NORTH STAR GROUP, INC.

Yard Build-Cost Analysis

Five-acre gravel truck yard — owner-direct method

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> *An illustrative planning analysis of the hard cost to build a five-acre truck-and-trailer storage yard on the Winnie I-10 / SH-73 corridor. All figures are planning examples — not a bid, not an engineer's estimate, and not a projection of return. Nothing here is an offer to sell a security.*

Summary

Build approach	Hard cost
Conventional turnkey, paved, general-contractor managed	~$1,670,000
Gravel yard, hauled limestone base, owner-direct	~$985,000
Gravel yard, cement-stabilized-sand base, owner-direct	**~$875,000**

The owner-direct figure is approximately **$875,000**, or about $175,000 per acre and $5.47 per square foot of surfaced yard. The reduction from the turnkey figure follows from three choices: a gravel yard rather than paving; an owner-direct procurement method; and a cement-stabilized-sand base mixed from local sand in place of limestone hauled from central Texas.

Method — owner-direct procurement

Each line is built by purchasing the material directly, delivered to site at cost, and hiring the install separately — general labor where the work is manual, an equipment-and-operator crew where it is machine work, and a licensed trade only where the work requires one. The developer carries the project management. This removes two markups present in a conventional number: the subcontractor's markup on materials, and the general contractor's overhead-and-profit on the whole job — on a project of this size, roughly $105,000 of markup.

Site basis

The parcel is approximately five acres, level (0–2% slopes), predominantly coastal prairie with a wooded band on the road frontage. Soils are HSG D expansive clay with a near-surface water table; annual rainfall runs roughly 56–58 inches. The yard is surfaced over about 75% of the tract (~160,000 square feet). Quantities are planning approximations; a geotechnical investigation and local quotes move the subgrade and base lines most.

Base material

The Gulf Coast has no native rock, which makes hauled limestone the costly default. The substitute is cement-stabilized sand: local sand (about $8–14 per ton at the pit) combined with bulk cement (a commodity, with no freight penalty), tilled and compacted on site into a bound base. Because the result is cemented and stronger than loose gravel, an 8-inch section carries the yard where loose stone required about 10 inches.

The mix is two sacks of cement per cubic yard (about 5.5% by weight) — the load-bearing Gulf Coast standard, confirmed by a mix design on the actual pit sand.

Cement-stabilized-sand reference	Cement	≈ % by weight
Utility bedding / flowable fill	1.0–1.5 sacks/CY	3–4%
Light-duty base	1.5 sacks/CY	~4%
Load-bearing yard base (this analysis)	2.0 sacks/CY	~5.5%
PCA soil-cement, clean sand, freeze climates	—	7–11%

Quantities for the 8-inch base over ~160,000 square feet: approximately 6,300 tons of sand (~4,700 loose cubic yards) and 370 tons of cement (~7,900 sacks).

Hard-cost buildup

Crew per line: (E) equipment + operator · (L) general labor · (S) skilled/licensed.

#	Line item	Material	Install	Crew	Line total
1	Clear & grub, strip topsoil, mass grade	—	$27,000	E	$27,000
2	Erosion control / SWPPP	$6,000	$1,800	L	$7,800
3	Subgrade stabilization (geotextile + lime treat)	$53,000	$32,000	E	$85,000
4	Base course — cement-stabilized sand (8″, 2 sk/CY)	$134,000	$56,000	E	$190,000
5	Surfacing — concrete (entrance apron + pads)	$27,000	$13,000	S	$40,000
6	Stormwater / detention (pond + storm sewer)	$50,000	$90,000	E	$140,000
7	Entrance / access (culvert + drive)	$15,000	$20,000	E	$35,000
8	Fencing, gates & security	$52,000	$23,000	L	$75,000
9	Site lighting (LED area poles)	$50,000	$20,000	S	$70,000
10	Utilities (electric + water/sewer)	$25,000	$25,000	S	$50,000
11	Office / guard structure	$20,000	$5,000	L	$25,000
12	Striping / signage / bollards	$10,000	$5,000	L	$15,000

#	Line item	Material	Install	Crew	Line total
	Direct subtotal	$442,000	$317,800		$759,800
13	Mobilization + owner coordination				$35,000
14	Contingency (~10%)				$80,000
	Hard-cost total				**~$875,000**

Of the total, about $442,000 is material procured directly and about $318,000 is labor and equipment hired by the hour.

Line notes

Subgrade and base (lines 3 and 4) are about 31% of the build: the expansive clay is lime-treated to control swell, then a cement-stabilized-sand base is placed over it. A geotechnical investigation may let the base and a geotextile absorb part of the subgrade treatment; the two are held separately here.

The base course (line 4) is both the largest single line and the largest saving — cement-stabilized sand at 8 inches runs about $190,000 against roughly $290,000 for hauled limestone at 10 inches.

Detention (line 6) is the second-largest line. HSG D soils that drain slowly (saturated conductivity 0.00–0.06 in/hr), combined with roughly 57 inches of annual rainfall, make stormwater management heavy.

Lighting and electrical service (lines 9 and 10) are the skilled exceptions; they require a licensed electrician rather than general labor. An unmanned drop yard removes most of the water and sewer in line 10.

Mobilization and owner coordination (line 13) is where the method shows. A general contractor carries overhead-and-profit at roughly 10–15% of the job — about $140,000 here. Self-performing replaces that with about $35,000 of mobilization and the developer's coordination time; the difference is markup retained, traded for management hours and the contingency risk a general contractor would otherwise hold.

Relationship to the yield floor

The program underwrites to a 12% yield-on-cost floor. A planning placeholder of $1.15 million was used for the build. At approximately $875,000, this method comes in about $275,000 below that placeholder. On a small tract, where the build dominates the economics, that difference flows into the land price the program can support while still clearing the floor.

What firms the figures

Line	What moves it	How it is set
Base course	cement percentage and sand quality	mix design on the pit sand

Line	What moves it	How it is set
Subgrade	swell potential of the clay	geotechnical borings + swell test
Detention	detention sizing + rainfall	civil drainage design
Materials	delivered prices	quotes from regional suppliers
