



City of Villa Rica
Wastewater Department
571 West Bankhead Hwy
Villa Rica, GA 30180

WEST PLANT
(770) 459-7015

NORTH PLANT
(770) 459-8302

MICHAEL KAUFFMANN

Fence Specifications for Lift Stations

The station should sit on a plot at least forty feet by forty feet square. It should be enclosed in a separate six foot high chain link fence with the following properties:

- < One-piece galvanized fence fabric of No. 9 gauge (0.148 inch) steel wires of 2 inch mesh.
- < End, corner, gate, and pull posts with a minimum 2.875 inch O.D. steel pipe rated at 5.79 pounds per linear foot.
- < Line posts spaced a maximum of 10 feet on center with a minimum 2.375 inch O.D. steel pipe rated at 3.65 pounds per linear foot.
- < Top rail of 1.66 inch O.D., 2.27 pounds per linear foot, manufacturer's longest lengths, with expansion type couplings, approximately 6 inches long, for each joint.
- < Manufacturer's standard tension wire system, finished to match the fabric, should be provided at the bottom.
- < Provide manufacturer's standard adjustable brace at the end and gate posts and at both sides of corner and pull posts, with horizontal brace located at mid-height of fabric, using 1.66 inch O.D. pipe for horizontal bracing, and truss line to posts with 0.375 inch diameter rod and adjustable tightener.
- < One weathertight closure cap should be provided for each tubular post with openings to permit passage of top rail.
- < Manufacturer's standard barbed wire supporting arms, metal and finish to match framework, with provision for anchorage to posts and attaching 3 rows of barbed wire to each arm. Supporting arms may be either attached to posts or integral with post top weather cap and must be capable of withstanding 250 pounds of downward pull at outermost end. Provide one for each post with a single 45 degree arm for 3 strands barbed wire.
- < Provide 2 strand twisted barbed wire with 4-point barbs spaced not more than 5 inches on center, of metal and finish matching fabric.
- < Provide stretcher (tension) bars of one piece length to full height of fabric, with minimum cross-section of 3/16 inch x 3/4 inch. Provide one stretcher bar for each gate and end post, and two for each corner and pull posts, except where fabric is integrally woven into post.
- < Provide stretcher bar bands with a minimum thickness after galvanizing of 0.078 inch and minimum width of 3/4 inch. Space not over 15 inches on center to secure stretcher bars to end, corner, pull, and gate posts.
- < Provide a double gate at least 12 feet wide. Fabricate perimeter frames of gates of minimum 1.90 inch O.D. pipe from metal and finish to match fence framework. Assemble gate frames by welding. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware, and accessories.

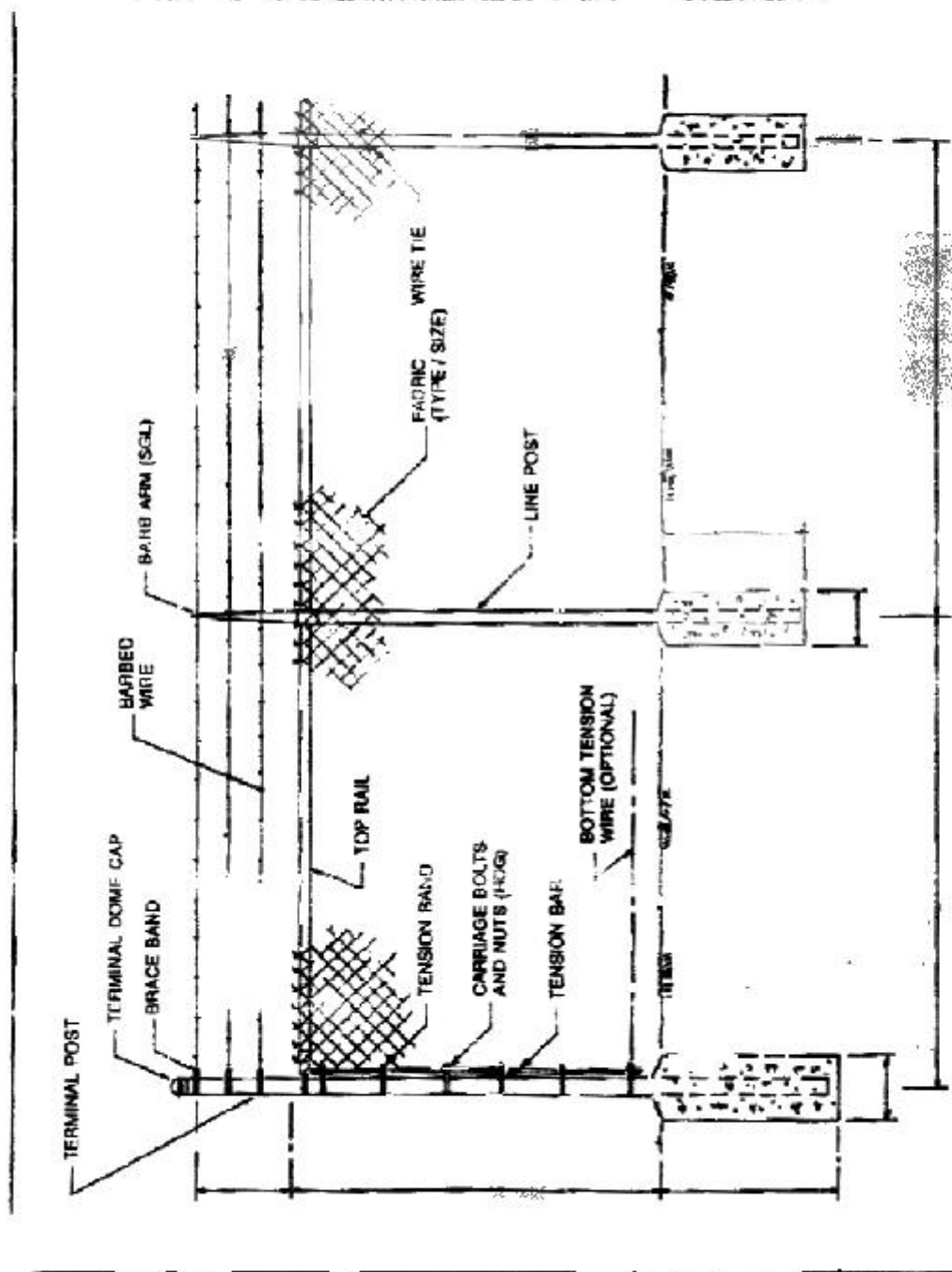
- < Provide same fabric as for fence. Install fabric with stretcher bars at vertical edges and at top and bottom edges. Attach stretcher bars to gate frame at not more than 15 inches on center.
- < Install diagonal cross-bracing consisting of 3/8 inch diameter adjustable length truss rods on gates to ensure frame rigidity without sag or twist.
- < Extend end members of gate frames 1 foot above to member and prepare to receive 3 strands of barbed wire. Provide necessary clips for securing wire to extensions.
- < Provide the following gate hardware and accessories for each gate, galvanized per ASTM A153, with finish to match fabric.
 - < Provide hinges of size and material to suit gate size, non-lift-off type, offset to permit 180 degree gate opening.
 - < Provide a forked type latch.
- < Provide U-shaped tie wires, conforming to diameter of pipe to which attached, clasp pipe and fabric firmly with ends twisted at least two full turns. Bend ends of wire to minimize hazard to persons or clothing. Tie fabric in line posts, with wire ties spaced 12 inches on center. Tie fabric to rails and braces, with wire ties spaced 24 inches on center. Tie fabric to tension wires, with hog rings spaced 24 inches on center.
- < Provide concrete consisting of Portland cement, ASTM C 150, aggregates, ASTM C 33, and clean water. Mix materials to obtain concrete with a minimum 28-day compressive strength of 2500 psi, using at least four sacks of cement per cubic yard, 1 inch maximum size aggregate, maximum 3 inch slump, and 2% to 4% entrained air.

The fence line should be two feet from the outer edge of the station's property line on all sides except as approved by the City. Under no circumstances should installation and erection of the fence begin before final grading is completed.

There should be a double gate at least twelve feet wide positioned in such a manner that will allow a lift vehicle full access to both pits. The gate may only swing outward provided it will not enter a public right-of-way at any point in its swing radius. Whether designed to swing inward or outward, nothing within or outside the lift station should exist or be positioned in such manner as will interfere with the full opening radius of the gate.

NOTE: The above concrete specification will comprise the minimum standard for all concrete used in lift station construction unless otherwise specified in the City's building code.

Please refer to the following Standard Detail illustrations for further details:



NO.	QTY	UNIT	DESCRIPTION
1	1	EA	TERMINAL POST
2	1	EA	LINE POST
3	1	EA	TOP RAIL
4	1	EA	TENSION BAR
5	1	EA	CARRIAGE BOLTS AND NUTS (HCBG)
6	1	EA	BARBED WIRE
7	1	EA	WIRE TIE
8	1	EA	FABRIC (TYPE / SIZE)
9	1	EA	BAND ARM (SGL)
10	1	EA	TERMINAL DOME CAP
11	1	EA	BRACE BAND
12	1	EA	BOTTOM TENSION WIRE (OPTIONAL)

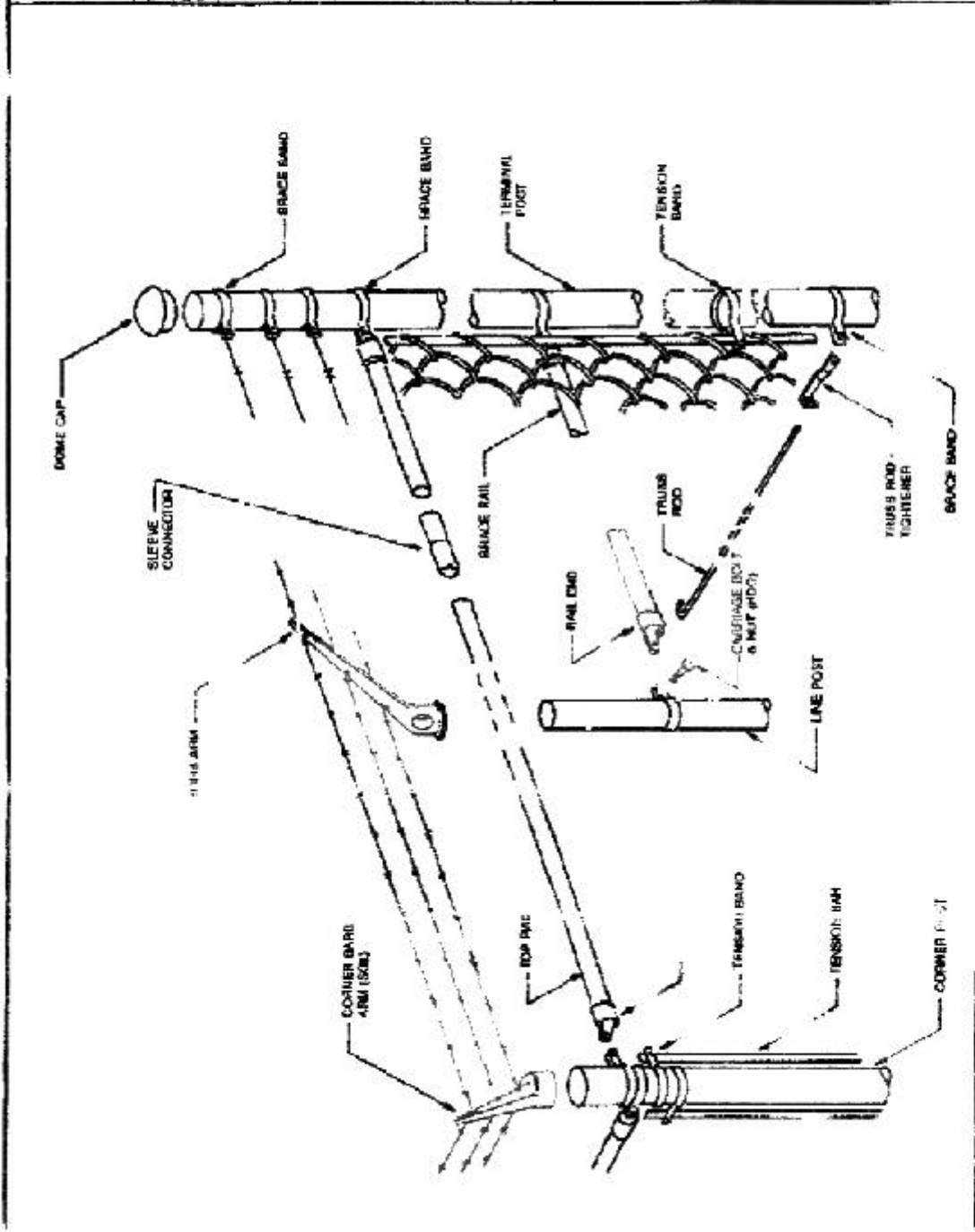
STANDARD DETAIL	
DATE NO.	SD-135
DATE	
BY	
CHK'D BY	
DATE	
BY	

SUBMITTED TO:	CONTRACTOR
	ARCHITECT
	ENGINEER
JOB / PROJECT:	TYPICAL FENCE ELEVATION
	TOP RAIL / NO BRACE RAIL
3 STRANDS BARBED WIRE	

Metal Products, Inc.

JOB SPECIFICATIONS			
FABRIC	MESH	GAWSE	BELLORE
TENSION WIRE	GA	TOP	ROTT
BARBED WIRE	TYPE	3 STR	1 STR
FRONTWIRE	OD	WALL	LINE/LF
TOP RAIL			
LINE POSTS			
BRACE RAIL			
CORNER POSTS			
END POSTS			
GATE POSTS			
GATE FRAME			
GATE TYPE			
NOTES			

STANDARD DETAIL	DWG NO	SD-20R
COMPILED BY	DATE	SHT
		OF



CONTRACTOR	
ARCHITECT	
ENGINEER	
TYPICAL ASSEMBLY DETAIL TOP RAIL / TRUSSED BRACE RAIL 3 STRAND BARBED WIRE	
JOB PROJECT	
DESIGNED BY	
APPROVED BY	

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