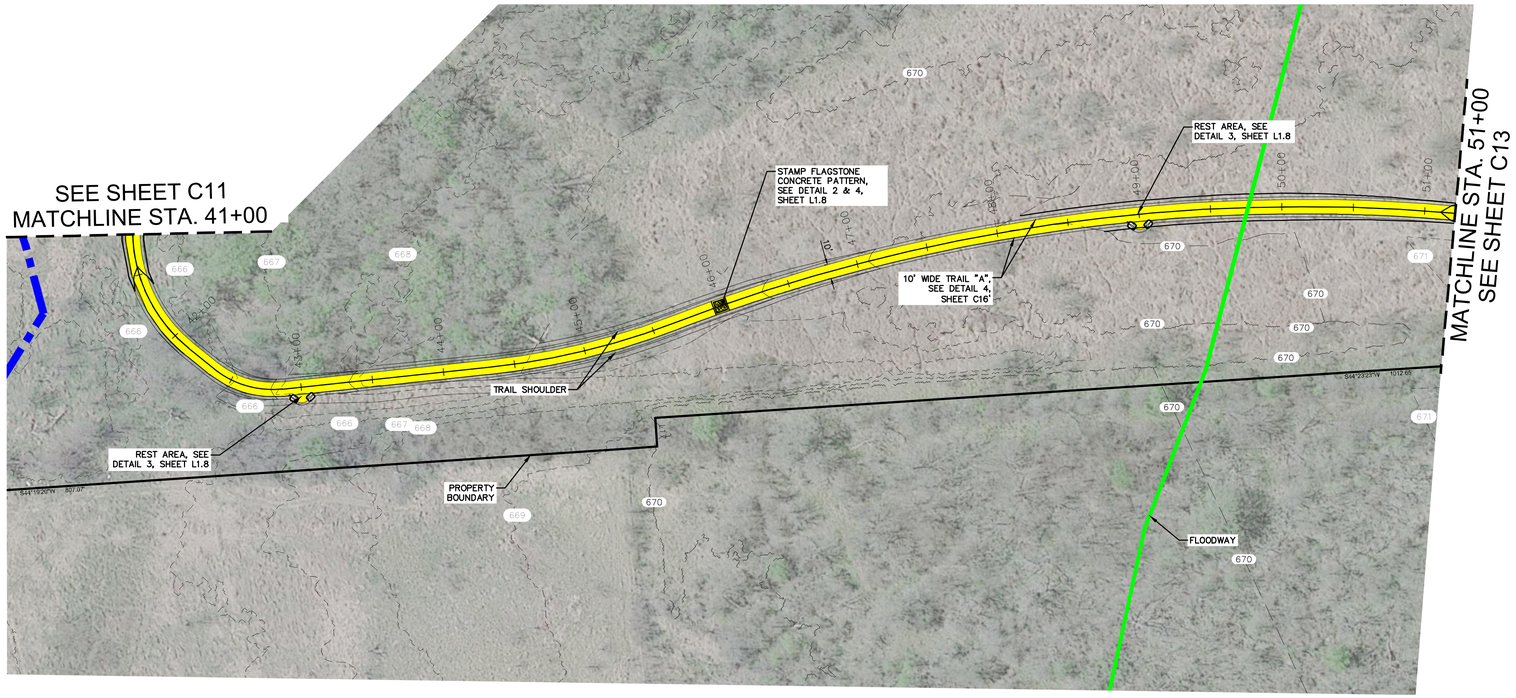
Vertical Scale 1"=5'
Horizontal Scale 1"=50'
0 25' 50' 75'

SHEET
C11

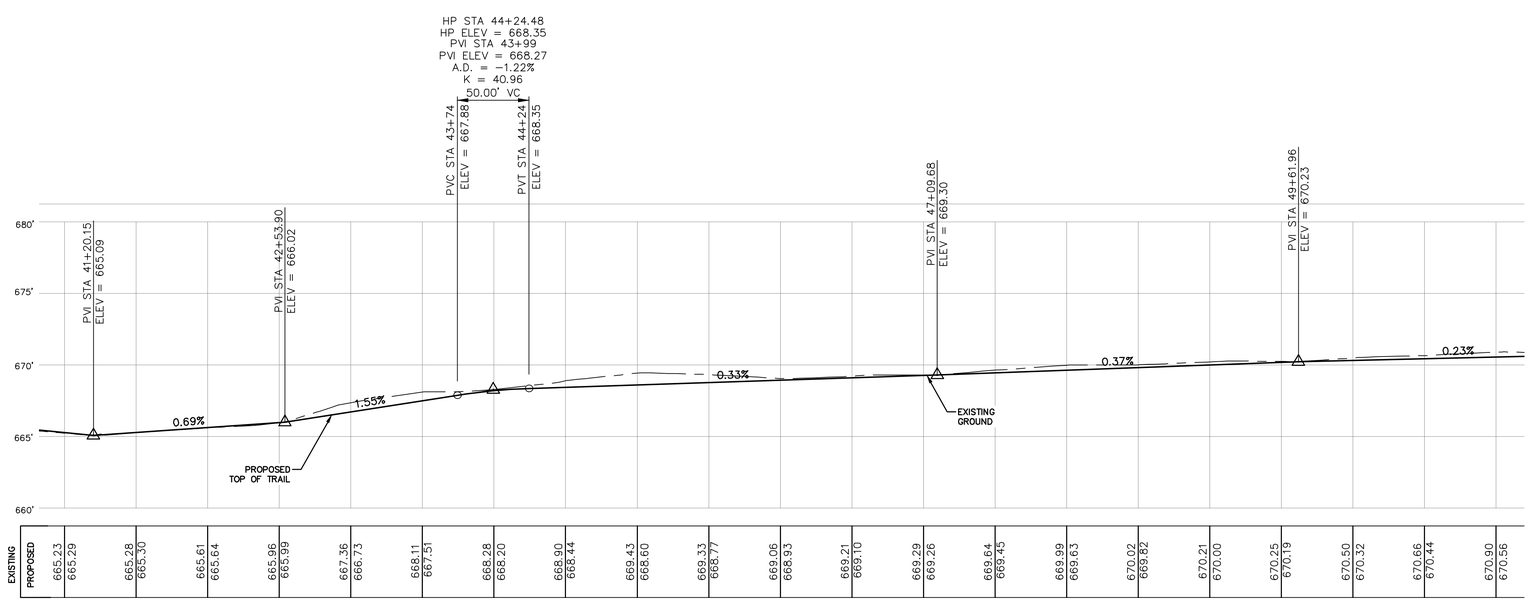
PROJ NO. 3032.002

Mar 12, 2024 - 12:08pm
R:\3032.002\Engineering\DWG\ch_Trail A pp01.dwg

DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT



TRAIL A



TRAIL A PROFILE

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.	— 675 —	EXISTING CONTOURS
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)	—675—	PROPOSED CONTOURS
R.O.W.	RIGHT OF WAY		CONCRETE SIDEWALK
BSL	BUILDING SETBACK LINE		ALLIGATOR CREEK CENTERLINE
RCP	REINFORCED CONCRETE PIPE		FLOODWAY
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE		100 YR FLOOD PLAIN
VOL.	VOLUME		500 YR FLOOD PLAIN
PG.	PAGE		
EX.	EXISTING		
ESM'T	EASEMENT		
—o—	FENCE		

SCALE: 1"=50'

HORIZONTAL ALIGNMENT REPORT

```
**********************************************************************
ALIGNMENT NAME: ALIGN TRAIL A CL
STATION RANGE: START: 41+00.00, END: 51+00.00
**********************************************************************

BEGIN ALIGN TRAIL A CL
CURVE (17)
  BC   N 13,819,913.3260  E 2,262,909.6388                40+03.40
  CTR  N 13,819,875.1812  E 2,263,007.4650
  PI   N 13,819,762.1147  E 2,262,850.6777

    DIRECTION BACK  S21°18'07"W
      RADIUS     105.000'
      DELTA      114°11'54"(LT)
      LENGTH     209.279'
      TANGENT    162.300'
      CHORD DIRECTION    S35°47'50"E   DISTANCE   176.318'
    DIRECTION AHEAD N87°06'14"E

  EC   N 13,819,770.3153  E 2,263,012.7704                42+12.68
CURVE (17)

LINE (18)
  **NON-TANGENT** RADIAL BEARING S2°53'46"E
  N87°06'14"E   23.123'
  N 13,819,771.4836  E 2,263,035.8635                     42+35.80
LINE (18)

  **NON-TANGENT** RADIAL BEARING S2°53'46"E
CURVE (19)
  BC   N 13,819,771.4836  E 2,263,035.8635                42+35.80
  CTR  N 13,819,836.4006  E 2,263,032.5792
  PI   N 13,819,772.8450  E 2,263,062.7723

    DIRECTION BACK  N87°06'14"E
      RADIUS      65.000'
      DELTA       45°01'45"(LT)
      LENGTH      51.084'
      TANGENT     26.943'
      CHORD DIRECTION     N64°35'21"E   DISTANCE   49.779'
    DIRECTION AHEAD N42°04'29"E

  EC   N 13,819,792.8441  E 2,263,080.8269                42+86.89
CURVE (19)

LINE (20)
  **NON-TANGENT** RADIAL BEARING S47°55'31"E
  N42°04'29"E   146.439'
  N 13,819,901.5281  E 2,263,178.9705                      44+33.33
LINE (20)

  **NON-TANGENT** RADIAL BEARING S47°52'05"E
CURVE (21)
  BC   N 13,819,901.5281  E 2,263,178.9705                 44+33.33
  CTR  N 13,820,240.3653  E 2,262,804.3926
  PI   N 13,819,950.7503  E 2,263,223.4961

    DIRECTION BACK  N42°07'55"E
      RADIUS     505.093'
      DELTA      14°58'21"(LT)
      LENGTH     131.989'
      TANGENT    66.373'
      CHORD DIRECTION     N34°38'45"E   DISTANCE   131.614'
    DIRECTION AHEAD N27°09'35"E

  EC   N 13,820,009.8048  E 2,263,253.7934                 45+65.32
CURVE (21)

  REVERSING CURVE

  **NON-TANGENT** RADIAL BEARING N62°50'26"W
CURVE (22)
  BC   N 13,820,009.8048  E 2,263,253.7934                 45+65.32
  CTR  N 13,819,450.4163  E 2,264,344.1463
  PI   N 13,820,375.5581  E 2,263,441.4374

    DIRECTION BACK  N27°09'34"E
      RADIUS     1,225.473'
      DELTA      37°05'15"(RT)
      LENGTH     793.248'
      TANGENT    411.079'
      CHORD DIRECTION     N45°42'11"E   DISTANCE   779.472'
    DIRECTION AHEAD N64°14'49"E

  EC   N 13,820,554.1693  E 2,263,811.6856                 53+58.56
CURVE (22)

END ALIGN TRAIL A CL

**********************************************************************
ALIGNMENT LENGTH: 5,291.101'
**********************************************************************
```

REVISIONS		
1		
2		
3		
4		
Δ	DESC.	DATE

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

VICKREY & ASSOCIATES, LLC
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12940 Country Parkway, San Antonio, TX 78216
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Firm Registration No: F-159

City of New Braunfels

TRAIL PATH A PLAN AND PROFILE
STA 41+00-51+00
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024
Vertical Scale 1"=5'
Horizontal Scale 1"=50'
0 25' 50' 75'

SHEET
C12

PROJ NO. 3032.002

Mar 12, 2024 - 12:08pm
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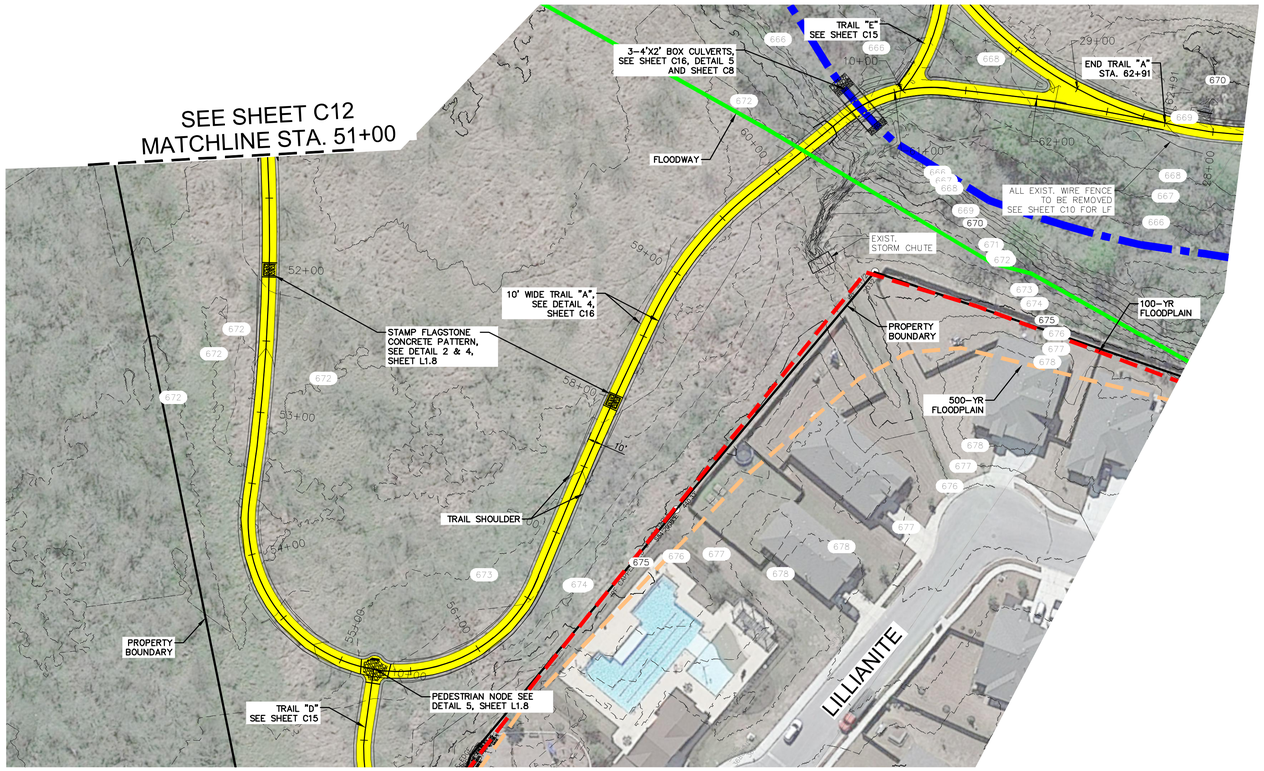
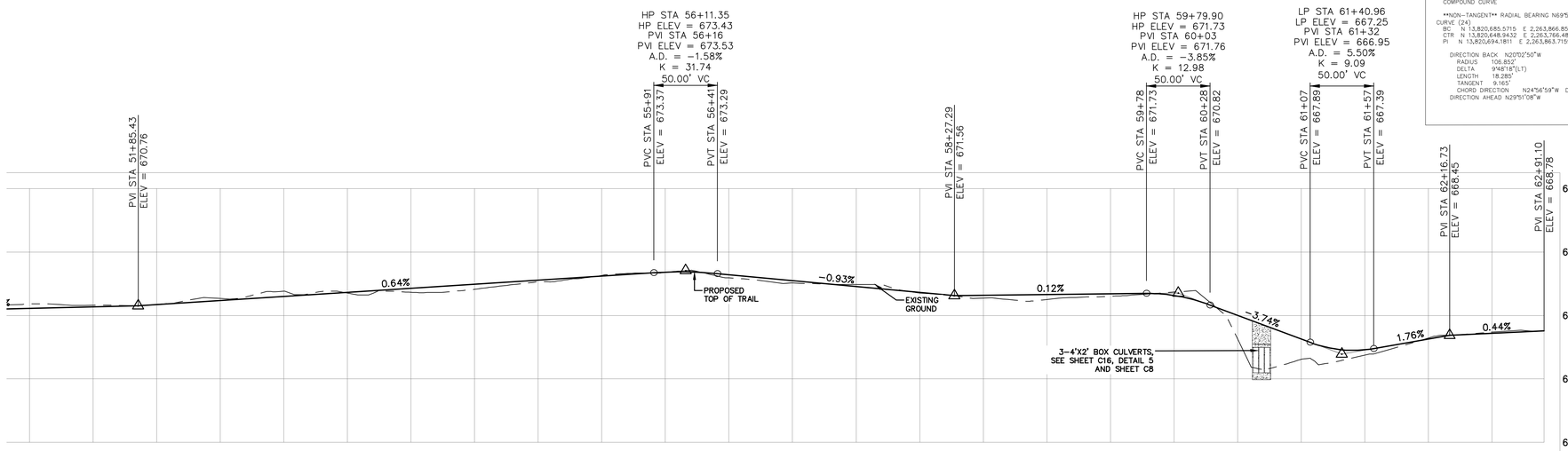
DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT



TRAIL A



TRAIL A PROFILE

SCALE: 1"=50'

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.
O	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)
R.O.W.	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
RCP	REINFORCED CONCRETE PIPE
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE
VOL.	VOLUME
PG.	PAGE
EX.	EXISTING
ESM'T	EASEMENT
—o—	FENCE
— 675 —	EXISTING CONTOURS
—675—	PROPOSED CONTOURS
	CONCRETE SIDEWALK
	ALLIGATOR CREEK CENTERLINE
	FLOODWAY
	100 YR FLOOD PLAIN
	500 YR FLOOD PLAIN

HORIZONTAL ALIGNMENT REPORT

```
*****************************************************************
ALIGNMENT NAME: ALIGN TRAIL A CL
STATION RANGE: START: 51+00.00, END: 62+91.10
*****************************************************************

BEGIN ALIGN TRAIL A CL
CURVE (22)
  BC   N 13,820,009.8048  E 2,263,253.7934          45+65.32
  CTR  N 13,819,450.4163  E 2,264,344.1463
  PI   N 13,820,375.5581  E 2,263,441.4374

    DIRECTION BACK  N27°09'34"E
      RADIUS     1,225.473'
      DELTA      37°55'15"(RT)
      LENGTH     793.248'
      TANGENT    411.079'
      CHORD DIRECTION     N45°42'11"E   DISTANCE   779.472'
    DIRECTION AHEAD N64°14'49"E

  EC   N 13,820,554.1693  E 2,263,811.6856          53+58.56
CURVE (22)

  REVERSING CURVE

  **NON-TANGENT** RADIAL BEARING S24°29'34"E
CURVE (23)
  BC   N 13,820,554.1693  E 2,263,811.6856          53+58.56
  CTR  N 13,820,649.7324  E 2,263,788.1497
  PI   N 13,820,594.3869  E 2,263,899.9651

    DIRECTION BACK  N65°30'26"E
      RADIUS     105.013'
      DELTA      85°27'45"(LT)
      LENGTH     156.637'
      TANGENT    97.009'
      CHORD DIRECTION     N22°46'34"E   DISTANCE   142.515'
    DIRECTION AHEAD N19°57'18"W

  EC   N 13,820,685.5715  E 2,263,866.8576          55+15.20
CURVE (23)

  COMPOUND CURVE

  **NON-TANGENT** RADIAL BEARING N69°57'10"E
CURVE (24)
  BC   N 13,820,685.5715  E 2,263,866.8576          55+15.20
  CTR  N 13,820,648.9432  E 2,263,766.4801
  PI   N 13,820,694.1811  E 2,263,863.7159

    DIRECTION BACK  N20°02'50"W
      RADIUS     106.852'
      DELTA      9°48'18"(LT)
      LENGTH     18.285'
      TANGENT    9.165'
      CHORD DIRECTION     N24°56'59"W   DISTANCE   18.263'
    DIRECTION AHEAD N29°51'08"W

  EC   N 13,820,702.1301  E 2,263,859.1539          55+33.49
CURVE (24)

  COMPOUND CURVE

  **NON-TANGENT** RADIAL BEARING N60°03'08"E
CURVE (25)
  BC   N 13,820,702.1301  E 2,263,859.1539          55+33.49
  CTR  N 13,820,649.7040  E 2,263,768.1578
  PI   N 13,820,769.3596  E 2,263,820.4206

    DIRECTION BACK  N29°56'52"W
      RADIUS     105.018'
      DELTA      72°54'55"(LT)
      LENGTH     133.647'
      TANGENT    77.589'
      CHORD DIRECTION     N66°24'20"W   DISTANCE   124.809'
    DIRECTION AHEAD S77°08'13"W

  EC   N 13,820,752.0865  E 2,263,744.7785          56+67.13
CURVE (25)

  REVERSING CURVE

  **NON-TANGENT** RADIAL BEARING S12°20'43"E
CURVE (26)
  BC   N 13,820,752.0865  E 2,263,744.7785          56+67.13
  CTR  N 13,823,744.5151  E 2,263,089.8391
  PI   N 13,820,731.8460  E 2,263,652.2992

    DIRECTION BACK  S77°59'17"W
      RADIUS     3,063.262'
      DELTA      3°52'25"(RT)
      LENGTH     189.276'
      TANGENT    94.668'
      CHORD DIRECTION     S79°25'29"W   DISTANCE   189.246'
    DIRECTION AHEAD S81°11'41"W

  EC   N 13,820,717.3547  E 2,263,558.7466          58+56.41
CURVE (26)

  COMPOUND CURVE

  **NON-TANGENT** RADIAL BEARING S10°34'31"E
CURVE (27)
  BC   N 13,820,717.3547  E 2,263,558.7466          58+56.41
  CTR  N 13,820,963.1084  E 2,263,512.8648
  PI   N 13,820,706.1499  E 2,263,498.7309

    DIRECTION BACK  S79°25'29"W
      RADIUS     250.000'
      DELTA      27°26'50"(RT)
      LENGTH     119.761'
      TANGENT    61.053'
      CHORD DIRECTION     N86°51'06"W   DISTANCE   118.619'
    DIRECTION AHEAD N73°07'41"W

  EC   N 13,820,723.8695  E 2,263,440.3062          59+76.17
CURVE (27)

LINE (28)
  N73°07'41"W    82.304'
  N 13,820,747.7570  E 2,263,361.5447              60+58.48
LINE (28)

CURVE (29)
  BC   N 13,820,747.7570  E 2,263,361.5447          60+58.48
  CTR  N 13,820,843.4526  E 2,263,390.5682
  PI   N 13,820,759.9861  E 2,263,321.2231

    DIRECTION BACK  N73°07'41"W
      RADIUS     100.000'
      DELTA      45°41'48"(RT)
      LENGTH     79.756'
      TANGENT    42.135'
      CHORD DIRECTION     N50°6'47"W   DISTANCE   77.658'
    DIRECTION AHEAD N27°25'53"W

  EC   N 13,820,797.3839  E 2,263,301.8119          61+38.23
CURVE (29)

LINE (30)
  N27°25'53"W    67.180'
  N 13,820,857.0102  E 2,263,270.8630               62+05.41
LINE (30)

CURVE (31)
  BC   N 13,820,857.0102  E 2,263,270.8630          62+05.41
  CTR  N 13,820,949.1476  E 2,263,448.3756
  PI   N 13,820,863.7121  E 2,263,267.3844

    DIRECTION BACK  N27°25'53"W
      RADIUS     200.000'
      DELTA      4°9'23"(RT)
      LENGTH     15.095'
      TANGENT    7.551'
      CHORD DIRECTION     N25°6'09"W   DISTANCE   15.091'
    DIRECTION AHEAD N23°06'26"W

  EC   N 13,820,870.6573  E 2,263,264.4210          62+20.51
CURVE (31)

LINE (32)
  N23°06'26"W    70.595'
  N 13,820,935.5885  E 2,263,236.7159               62+91.10
LINE (32)

END ALIGN TRAIL A CL

*****************************************************************

ALIGNMENT LENGTH: 5,291.101'
*****************************************************************
```

REVISIONS		
1		
2		
3		
4		
Δ	DESC.	DATE

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

City of New Braunfels

TRAIL PATH A PLAN AND PROFILE STA 51+00-62+91
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024

Vertical Scale 1"=5'
Horizontal Scale 1"=50'
0 25' 50' 75'

SHEET
C13

PROJ NO. 3032.002

Mar 12, 2024 - 12:08pm
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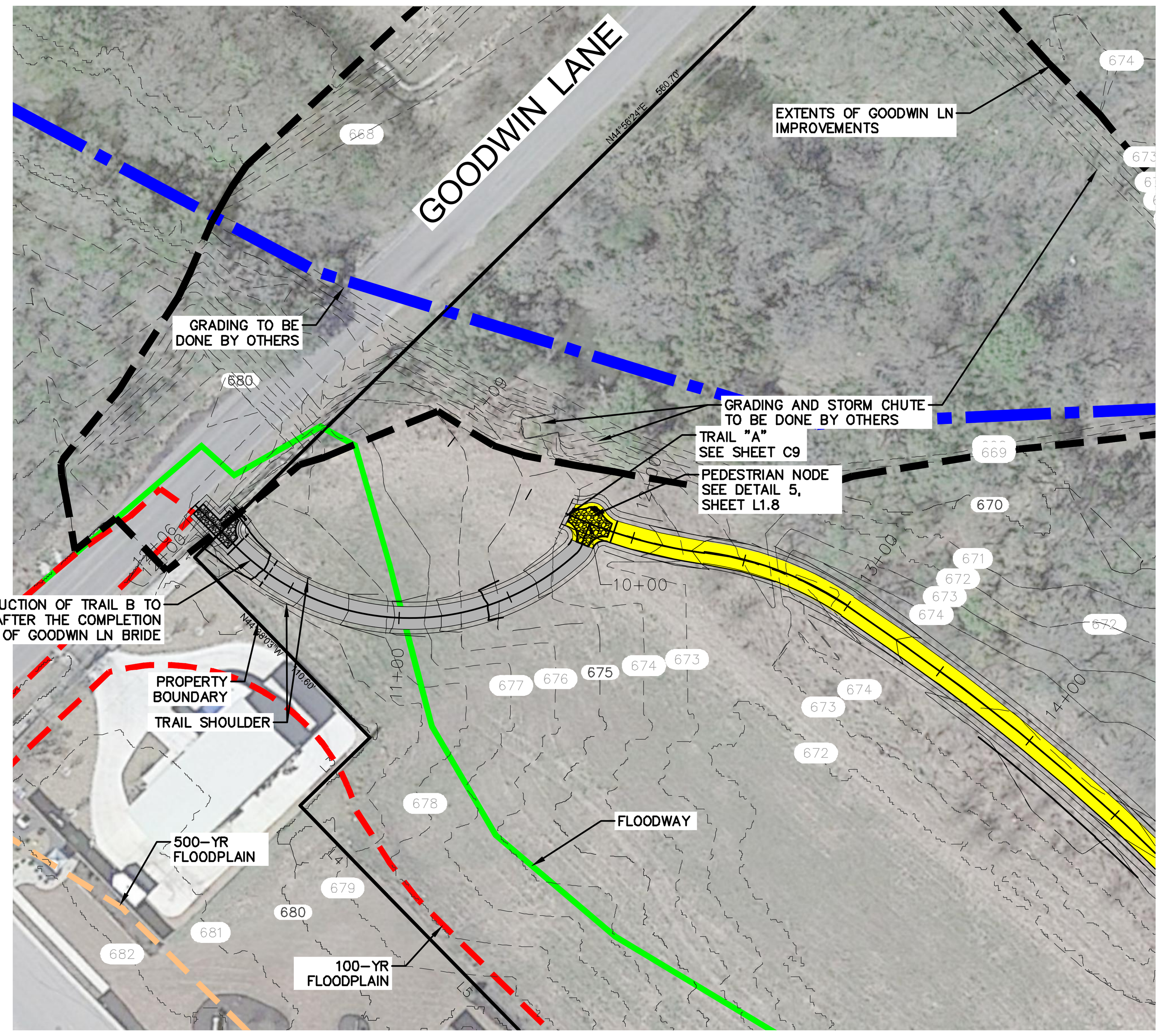
DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT



TRAIL B

SCALE: 1"=50'

HORIZONTAL ALIGNMENT REPORT

ALIGNMENT NAME: TRAIL B CL
STATION RANGE: START: 10+00.00, END: 12+05.98

BEGIN TRAIL B ALTER
N 13,822,219.1936 E 2,262,371.5312 10+00.00

LINE (1)
S19°29'01"W 9.977'
N 13,822,209.7879 E 2,262,368.2035 10+09.98
LINE (1)

CURVE (2)
BC N 13,822,209.7879 E 2,262,368.2035 10+09.98
CTR N 13,822,213.1233 E 2,262,358.7761
PI N 13,822,207.4708 E 2,262,367.3837

DIRECTION BACK S19°29'01"W
RADIUS 10.000'
DELTA 27°37'05"(RT)
LENGTH 4.820'
TANGENT 2.458'
CHORD DIRECTION S33°17'33"W DISTANCE 4.774'
DIRECTION AHEAD S47°06'06"W

EC N 13,822,205.7977 E 2,262,365.5831 10+14.80
CURVE (2)

COMPOUND CURVE

CURVE (3)
BC N 13,822,205.7977 E 2,262,365.5831 10+14.80
CTR N 13,822,285.5108 E 2,262,291.5133
PI N 13,822,132.7351 E 2,262,286.9540

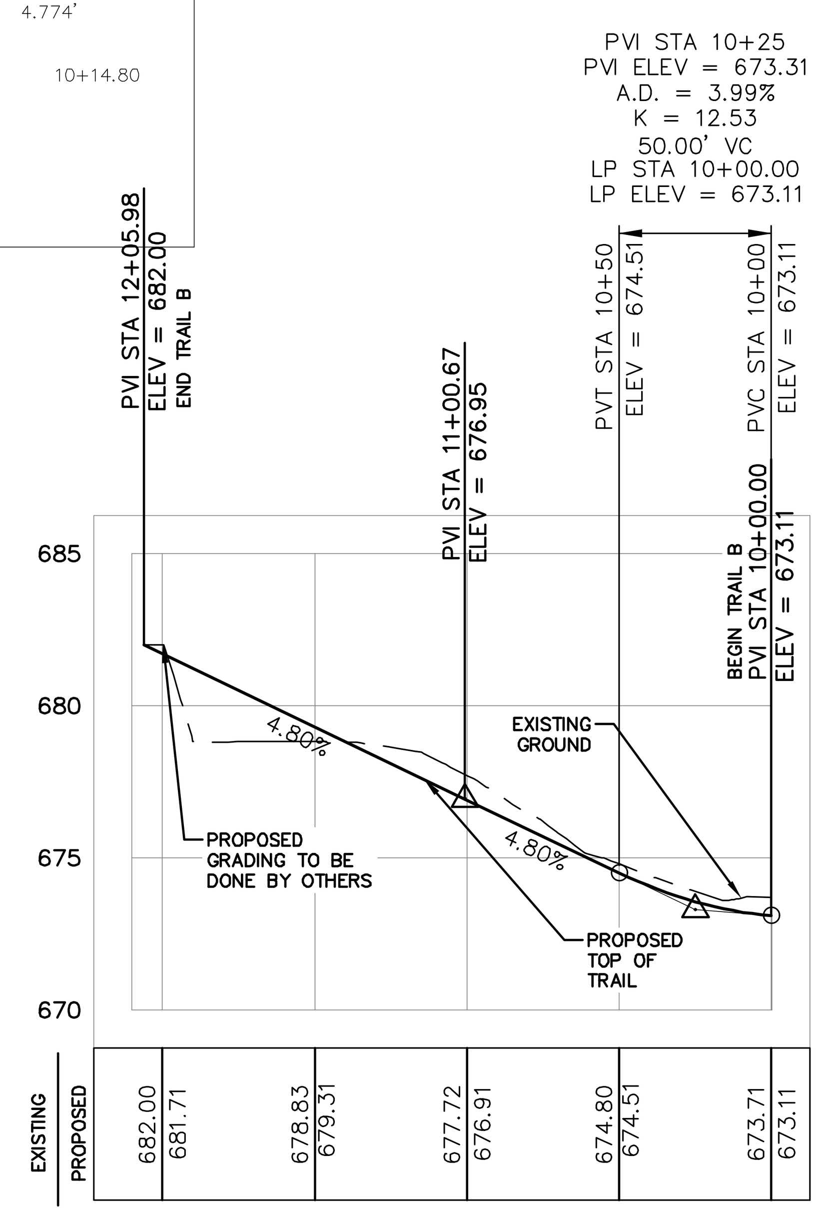
DIRECTION BACK S47°06'06"W
RADIUS 108.814'
DELTA 89°12'56"(RT)
LENGTH 169.435'
TANGENT 107.334'
CHORD DIRECTION N88°17'26"W DISTANCE 152.829'
DIRECTION AHEAD N43°40'58"W

EC N 13,822,210.3566 E 2,262,212.8217 11+84.23
CURVE (3)

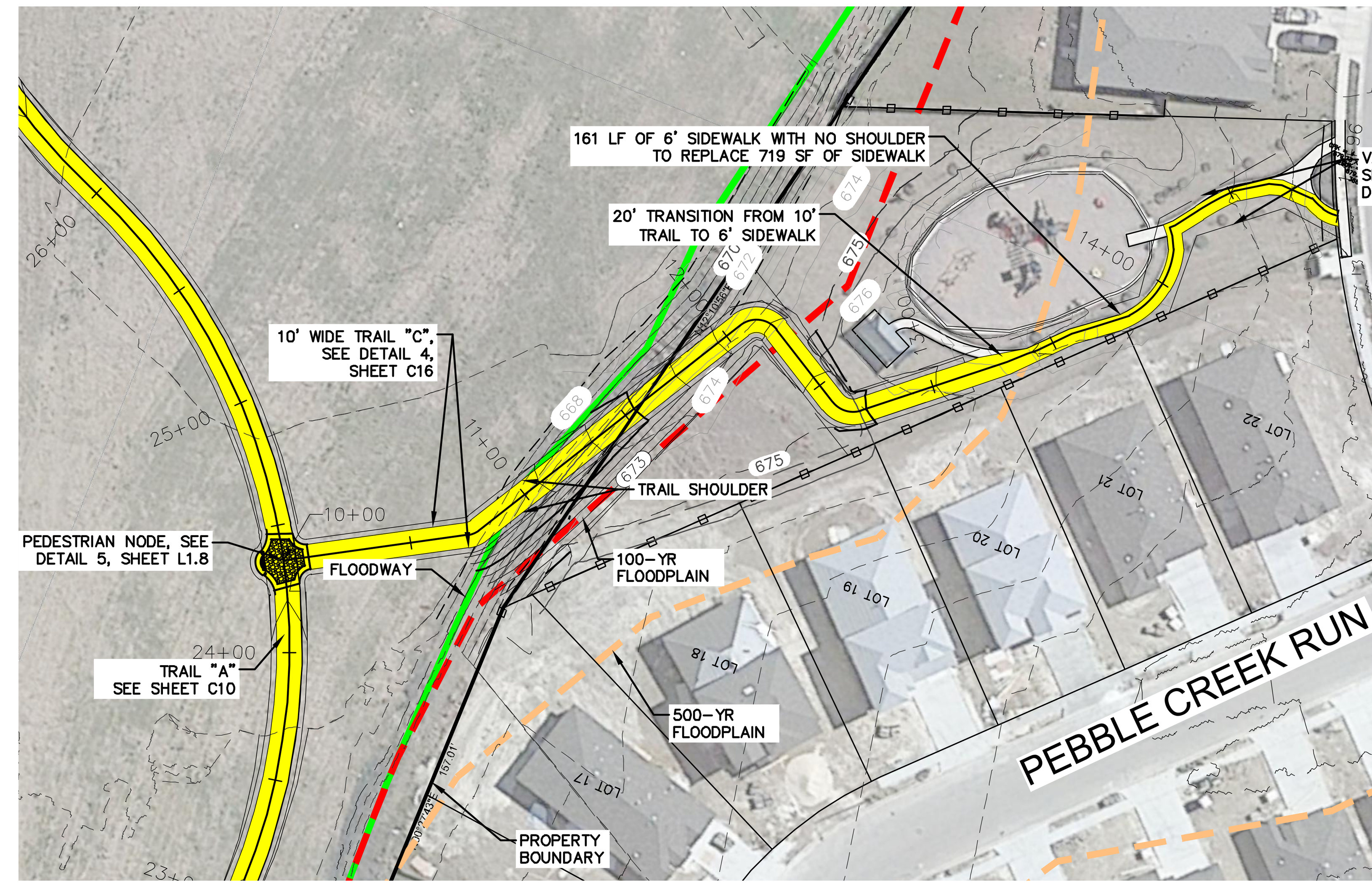
LINE (4)
N ON-TANGENT RADIAL BEARING S46°19'02"W
N45°00'00"W 21.752'
N 13,822,225.7377 E 2,262,197.4406 12+05.98
LINE (4)

N 13,822,225.7377 E 2,262,197.4406 12+05.98
END TRAIL B CL

ALIGNMENT LENGTH: 205.985'



TRAIL B PROFILE



TRAIL C

SCALE: 1"=50'

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)
R.O.W.	RIGHT OF WAY
BSL	BUILDING SETBACK LINE
RCP	REINFORCED CONCRETE PIPE
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE
VOL.	VOLUME
PG.	PAGE
EX.	EXISTING
ESM'T	EASEMENT
—□—	FENCE
— 675 —	EXISTING CONTOURS
—(675)—	PROPOSED CONTOURS
(yellow)	CONCRETE SIDEWALK
— - —	ALLIGATOR CREEK CENTERLINE
	FLOODWAY
	100 YR FLOOD PLAIN
	500 YR FLOOD PLAIN

HORIZONTAL ALIGNMENT REPORT

Alignment Name: Trail C CL
Station Range: Start: 10+00.00, End: 14+95.79

Begin Trail C CL
N 13,821,203.1705 E 2,262,956.3503
10+00.00

Line (1)
S60°13'18"W 72.199'
N 13,821,167.3135 E 2,262,893.6853
10+72.20
Line (1)

Curve (2)
BC N 13,821,167.3135 E 2,262,893.6853
10+72.20
CTR N 13,821,158.6339 E 2,262,898.6518
PI N 13,821,166.1242 E 2,262,891.6069

Direction Back S60°13'18"W
Radius 10.000'
Delta 26°56'00"(LT)
Length 4.701'
Tangent 2.395'
Chord Direction S46°45'18"W Distance 4.658'
Direction Ahead S33°17'18"W

EC N 13,821,164.1224 E 2,262,890.2926
10+76.90
Curve (2)

Line (3)
Non-Tangent Radial Bearing N56°42'42"W
S30°05'59"W 129.947'
N 13,821,051.6983 E 2,262,825.1234
12+06.85
Line (3)

Curve (4)
BC N 13,821,051.6983 E 2,262,825.1234
12+06.85
CTR N 13,821,056.7133 E 2,262,816.4719
PI N 13,821,043.0467 E 2,262,820.1083
Direction Back S30°05'59"W
Radius 10.000'
Delta 90°00'00"(RT)
Length 15.708'
Tangent 10.000'
Chord Direction S75°05'59"W Distance 14.142'
Direction Ahead N59°54'01"W

EC N 13,821,048.0618 E 2,262,811.4568
12+22.55
Curve (4)

Line (5)
N59°54'01"W 35.554'
N 13,821,065.8923 E 2,262,780.6972
12+58.11
Line (5)

Curve (6)
BC N 13,821,065.8923 E 2,262,780.6972
12+58.11
CTR N 13,821,057.2407 E 2,262,775.6821
PI N 13,821,069.4290 E 2,262,774.5960

Direction Back N59°54'01"W
Radius 10.000'
Delta 70°23'03"(LT)
Length 12.284'
Tangent 7.052'
Chord Direction S84°54'28"W Distance 11.526'
Direction Ahead S49°42'56"W

EC N 13,821,064.8692 E 2,262,769.2163
12+70.39
Curve (6)

Line (7)
S49°42'56"W 60.209'
N 13,821,025.9391 E 2,262,723.2862
13+30.60
Line (7)

Line (8)
Non-Tangent Radial Bearing N40°17'04"W
S45°50'56"W 8.670'
N 13,821,019.9000 E 2,262,717.0654
13+39.27
Line (8)

Line (9)
Non-Tangent Radial Bearing N40°17'04"W
S50°59'18"W 3.978'
N 13,821,017.3957 E 2,262,713.9741
13+43.25
Line (9)

Line (10)
Non-Tangent Radial Bearing N40°17'04"W
S42°26'26"W 14.839'
N 13,821,006.4450 E 2,262,703.9606
13+58.09
Line (10)

Line (11)
Non-Tangent Radial Bearing N40°17'04"W
S50°28'13"W 8.843'
N 13,821,000.8165 E 2,262,697.1399
13+66.93
Line (11)

Line (12)
Non-Tangent Radial Bearing N40°17'04"W
S50°49'39"W 14.720'
N 13,820,991.5187 E 2,262,685.7284
13+81.65
Line (12)

Non-Tangent Radial Bearing N49°45'34"W
Curve (13)
BC N 13,820,991.5187 E 2,262,685.7284
13+81.65
CTR N 13,820,970.9520 E 2,262,710.0309
PI N 13,820,984.8672 E 2,262,680.0993

Direction Back S40°14'26"W
Radius 31.837'
Delta 30°36'48"(LT)
Length 17.011'
Tangent 8.714'
Chord Direction S24°56'02"W Distance 16.809'
Direction Ahead S9°37'37"W

EC N 13,820,976.2762 E 2,262,678.6421
13+98.66
Curve (13)

Compound Curve

Non-Tangent Radial Bearing N79°19'39"W
Curve (14)
BC N 13,820,976.2762 E 2,262,678.6421
13+98.66
CTR N 13,820,970.2042 E 2,262,710.8623
PI N 13,820,968.5777 E 2,262,677.1913

Direction Back S10°40'21"W
Radius 32.787'
Delta 26°52'33"(LT)
Length 15.380'
Tangent 7.834'
Chord Direction S2°45'56"E Distance 15.239'
Direction Ahead S16°12'12"E

EC N 13,820,961.0550 E 2,262,679.3774
14+14.04
Curve (14)

Line (15)
Non-Tangent Radial Bearing S73°47'48"W
S27°22'20"E 5.477'
N 13,820,956.1911 E 2,262,681.8956
14+19.52
Line (15)

Line (16)
Non-Tangent Radial Bearing S73°47'48"W
S38°39'22"E 3.191'
N 13,820,953.6995 E 2,262,683.8886
14+22.71
Line (16)

Line (17)
Non-Tangent Radial Bearing S73°47'48"W
S46°08'29"W 2.299'
N 13,820,952.1065 E 2,262,682.2309
14+25.01
Line (17)

Line (18)
Non-Tangent Radial Bearing S73°47'48"W
S35°35'08"W 10.509'
N 13,820,943.5603 E 2,262,676.1157
14+35.52
Line (18)

Curve (19)
BC N 13,820,943.5603 E 2,262,676.1157
14+35.52
CTR N 13,821,010.1907 E 2,262,582.9972
PI N 13,820,936.9073 E 2,262,671.3552

Direction Back S35°35'08"W
Radius 114.502'
Delta 8°10'24"(RT)
Length 16.334'
Tangent 8.181'
Chord Direction S39°40'19"W Distance 16.320'
Direction Ahead S43°45'31"W

EC N 13,820,930.9987 E 2,262,665.6972
14+51.85
Curve (19)

Line (20)
Non-Tangent Radial Bearing S46°14'29"E
S56°46'43"W 13.797'
N 13,820,923.4397 E 2,262,654.1553
14+65.65
Line (20)

Line (21)
Non-Tangent Radial Bearing S46°14'29"E
S72°55'43"W 5.003'
N 13,820,921.9711 E 2,262,649.3728
14+70.65
Line (21)

Line (22)
Non-Tangent Radial Bearing S46°14'29"E
N87°22'29"W 12.754'
N 13,820,922.5552 E 2,262,636.6324
14+83.40
Line (22)

Non-Tangent Radial Bearing N29°49'54"E
Curve (23)
BC N 13,820,922.5552 E 2,262,636.6324
14+83.40
CTR N 13,820,902.6524 E 2,262,625.2193
PI N 13,820,924.0200 E 2,262,634.0780

Direction Back N60°10'06"W
Radius 22.943'
Delta 14°37'37"(LT)
Length 5.857'
Tangent 2.945'
Chord Direction N67°28'54"W Distance 5.841'
Direction Ahead N74°47'42"W

EC N 13,820,924.7923 E 2,262,631.2365
14+89.26
Curve (23)

Compound Curve

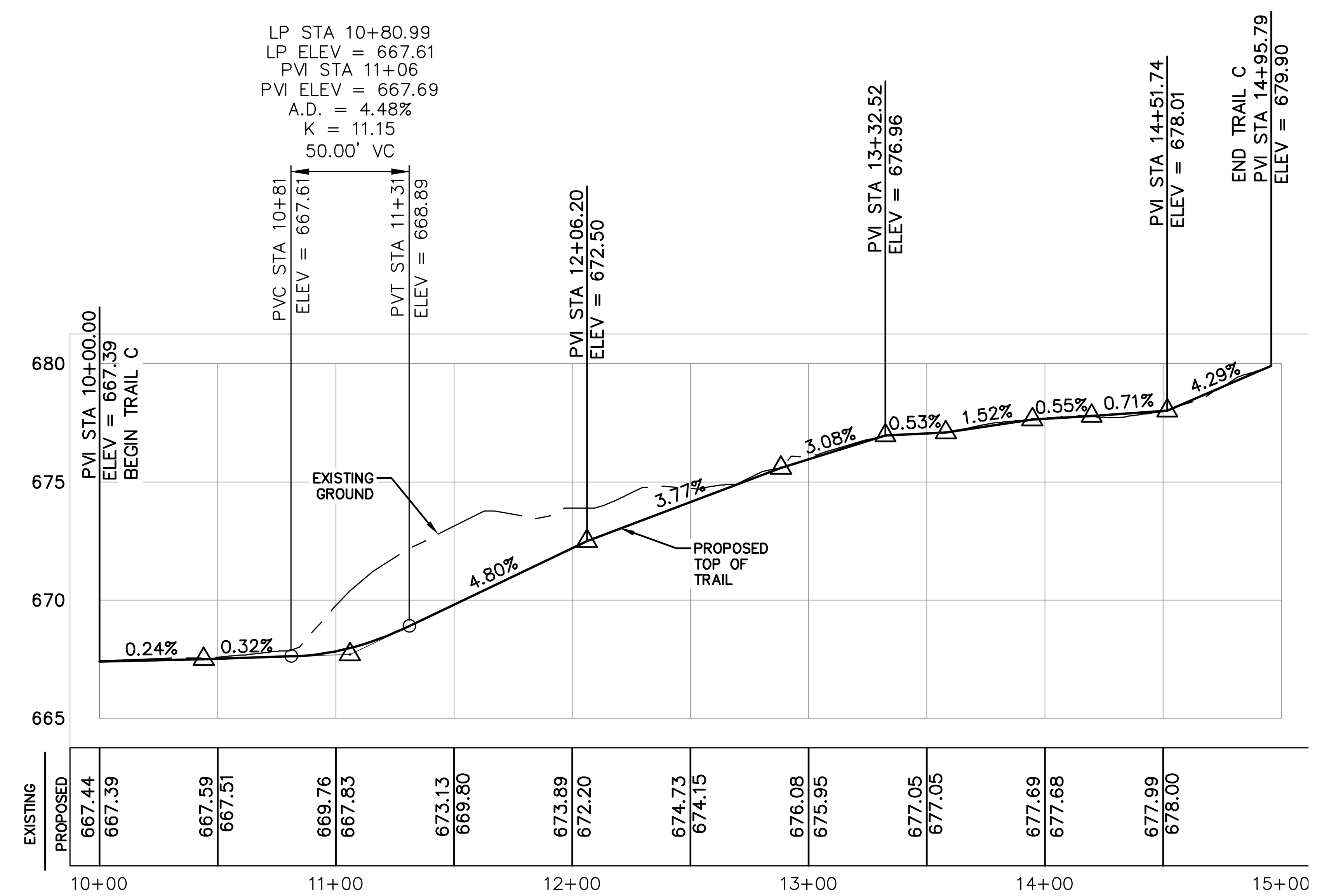
Curve (24)
BC N 13,820,924.7923 E 2,262,631.2365
14+89.26
CTR N 13,820,910.6136 E 2,262,627.3830
PI N 13,820,925.6631 E 2,262,628.0324

Direction Back N74°47'42"W
Radius 14.693'
Delta 25°28'06"(LT)
Length 6.531'
Tangent 3.320'
Chord Direction N87°31'45"W Distance 6.478'
Direction Ahead S79°44'12"W

EC N 13,820,925.0715 E 2,262,624.7651
14+95.79
Curve (24)

N 13,820,925.0715 E 2,262,624.7651
14+95.79
End Trail C CL

Alignment Length: 495.793'



TRAIL C PROFILE

Mar 12, 2024 - 2:02pm
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DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT

REVISIONS	DESC.	DATE
1		
2		
3		
4		
Δ		

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS
3/12/2024

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VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

City of New Braunfels

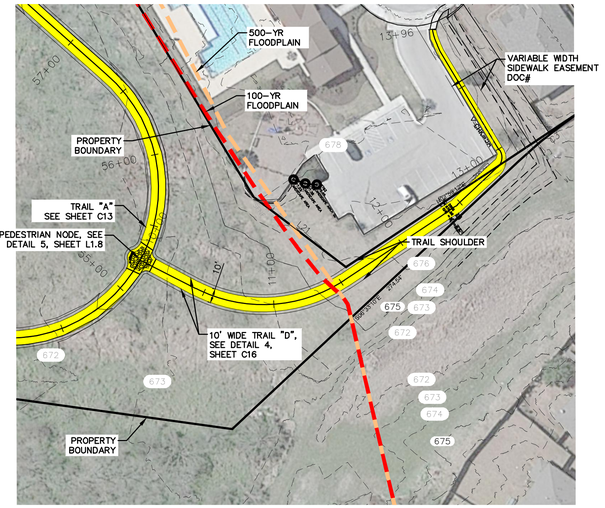
TRAIL PATH B & C PLAN AND PROFILE
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024
Vertical Scale 1"=5'
Horizontal Scale 1"=50'
0 25' 50' 75'

SHEET
C14

PROJ NO. 3032.002

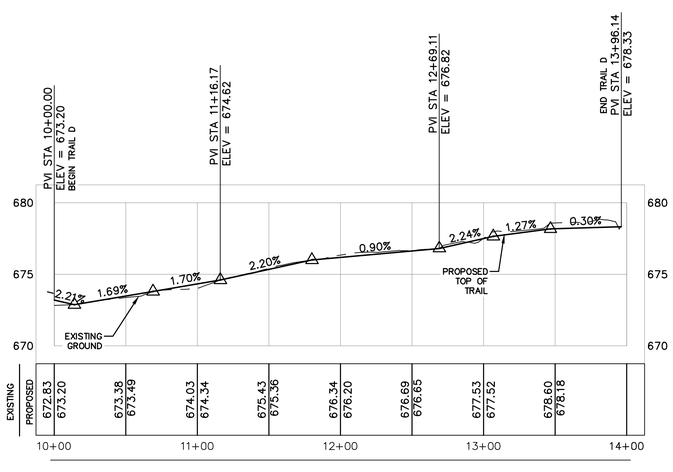
SCALE: 1"=50'



TRAIL D

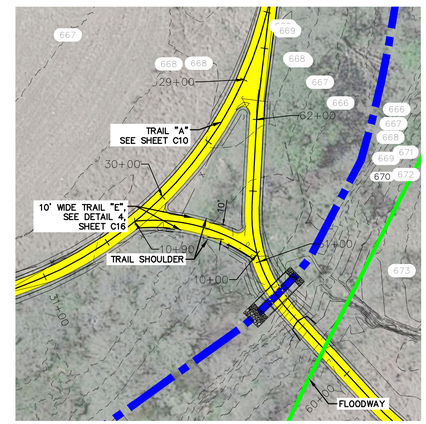
HORIZONTAL ALIGNMENT REPORT

```
**********************************************************************
Alignment Name: Trail D CL
Station Range: Start: 10+00.00, End: 13+99.02
**********************************************************************

Begin Trail D CL
  N 13,820,693.7031  E 2,263,863.5050                    10+00.00

Line (1)
  N63°37'16"E   43.665'
  N 13,820,713.1038  E 2,263,902.6234                    10+43.67
Line (1)

Curve (2)
  BC   N 13,820,713.1038  E 2,263,902.6234               10+43.67
  CTR  N 13,820,805.4202  E 2,263,856.8393
  PI   N 13,820,739.7809  E 2,263,956.4136

    Direction Back  N63°37'16"E
      Radius     103.046'
      Delta      60°27'23"(LT)
      Length     108.730'
      Tangent    60.042'
      Chord Direction    N33°23'34"E   Distance   103.756'
    Direction Ahead N3°09'53"E

  EC   N 13,820,799.7314  E 2,263,959.7283               11+52.40
Curve (2)

Line (3)
  **Non-Tangent** Radial Bearing S86°50'07"E
  N2°59'12"E   80.805'
  N 13,820,880.4263  E 2,263,963.9385                    12+33.20
Line (3)

Line (4)
  **Non-Tangent** Radial Bearing S86°50'07"E
  N2°34'21"E   12.596'
  N 13,820,893.0099  E 2,263,964.5039                    12+45.80
Line (4)

Curve (5)
  BC   N 13,820,893.0099  E 2,263,964.5039               12+45.80
  CTR  N 13,820,893.4587  E 2,263,954.5139
  PI   N 13,820,893.8071  E 2,263,964.5397

    Direction Back  N2°34'21"E
      Radius     10.000'
      Delta      90°07'31"(LT)
      Length     1.593'
      Tangent    0.798'
      Chord Direction    N1°59'24"W   Distance   1.591'
    Direction Ahead N6°33'10"W

  EC   N 13,820,894.5999  E 2,263,964.4486               12+47.39
Curve (5)

Line (6)
  N6°33'10"W   44.171'
  N 13,820,938.4820  E 2,263,959.4079                    12+91.56
Line (6)

  **Non-Tangent** Radial Bearing N85°32'59"E
Curve (7)
  BC   N 13,820,938.4820  E 2,263,959.4079               12+91.56
  CTR  N 13,820,938.0934  E 2,263,954.4144
  PI   N 13,820,942.6587  E 2,263,959.0829

    Direction Back  N4°27'01"W
      Radius     5.009'
      Delta      79°49'11"(LT)
      Length     6.978'
      Tangent    4.189'
      Chord Direction    N44°21'37"W   Distance   6.427'
    Direction Ahead N84°16'12"W

  EC   N 13,820,943.0769  E 2,263,954.9145               12+98.54
Curve (7)

Line (8)
  **Non-Tangent** Radial Bearing N5°43'48"E
  N84°18'35"W   100.482'
  N 13,820,953.0398  E 2,263,854.9273                    13+99.02
Line (8)

  N 13,820,953.0398  E 2,263,854.9273                    13+99.02
End Trail D CL

**********************************************************************
Alignment Length: 399.020'
**********************************************************************
```



TRAIL D PROFILE

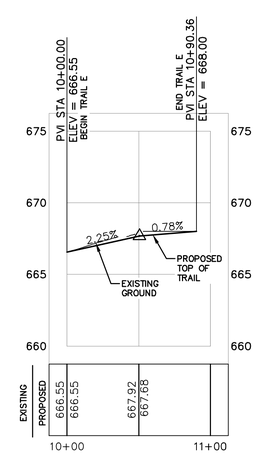
SCALE: 1"=50'



TRAIL E

HORIZONTAL ALIGNMENT REPORT

```
**********************************************************************
ALIGNMENT NAME: ALIGN TRAIL E CL
STATION RANGE: START:  10+00.00, END: 10+90.36
DESCRIPTION:
**********************************************************************

BEGIN ALIGN TRAIL E CL (1)
  N 13,820,771.3181  E 2,263,321.3105                    10+00.00

CURVE (1)
  BC   N 13,820,771.3181  E 2,263,321.3105               10+00.00
  CTR  N 13,820,646.7641  E 2,263,310.0465
  PI   N 13,820,775.5739  E 2,263,274.2516

    DIRECTION BACK  N84°49'57"W
      RADIUS     125.062'
      DELTA      41°23'42"(LT)
      LENGTH     90.355'
      TANGENT    47.251'
      CHORD DIRECTION    S74°28'12"W   DISTANCE   88.403'
    DIRECTION AHEAD S53°46'21"W

  EC   N 13,820,747.6488  E 2,263,236.1354               10+90.36
CURVE (1)

  N 13,820,747.6488  E 2,263,236.1354                    10+90.36
END ALIGN TRAIL E CL (1)

**********************************************************************
ALIGNMENT LENGTH: 90.355'
**********************************************************************
```



TRAIL E PROFILE

LEGEND

●	SET 1/2 INCH IRON ROD w/ V/A PROPERTY CORNER CAP.	— 675 —	EXISTING CONTOURS
○	FOUND 1/2 INCH IRON ROD (UNLESS OTHERWISE NOTED)	—675—	PROPOSED CONTOURS
R.O.W.	RIGHT OF WAY		CONCRETE SIDEWALK
BSL	BUILDING SETBACK LINE		ALLIGATOR CREEK CENTERLINE
RCP	REINFORCED CONCRETE PIPE		FLOODWAY
GETCA	GAS, ELECTRIC, TELEPHONE, CABLE		100 YR FLOOD PLAIN
VOL.	VOLUME		500 YR FLOOD PLAIN
PG.	PAGE		
EX.	EXISTING		
ESM'T	EASEMENT		
—o—	FENCE		

REVISIONS		
1		
2		
3		
4		
Δ	DESC.	DATE

JEFFREY S. TONDRE 85609 LICENSED PROFESSIONAL ENGINEER
3/12/2024

VICKREY & ASSOCIATES, LLC
CONSULTING ENGINEERS
12940 Country Parkway, San Antonio, TX 78216
Telephone: (210) 349-3271
Firm Registration No: F-159

City of New Braunfels

TRAIL PATH D & E PLAN AND PROFILE
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024
Vertical Scale 1"=5'
Horizontal Scale 1"=50'

SHEET
C15

PROJ NO. 3032.002

Mar 12, 2024 - 2:03pm
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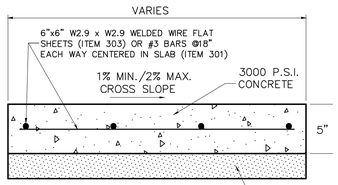
DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT

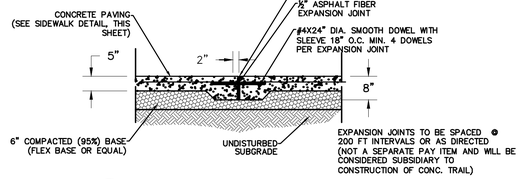


GENERAL NOTES FOR CONCRETE SIDEWALKS:

1. ALL SIDEWALKS SHALL BE A MINIMUM 3000 PSI CONCRETE WITH NO. 3 BARS AT 18" INCHES ON CENTER.
2. SLOPE SIDEWALKS AWAY FROM BUILDING AS INDICATED ON DRAWINGS OR AT 2% MAX.
3. PROVIDE SIDEWALK WITH A HORIZONTAL (CROSS) BRUSH FINISH ON ALL SURFACES.
4. GROOVE CONTRACTION JOINTS SHALL BE SPACED 5 FT. ON CENTER.
5. PROVIDE A 1/2" ELASTOMERIC ISOLATION JOINT ALONG NEW BUILDING BETWEEN ALL NEW SIDEWALK.

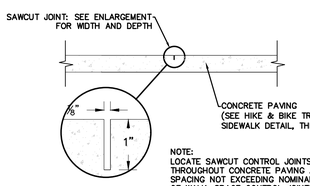
1 SIDEWALK DETAIL

N.T.S.



2 TYPICAL TRAIL EXPANSION JOINT

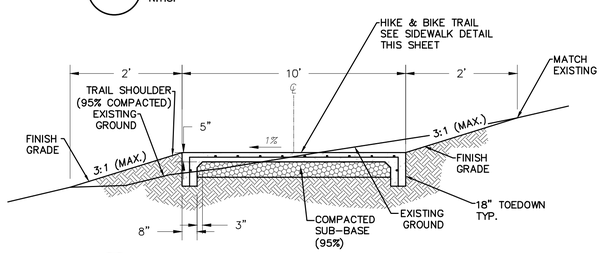
N.T.S.



NOTE:
LOCATE SAWCUT CONTROL JOINTS (CJ) THROUGHOUT CONCRETE PAVING AT SPACING NOT EXCEEDING NOMINAL WIDTH OF WALK. SPACE CONTROL JOINTS EQUIDISTANT BETWEEN EXPANSION JOINTS OR AS SHOWN ON PLANS.

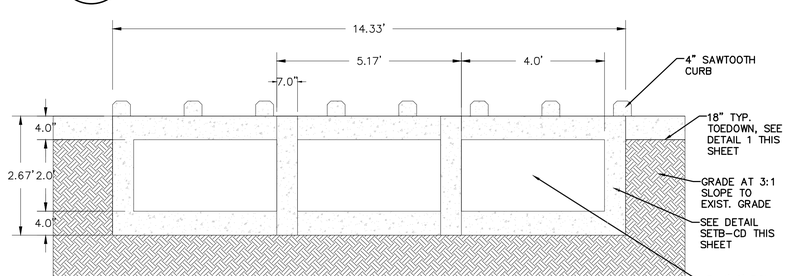
3 TYPICAL TRAIL SAWCUT CONCRETE WALK

N.T.S.



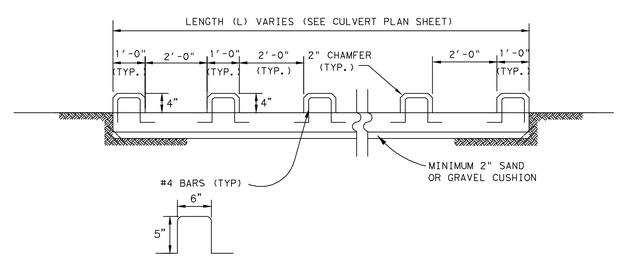
4 HIKE & BIKE TRAIL SECTION

N.T.S.

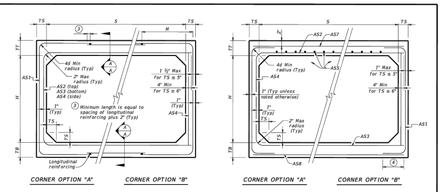


5 TYPICAL STREAM CROSSING (3-4'x2' BOX CULVERT CROSSING)

N.T.S.

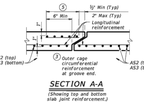


6 SAWTOOTH CURB DETAIL



FILL HEIGHT 2 FT AND GREATER

FILL HEIGHT LESS THAN 2 FT



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

MATERIAL NOTES:
Provide 0.85 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement shall be met by deformed reverse wires when wire mesh reinforcement is used.
Provide Class H concrete (f'c = 5,000 psi).

GENERAL NOTES:
Designs shown conform to ASTM C1577. Refer to ASTM C1577 for additional requirements not shown.
See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.
In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or better than the design shown in accordance with the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

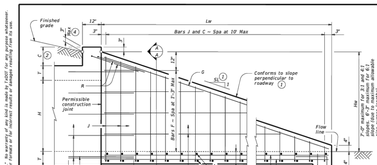
SINGLE BOX CULVERTS
PRECAST
4'-0" SPAN

SCP-4

BOX DATA															
SECTION DIMENSIONS								REINFORCING (sq. in. / ft) (2)							(1) Weight (lbs/ft)
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	Fill Height (ft.)	W (ft.)		AS1	AS2	AS3	AS4	AS5	AS7	AS8	
4'	2'	7.5	6	5	< 2	--		0.18	0.27	0.13	0.12	0.18	0.18	0.14	4.5
4'	2'	5	5	5	2 < 3	38'		0.18	0.19	0.17	0.12	-	-	-	3.8
4'	2'	5	5	5	3 – 5	38'		0.18	0.13	0.13	0.12	-	-	-	3.6
4'	2'	5	5	5	10	38'		0.12	0.12	0.12	0.12	-	-	-	3.6
4'	2'	5	5	5	15	38'		0.14	0.16	0.16	0.12	-	-	-	3.6
4'	2'	5	5	5	20	38'		0.18	0.20	0.21	0.12	-	-	-	3.6
4'	2'	5	5	5	25	38'		0.23	0.25	0.25	0.12	-	-	-	3.6
4'	2'	5	5	5	30	38'		0.28	0.30	0.30	0.12	-	-	-	3.6
4'	3'	7.5	6	5	< 2	--		0.18	0.31	0.18	0.12	0.18	0.18	0.14	5.0
4'	3'	5	5	5	2 < 3	38'		0.15	0.23	0.20	0.12	-	-	-	4.1
4'	3'	5	5	5	3 – 5	38'		0.12	0.16	0.16	0.12	-	-	-	4.1
4'	3'	5	5	5	10	38'		0.12	0.14	0.14	0.12	-	-	-	4.1
4'	3'	5	5	5	15	38'		0.12	0.18	0.18	0.12	-	-	-	4.1
4'	3'	5	5	5	20	38'		0.14	0.23	0.24	0.12	-	-	-	4.1
4'	3'	5	5	5	25	38'		0.17	0.29	0.29	0.12	-	-	-	4.1
4'	3'	5	5	5	30	38'		0.21	0.35	0.35	0.12	-	-	-	4.1
4'	4'	7.5	6	5	< 2	--		0.18	0.33	0.20	0.12	0.18	0.18	0.14	5.5
4'	4'	5	5	5	2 < 3	38'		0.12	0.26	0.23	0.12	-	-	-	4.6
4'	4'	5	5	5	3 – 5	38'		0.12	0.18	0.18	0.12	-	-	-	4.6
4'	4'	5	5	5	10	38'		0.12	0.15	0.15	0.12	-	-	-	4.6
4'	4'	5	5	5	15	38'		0.12	0.19	0.20	0.12	-	-	-	4.6
4'	4'	5	5	5	20	38'		0.12	0.25	0.25	0.12	-	-	-	4.6
4'	4'	5	5	5	25	38'		0.14	0.31	0.31	0.12	-	-	-	4.6
4'	4'	5	5	5	30	38'		0.17	0.37	0.37	0.12	-	-	-	4.6

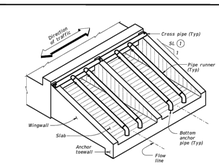
(1) For box length = 8'-0"
(2) AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.

No. CS-SCP04-Bridge		Un. SHF	Un. CAF	Un. TxDOT	Un. TxDOT
TxDOT February 2020		CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST		COUNTY	SHEET NO.



TYPICAL WINGWALL ELEVATION

(Pipe runners not shown for clarity.)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

WING DIMENSION CALCULATIONS:

$Hw = H + T + C - 0.25F$
$Lw = (Hw - 0.333) (SL)$

For cast-in-place culverts:
$Alw = (N) (S) + (N + 1) (S)$
For precast culverts:
$Alw = (N) (2X + S) + (N - 1) (0.500)$

Total Wingwall Area (SY)
$= (0.5) (Hw + 0.333) (Lw) (N + 1)$
Total Concrete Volume (CY)
$= (Wingwall\ Area)\ (0.583) +$
$(0.5) (Hw) (0.333) (N)$
$(Hw) (1.167) (1.167 - 0.583F) + (2F)$

PIPE RUNNER DIMENSION CALCULATIONS:

Pipe Runner Length
$= (Lw) (W) - (1.917)$
Total Backfill Volume (CY)
$= (1.5) (Lw) (Hw) +$
$(4.63) (Hw) +$
$(X2) (Hw) (N + 1) (1/36)$

C = Height of curb above top of top slab (Feet)
Hw = Height of wingwall (Feet)
K = Constant value for use in formulas
Skew Angle K
45° – 54° 1.414 – 7.45
41° – 1.231 – 8.49
0° – 1.014 – 10.30
Alw = Area of wingwall height (Feet)
Lw = Length of wingwall (Feet)
N = Number of culvert barrels
SL:1 = Side slope ratio (horizontal : 1 vertical)

1. See applicable box culvert standard for H, S, and T dimensions.

MATERIAL NOTES:
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Adjust reinforcing as necessary to provide a minimum clear cover of 2".
Provide Class "C" concrete (f'c = 3,600 psi).
Provide pipe runners, cross pipes, and anchor pipes meeting the requirements of ASTM A53 Type E or S, Gr. B), ASTM A500 Gr. B, or API 5L/5LS.
Provide ASTM A307 bolts.
Provide galvanized components, except the concrete reinforcing, unless required elsewhere in the plans, after fabrication.
Repair galvanizing damaged during transport or construction in accordance with the Item 445, "Galvanizing".

GENERAL NOTES:
Designed according to AASHTO LRFD Bridge Design Specifications. The safety end treatments shown herein are intended for use in conjunction with concrete box culverts where the flow is to traverse the openings approximately perpendicular to the pipe runners. Pipe runners are designed for a traversing load of 1,800 pounds per linear foot based on Research Report 280-1, "Safety Treatment of Roadside-Crossing Drainage Structures", Texas Transportation Institute, March 1982.
The quantities for pipe runners, reinforcing steel, and concrete resulting from the formulas given herein are for Contractor's information only.
See the Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
Shop drawings for fabrication bearing the seal of a professional engineer will be acceptable for precast construction of the safety end treatments.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing dimensions are out-to-out of bars.

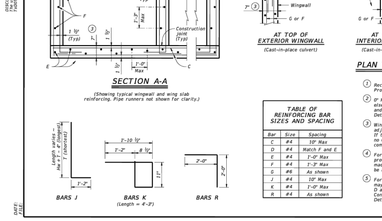
SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT
FOR 0° SKEW BOX CULVERTS
(MAXIMUM Hw = 7'-0")
TYPE I – CROSS DRAINAGE

SETB-CD

No. CS-SETBCD-Bridge		Un. SHF	Un. CAF	Un. TxDOT	Un. TxDOT
TxDOT February 2020		CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST		COUNTY	SHEET NO.



SECTION A-A

(Showing typical wingwall and wing slab reinforcing. Pipe runners not shown for clarity.)

AT TOP OF EXTERIOR WINGWALL (Cast-in-place culvert)

AT TOP OF INTERIOR WINGWALL (Cast-in-place culvert)

AT OUTSIDE OF BOTTOM SLAB (Precast culvert)

AT INTERIOR WINGWALL (Precast culvert)

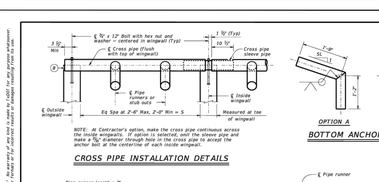
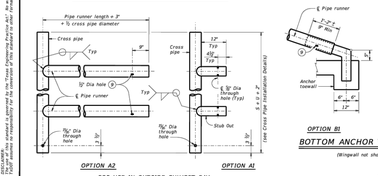


TABLE OF REINFORCING BAR SIZES AND SPACING

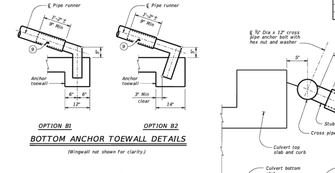
Bar	Size	Spacing
C	#4	10" Max
D	#4	Match F and E
E	#4	7'-0" Max
F	#4	7'-0" Max
G	#6	As shown
J	#4	10" Max
K	#4	7'-0" Max
R	#4	As shown

(1) Recommended values of slope are: 3:1, 4:1, and 6:1. Provide 3:1 or flatter slope.
(2) 0° Min to 3'-0° Max. Estimated curb heights are shown elsewhere in the plans. For structures without railing and curbs taller than 3'-0", refer to the Extended Curb Details (ECD) standard sheet.
(3) Wingwall and slab thicknesses may be the same as the adjacent culvert wall and slab thicknesses (7" minimum). If thicknesses greater than the minimum (7") are used, the extra cost of the additional quantities and no additional compensation will be allowed.
(4) For vehicle safety, reduce curb height, if necessary, to provide a maximum 3" projection. No changes will be made in quantities and no additional compensation will be allowed for this work.
(5) For culverts with C = 0", the precast culvert reinforcing bars shown in the Wingwall Connection Detail on the Box Culvert Precast Miscellaneous Details (SCP-MD) standard sheet.



NOTE: At Contractor's option, make the cross pipe continuous across the inside wingwalls. If option is selected, omit the sleeve pipe and make a 9/16" diameter through hole in the cross pipe to accept the anchor bolt at the centerline of each inside wingwall.

CROSS PIPE INSTALLATION DETAILS



BOTTOM ANCHOR PIPE DETAILS (4)

(4) Cross pipe is the same size as the pipe runner. Cross pipe stub out is the same size as the anchor pipe.
(5) Note that actual slope of safety pipe runner may vary slightly from side slope.
(6) Take care to ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.
(7) After installation, inspect the 1⅜" hole to ensure that the lap of the safety pipe runner with the bottom anchor pipe is adequate.
(8) At fabricator's option, a heel bend to a smooth 3' radius or a manufactured elbow (of the same material as the runner) may be substituted for the mitered and welded joint in the bottom anchor pipe.

MAXIMUM PIPE RUNNER LENGTHS AND (4) REQUIRED PIPE RUNNER AND ANCHOR PIPE SIZES

Maximum Pipe Runner Length	Required Pipe Runner Size			Required Anchor Pipe Size		
	Pipe Size	Pipe O.D.	Pipe I.D.	Pipe Size	Pipe O.D.	Pipe I.D.
10'-0"	3" STD	3.500"	3.068"	2" STD	2.375"	2.067"
19'-8"	3" STD	4.500"	4.026"	3" STD	3.500"	3.068"
34'-2"	3" STD	5.563"	5.047"	4" STD	4.500"	4.026"

CROSS PIPE AND CONNECTIONS DETAILS

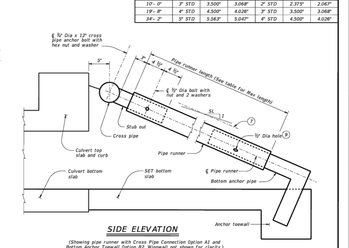
BOTTOM ANCHOR TOEWALL DETAILS

(Wingwall not shown for clarity.)

CROSS PIPE SLEEVE PIPE DETAILS

NOTE: The separate pipe runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS



SIDE ELEVATION

(Showing pipe runner with Cross Pipe Connection Option A1 and Bottom Anchor Toewall Option B2. Wingwall not shown for clarity.)

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT
FOR 0° SKEW BOX CULVERTS
(MAXIMUM Hw = 7'-0")
TYPE I – CROSS DRAINAGE

SETB-CD

No. CS-SETBCD-Bridge		Un. SHF	Un. CAF	Un. TxDOT	Un. TxDOT
TxDOT February 2020		CONT	SECT	JOB	HIGHWAY
REVISIONS		DIST		COUNTY	SHEET NO.

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City of New Braunfels

TRAIL DETAILS
ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: Mar. 2024
Vertical Scale 1"=
Horizontal Scale 1"=

SHEET
C16

PROJ NO. 3032.002

Mar 12, 2024 – 12:09pm
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DRAWN BY: CR CHECKED BY: DB APPROVED BY: JT

MATERIALS SCHEDULE

DESCRIPTION	SPECIFICATIONS
CONCRETE PAVING	REFERENCE CIVIL PLANS FOR DETAILS, REINFORCEMENT, AND FINISHES
STAMPED CONCRETE PAVING	PATTERN: RANDOM FLAGSTONE COLOR: TO BE SELECTED BY CLIENT NOTES: CONTRACTOR TO WILL PROVIDE A CUTSHEET OF PAVING PATTERN AND COLOR SAMPLE PRIOR TO ORDERING MATERIAL. CONTRACTOR WILL PROVIDE A 10'-0" X 10'-0" MOCK-UP FOR CLIENT APPROVAL PRIOR TO CONSTRUCTION.
TRASH CAN	DISTRIBUTOR: PLAYCORE COMPANY MODEL: SUPERIOR TR32CROWN-RB COLOR: COLOR TO BE SELECTED BY OWNER TEL: 1-877-762-7563 CONTRACTOR TO SUBMIT PRODUCT CUTSHEEETS FOR CLIENT REVIEW AND APPROVAL
PET WASTE STATION	DISTRIBUTOR: MUTT MITT MODEL: MUTT MITT DOG WASTE STATION WITH 400 BAGS SKU1004 TEL: 1-800 697-6084 CONTRACTOR TO SUBMIT PRODUCT CUTSHEEETS FOR CLIENT REVIEW AND APPROVAL
BOULDERS	PRODUCT: TEXAS BOULDER APPROX SIZE: 4' X 3' X 15" TEL: 281-356-2110 DISTRIBUTOR: COWBOY TRUCKING INC. WEB: COWBOY TOPSOIL.COM TEL: 713-932-9825 CONTRACTOR TO SUBMIT SAMPLES FOR CLIENT REVIEW AND APPROVAL

CONC. JOINT NOTES:

1. UNLESS OTHERWISE NOTED ON CIVIL PLANS, PROVIDE (1) TOOLED CONSTRUCTION JOINT 10' ON CENTER PER LINEAL FEET OF CONC. TRAIL.
2. UNLESS OTHERWISE NOTED ON CIVIL PLANS, PROVIDE (1) EXPANSION JOINT PER 40' MAX PER LINEAL FEET OF CONC. TRAIL, AT INTERSECTIONS BETWEEN FLAGSTONE PAVING, AND INTERSECTIONS BETWEEN EXISTING CONCRETE AND NEW CONCRETE.
3. UNLESS OTHERWISE NOTED ON CIVIL PLANS, PROVIDE CONSTRUCTION JOINTS @ ALL JUNCTIONS WHERE CONC. IMPROVEMENTS CHANGE DIRECTION.
4. REFER TO CIVIL PLANS FOR CONC. JOINT DETAILS AND SPECIFICATIONS.

Scale: 1" = 100'-0"
0 50' 100' 200'

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1784
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03.12.24
exp 07.30.25

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OVERALL LANDSCAPE CONSTRUCTION PLAN

ALLIGATOR CREEK TRAIL

NEW BRAUNFELS, TEXAS

DATE: March 12, 2024
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Horizontal Scale 1"=
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SHEET L1.0 OF 9

PROJ NO. 3032.002

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ALLIGATOR CREEK TRAIL
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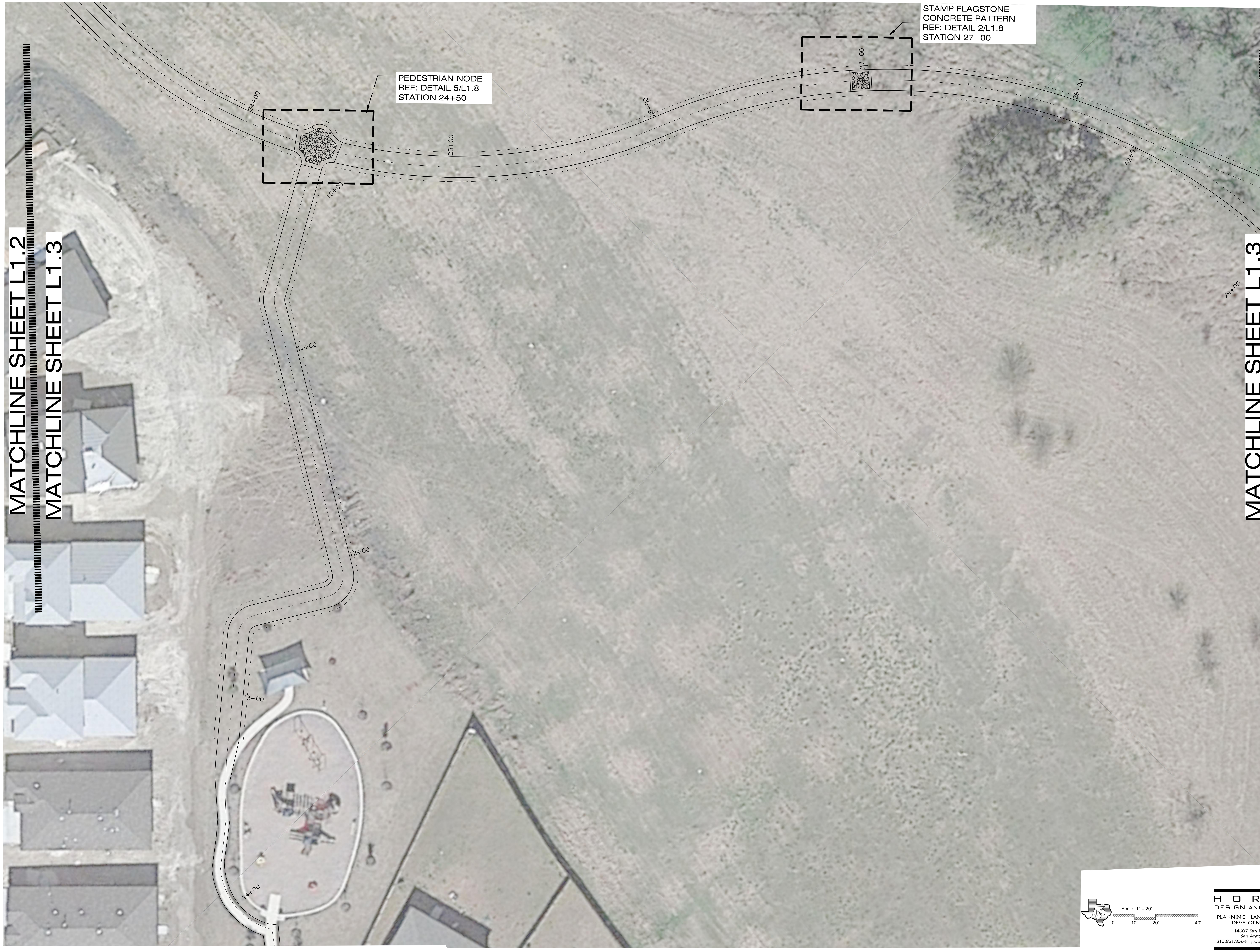

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ALLIGATOR CREEK TRAIL

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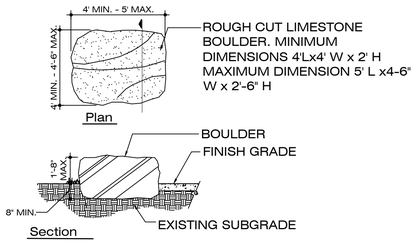
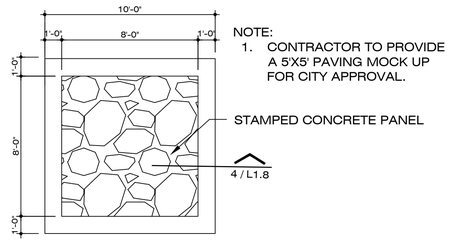


BOULDER SEAT (1)

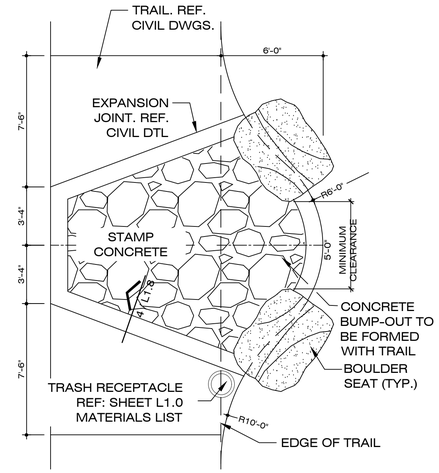
SCALE: 1/4" = 1'-0"



NOTE:
1. CONTRACTOR TO PROVIDE A 5'X5' PAVING MOCK UP FOR CITY APPROVAL.

STAMPED FLAGSTONE CONCRETE PATTERN (2)

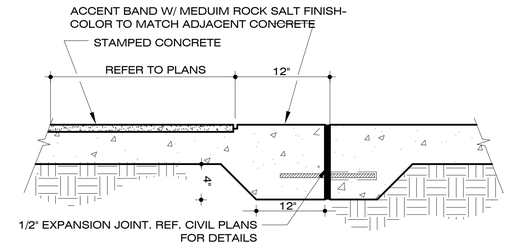
SCALE: 1/4" = 1'-0"



PLAN-REST AREA (3)

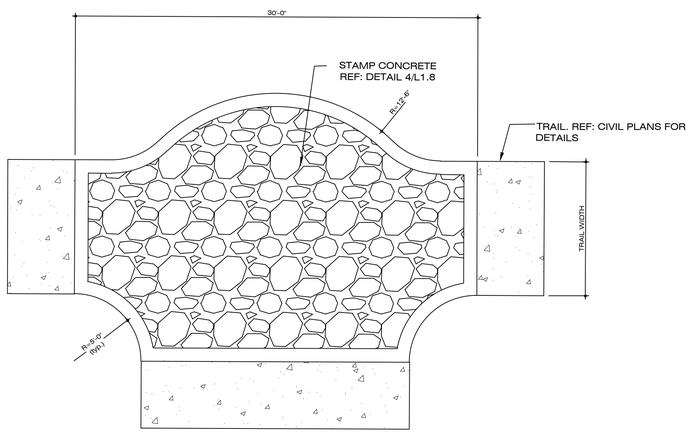
SCALE: 1/4" = 1'-0"

NOTES:
1. STAMPED CONCRETE PATTERN: CONTRACTOR TO SUBMIT STAMP CONCRETE PATTERN FOR CLIENT REVIEW AND APPROVAL.
2. STAMPED CONCRETE COLOR: CONTRACTOR TO SUBMIT COLOR SAMPLES FOR CLIENT REVIEW AND APPROVAL.
3. CONTRACTOR TO PROVIDE A 10'-0" X10'-0" MOCKUP FOR CLIENT REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
4. REFER TO CIVIL DETAILS FOR TYP. CONCRETE THICKNESS, P.S.I.,REINFORCING, AND SUBGRADE PREPARATION.



STAMPED FLAGSTONE CONCRETE PATTERN W/ 12" ACCENT BAND (4)

SCALE: 1/4" = 1'-0"



PEDESTRIAN NODE (5)

SCALE: 1/4" = 1'-0"

03.12.24
Exp. 07.30.25

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CAPITAL PROGRAMS

LANDSCAPE CONSTRUCTION DETAILS

ALLIGATOR CREEK TRAIL
NEW BRAUNFELS, TEXAS

DATE: March 12, 2024

Vertical Scale 1"=
Horizontal Scale 1"=
0

SHEET L1.8 OF 9

PROJ NO. 3032.002

DRAWN BY: RA CHECKED BY: DB APPROVED BY: JT

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