

Memorandum

To: File
Prepared: Rolando H. Briones, Jr., P.E., Engineer of Record (EOR)
Date: July 1, 2025
Re: Somerset College Academy, Proposed Drainage Improvements

The following is a summary of the proposed drainage improvements broken into two main components: football field and courtyard. The football field area is broken down into Area 1 and Area 2 as described below. The estimated quantities, site photos and scope of work makes up this memorandum. We have been provided with plans of the field.¹ The attached quantity estimates are based on what can be observed from above.

Site Location/Legal Description

Somerset College Academy, San Antonio, Texas 78230, Lot 14, NCB 13375 (25.555 Acres) Bexar County Plat Book 9550, Page 106. Replat and Subdivision Plate establishing Cornerstone Christian School Subdivision, Lot 1, NCB 13375, Ursulimne Academy Subdivision, recorded Plat Vol. 4500 Page 228

I. Football Field & Track Field: Areas 1, 2, 3

Failure Areas: The first observable ground failure is located between the football field endzone and the multi-lane track that encircles the football field and is being referenced herein as Area 1. There exist two west/east parallel running tracks (Running Broad Jump Track Ramp) with the initial failure area at the corner of the southernmost track.

The second and significantly larger failure Area 2, in the grass area outside of the circular track in the southeast corner between the fence and circular track. Area 3 is located upstream of Area 2 and ending at an upstream combination grate inlet, junction box.

- a. **Area 1:** The Track and Field finished surface is covered with synthetic material. Overtime stormwater—from cumulative rain events—has led to the undermining of the track. The final amount to be repaired will be determined after the initial excavation.
- b. The synthetic carpet shows multi failure depressions that are observable. The extent of these areas cannot be determined from the surface.
- c. When the original natural grass was removed a French drain was installed or possibly removed with the installation of the synthetic field. This drain does not appear to be include in the referenced drawing. The design plans will need to indicate this possibility.

¹ Drawing Sheet C2.10, signed June 25, 2014. We recommend that all existing paper drawings be scanned and categorized for future reference.

- d. **Area 2:** The above described observations seem to culminate at an existing junction box that collects the Trench Drain from the southern half of the football field. It then feeds the larger diameter line that flows into another and much larger junction box located outside the circular running track. This failure area is referenced as Area 2.
- e. **Area 3:** is located between the large junction box and the upstream junction box located to the west in the grass area outside the circular track. This failure appears to be on the surface.

Other Observations: The track area has a Trench Drain on the inside lane that extends approximately 1,100 lineal feet (LF). The pipe material used typically comes in 40" sections. Based on this there is approximately three hundred plus joints that should be inspected. It is our recommendation that this be televised as part of the overall drainage improvements plan. This Trench Drain collects into the above referenced 18" collector pipe. The entire 18" collector and the trench drain discharge at a junction box that is located at the end of the *Running Broad Jump Track Ramp* located in the south end zone.

The provided drawing plan shows both the 18" collector pipes and the tie-in at the curb line. As stated above the actual tie-in is at the end of the *Running Broad Jump Track Ramp*. Plans do not show a junction box, it shows a circular symbol, similar to a manhole. Also, it shows the collector pipes coming into the manhole from opposite sides, at the same elevation. This could have been the cause of the destruction of the manhole. The bottom slab is covered with asphalt based flexible base material.

A 30" HDPE pipe exits the manhole and goes under the track and discharges into a 6'x6' grate inlet. There is also a 24" pipe that is the last section of a 370 LF drainpipe system exiting into a concreted junction box with a six 3'x3' serving as an additional surface collection. This pipe also discharges into the 6'x6' grate inlet. A 48" Corrugated metal pipe serves as the outlet pipe (39' I) and empties thru a concrete headwall and spills thru a flared wall apron.

We have not checked on the condition of the spillway at the creek. The 6'x6' grated junction box is in bad condition with part of the outlet pipes blown out by the force of the discharge. Part of the box's vertical walls were also blown out. The 6'x6' J' box looks like it standing only on 2 vertical walls, instead of 4 walls.

The 24" HDPE pipes w/ the 6-3'x3' on the outside of the track is collecting runoff from the top of cliff (30' High) that circles outside of track on the south end of field & track area. The runoff that comes from the cliff area originates from the school site and drops the 30 feet to ground level. With the amount of rainfall that we had, the water is loosening the rocks that hold the cliff in place. These large rocks probably were the cause of the damage done to the 6'x6' junction box.

Recommendations for Repairs at Areas 1, 2, 3

- a. The underground piping and trench drain need to be televised. This will reveal the extent of the damaged and how much to repair.
- b. The last two junction boxes need to be replaced with prefab boxes. (6'x6' junction box and 48" diameter manhole (MH) should be replaced with a prefabricated junction box.
- c. The 30" HDPE that's laid across the track should be replaced with a 36 L.F. section of 36" R.C.P., eliminating any possible joint under the track field and withstanding any pounding of large rocks inside the pipe. This will require replacing a section of the track surface & base.

The results of the televise of pipe will determine if any portion of the existing piping system need replacement. We would recommend replacing the grate inlets with 4-way inlet and surrounding the 4-way inlets a flared concrete apron.

The junction of both 18" HDPE pipes which collect the Trench Drains need to be located where they will not interfere with the running jump tracks. There are 4 grate inlets located on the northwest end of the field, next to the bleachers that also have to be reviewed via the televising of the 18" HDPE.



Area 1 Failure

Corner of Running Brad Jump Track.

Area 2 Failure

Existing grate inlet/junction box.



Area 3 Failure

Surface failure upstream of Failure Area 2.



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ESTIMATE QUANTITIES FOR SOMERSET COLLEGE ACADEMY

I. FOOTBALL FIELD & TRACK FIELD

ITEM	Description	Quantity	Unit	Unit Cost	Extension
1	R/R 6' x 6' Grate Inlet w/ 6' x 6' Precast JB	1	EA	\$0.00	\$0.00
2	R/R 4' diameter Manhole w/ 5' x 5' Precast JB	1	EA	\$0.00	\$0.00
3	R/R 3' x 3' Grate Inlet w/ 3' x 3' - 4 way inlet	4	EA	\$0.00	\$0.00
4	R/R 18" HDPE Pipe w/ 18" HDPE	200	LF	\$0.00	\$0.00
5	R/R 24" HDPE Pipe w/ 24" HDPE	300	LF	\$0.00	\$0.00
6	R/R 30" HDPE Pipe w/ 30" HDPE	70	LF	\$0.00	\$0.00
7	R/R existing trench drain	200	LF	\$0.00	\$0.00
8	R/R existing synthetic track material w/ same	600	SF	\$0.00	\$0.00
9	R/R existing turf material w/ same	1,800	SF	\$0.00	\$0.00
10	TV Existing Storm Pipes & Trench Drains.	1,600	LF	\$0.00	\$0.00
Subtotal					\$0.00

- R/R Remove and Replace
- JB Junction Box
- w/ With
- EA Each
- LF Linal Foot
- SF Square Foot
- CY Cubic Yard
- LS Lump Sum

