

STATE OF TEXAS

AN ORDINANCE OF THE CITY COUNCIL OF SEGUIN, TEXAS AMENDING THE SEGUIN CODE OF ORDINANCES CHAPTER 90, SECTION 90-133, STORM SEWER CURB INLET DETAILS; AND SECTION 90-134, DESIGN CRITERIA FOR DRAINAGE, TO PROMOTE EFFICIENT MANAGEMENT OF THE DRAINAGE SYSTEM AND TO CREATE CONSISTENCY WITH THE CITY'S NEW STORMWATER CRITERIA MANUAL; AUTHORIZING CITY STAFF TO PREPARE THIS ORDINANCE AS A SUPPLEMENT TO THE CITY CODE OF ORDINANCES; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR PUBLICATION; AND DECLARING AN EFFECTIVE DATE

WHEREAS, City staff is proposing to implement a new Stormwater Criteria Manual to govern the planning and design of stormwater infrastructure and flood risk analysis within the City of Seguin and within all areas subject to its authority as they proceed to development; and

WHEREAS, ordinance updates are necessary to promote efficient management of the drainage system and to create consistency with the City's new Stormwater Criteria Manual.

BE IT ORDAINED BY THE CITY COUNCIL OF SEGUIN, TEXAS

SECTION ONE. The Seguin Code of Ordinances, Chapter 90, Streets, Sidewalks, and other Public Places, Article V, General Specifications and Standards Section 90-133 is amended to read as follows (underlining indicates added text, ~~striketrough~~ indicates deleted text):

~~Storm sewer curb inlet details.~~

(a) ~~Plan—Suggested configuration.~~

Plan

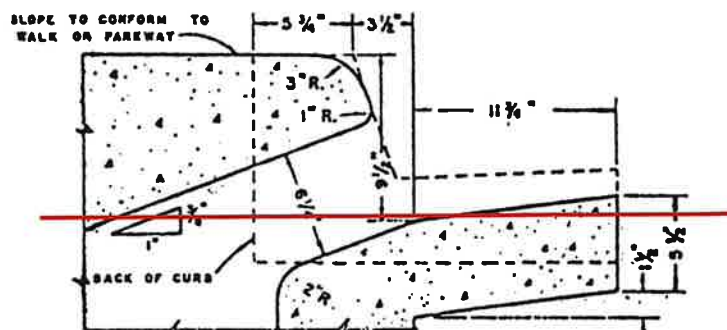
(b) ~~Elevation—Suggested configuration.~~

Elevation

(c) ~~Opening details—Suggested configuration.~~

Opening details

Opening Detail for Curb Section



Opening Details

Opening Detail for Curb and Gutter Section

- (d) ~~Alternative designs. The city engineer may approve alternative storm sewer curb inlet designs provided such alternative is designed so as to assure reasonable durability and economy of maintenance under the type of use contemplated and shall be in accordance with appropriate engineering design criteria applicable to the local area. Approval of such alternative designs shall not be considered as a variance within the context of this article.~~

SECTION TWO. The Seguin Code of Ordinances, Chapter 90, Streets, Sidewalks, and other Public Places, Article V, General Specifications and Standards Section 90-134 is amended to read as follows (underlining indicates added text, ~~striketrough~~ indicates deleted text):

Design criteria for drainage.

The stormwater system shall be designed in accordance with the City's UDC and Stormwater Criteria Manual.

~~Runoff Calculations.~~

- (1) ~~Runoff rates shall be computed at not less than the following:~~

PERCENT RUNOFF

Character of Area	Slope			
	To 1%	Over 1% Up to 3%	Over 3% Up to 5%	Over 5%
Business or commercial area (90% or more impervious)	95	96	97	97
Densely developed area (80% to 90% impervious)	85	88	91	95
Closely built residential area	75	77	80	84
Average residential area	68	70	72	75
Undeveloped area	65	67	69	72

- (2) ~~In all instances, wet antecedent conditions shall be assumed. Runoff rates shall be computed on the basis of ultimate development of the entire watershed contributing runoff water to the proposed subdivision. For determination of time of concentration, velocities shall be assumed on the basis of concrete-lined channels and streets carrying stormwater in the contributing watershed area. Rainfall intensities shall be obtained from the state highway department data for Guadalupe County.~~

- (b) ~~Drainage facilities.~~

- (1) ~~Streets may be used for stormwater drainage only if the calculated stormwater flow does not exceed the flows outlined in Table I in this section, or the velocity does not exceed ten feet per second. Minor streets shall be designed on the basis of a ten-year storm frequency, and all other streets shall be designed on the basis of a 25-year storm frequency. Where streets are not capable of carrying stormwaters as outlined above,~~

drainage ditches or storm sewers shall be provided. The runoff from a storm with a design frequency of 100 years shall be contained within the street right-of-way.

(2) All open channels shall be grass-lined. The design of the grass-lined channels shall be based on the 100-year frequency storm, for fully developed upstream conditions, subject to the approval of the city engineer.

- a. Surface. The entire surface of the channel shall be vegetated.
- b. Velocity. The maximum 100-year storm velocity shall not exceed six feet per second (fps).
- c. Side slopes. Side slopes shall not be steeper than three horizontal to one vertical (3H:1V).
- d. Bottom width. The minimum flat bottom width of the channel shall be six feet.
- e. Grade. The channel should have a minimum grade of one percent, where possible. Channels with grades of less than one percent shall have a reinforced concrete pilot channel, located in the middle of the channel bottom, four feet wide, two inches deep, and be capable of withstanding vehicular loading. The longitudinal grade of the channel flow line shall not be less than 0.4 percent.
- f. Curvature. The centerline curvature shall have a minimum radius of twice the top width of the 100-year storm flow.
- g. Freeboard. All channels shall provide one foot of freeboard above the 100-year frequency storm normal water surface elevation.
- h. Easements. Easements for grass-lined channels shall extend a minimum of two feet on one side and 15 feet on the opposite side of the extreme limits of the channel (when such channel does not abut an alley or street). When such channel abuts an alley or street, the easement shall extend a minimum of two feet on both sides of the extreme limits of the channel. Property owners shall be responsible for the normal mowing and maintenance of the channel.

(3) Concrete-lined channels may be needed in reaches where velocities are excessive or where the channel characteristics require such use. The design of the concrete-lined channels shall be based on the 100-year frequency storm, subject to the approval of the city engineer. Other appropriate channel armoring may be approved by the city engineer.

- a. Lining height. The concrete lining shall extend one foot above the calculated 100-year water surface elevation, taking into consideration superelevation, standing waves, or other surface disturbances.
- b. Side slopes. Since concrete-lined channels do not require slope maintenance, the side slopes may be as steep as vertical with appropriate structural methods applied.
- c. Grade. The flow line of the channel shall be no less than 0.4 percent and must also be sufficient to produce a velocity for the two-year storm of two feet per second

(fps). Compliance with this requirement must take into account the variation in channel flow due to distributed inflows to the channel.

- d. ~~Easements.~~ Easements must be sized to allow for adequate access to the channels, including concrete ramps and drives ample enough for maintenance equipment. A minimum of five feet shall be provided from the back side of a retaining wall or uppermost section of concrete lining. Sufficient easements shall also be provided for future construction access.

(Ord. No. 05-61, § 2, 11-15-05; Ord. No. 06-54, § 1, 9-5-06; Ord. No. 10-28, § 1, 5-4-10)

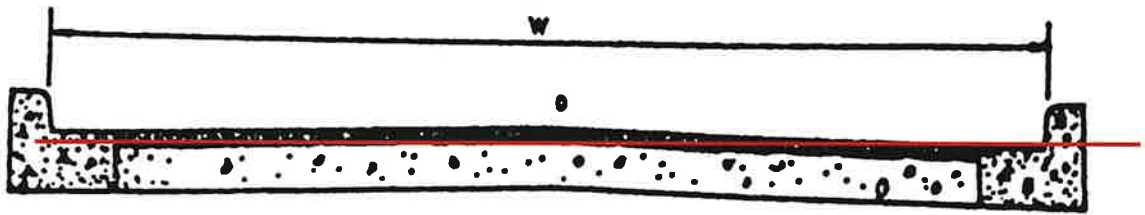


Table I

Minor street:	W	=	30'	Collector street:	W	=	42'
	-c	=	4"		-c	=	5"
	-A	=	12.45		-A	=	15.54
	-wp	=	31.16		-wp	=	43.16
	-f	=	0.40		-f	=	0.36

	Minor Street		Collector Street	
Percent of Slope	V (f/s)	Q (cfs)	V (f/s)	Q (cfs)
0.10	1.42	17.68	1.32	20.51
0.15	1.74	21.66	1.62	25.17
0.20	2.00	24.90	1.87	29.06
0.25	2.24	27.89	2.09	32.48
0.30	2.46	30.63	2.29	35.59
0.35	2.65	32.99	2.47	38.38
0.40	2.84	35.36	2.64	41.03
0.45	3.01	37.47	2.80	43.51
0.50	3.17	39.47	2.95	45.84
0.55	3.32	41.33	3.10	48.17
0.60	3.47	43.20	3.24	50.35
0.65	3.61	44.94	3.37	52.37
0.70	3.75	46.62	3.50	54.39
0.75	3.88	48.31	3.62	56.25
0.80	4.01	49.92	3.74	58.12
0.85	4.13	51.42	3.85	59.83
0.90	4.25	52.91	3.96	61.54
0.95	4.37	54.41	4.07	63.25
1.00	4.48	55.78	4.18	64.96

1.50	5.49	68.35	5.12	79.56
2.00	6.34	78.93	5.91	91.84
2.50	7.09	88.27	6.61	102.72
3.00	7.76	96.61	7.24	112.51
3.50	8.39	104.46	7.82	121.52
4.00	8.97	111.68	8.36	129.91
4.50	9.51	118.40	8.86	137.68
5.00	10.02	124.75	9.34	145.14
5.50	10.51	130.85	9.80	152.29
6.00	10.98	136.70	10.23	158.97
6.50	11.43	143.30	10.65	165.50
7.00	11.86	147.66	11.05	171.72
7.50	12.28	152.89	11.44	177.78
8.00	12.68	157.85	11.82	183.68
8.50	13.07	162.72	12.18	189.28
9.00	13.45	167.45	12.53	194.72
9.50	13.82	172.06	12.88	200.16
10.00	14.18	176.54	13.21	205.28

SECTION THREE. This Ordinance shall become effective beginning ten days after its publication.

SECTION FOUR. If any clause or provision of this Ordinance shall be deemed to be unenforceable for any reason, such unenforceable clause or provision shall be severed from the remaining portions of the Ordinance, which shall continue to have full force and effect.

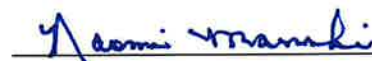
SECTION FIVE. City Staff is hereby authorized to submit this Ordinance as a supplement to the Seguin Code of Ordinances.

PASSED UPON FIRST READING on October 17, 2023.

PASSED UPON SECOND READING on November 7, 2023.


Donna Dodgen, Mayor

ATTEST:


Naomi Manski, City Secretary

