16.16 [illegible]

THE STATE OF WYOMING

ED HERSCHLER
GOVERNOR

Department of Environmental Quality

Water Quality Division

HERSCHLER BUILDING CHEYENNE, WYOMING 82002 TELEPHONE 307 777-7781

M E M O R A N D U M

TO: DEQ/WQD District Engineers and CMAG

FROM: Thomas Norman, Water Quality Engineer TBN

DATE: May 29, 1985 13.9.8

SUBJECT: Chapter XI - Aerated Lagoons and Design Flows for Sewers

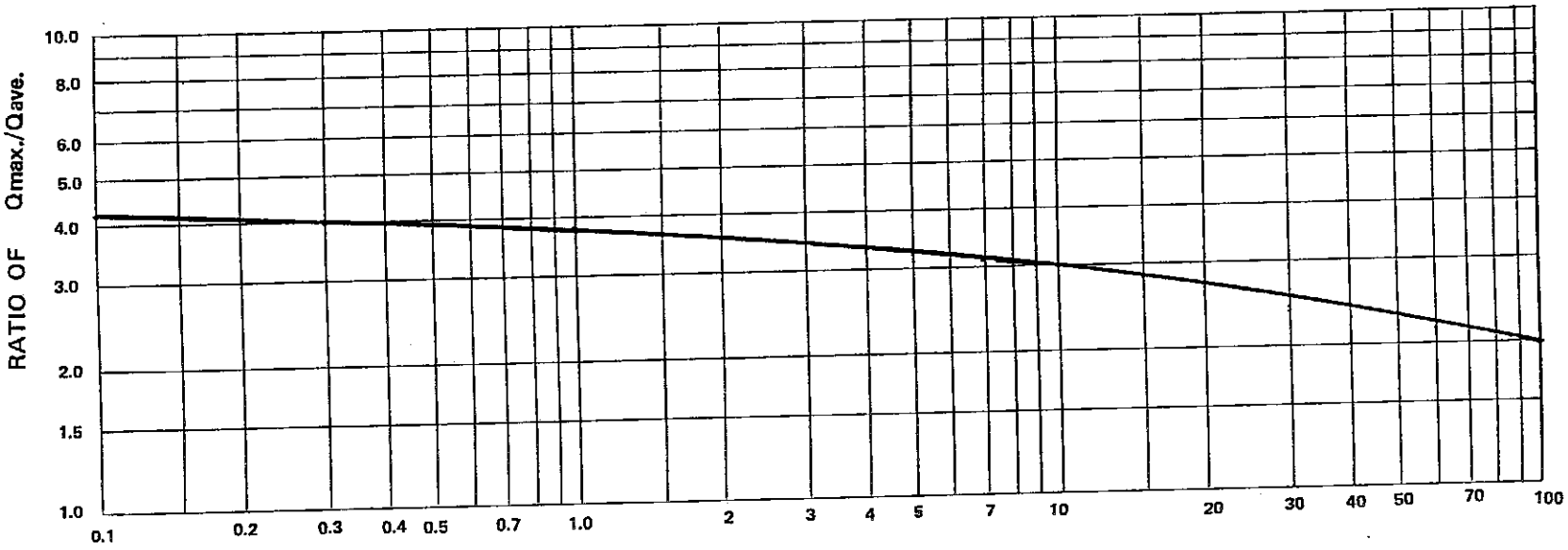
Attached is some clarification on Chapter XI concerning the design of aerated lagoons and also how to calculate the design flow for use in sewer sizing.

1. Both complete mix and partial mix aerated lagoons only require the first cell to be aerated with subsequent cells bringing the overall detention time to 30 days. Obviously there is no advantage in total volume required of one system over the other. However, the comparison should be made in the aeration for complete mixing of a 1.5 day D.T. cell versus partial mixing of a 7 day D.T. cell.

2. Section 9 (c)(i)(B) requires that sewers be designed for 200% of maximum daily flow with a reference to Figure 1-1. Figure 1-1 was deleted during promulgation with a substitute not being provided. Figure 1-1 is included for your interest. However, I suggest using Figure 1 (attached) from the Great Lakes Upper Mississippi River Board (Ten State Standards) to calculate the maximum hourly sewer flow and then design the sewer for maximum hourly flows flowing at 75% full.

   Of course, these estimates should only be used as default numbers when actually flow data is not available. The default value for average daily flows is 100 gpcd (Section 11 (n)(i)).

FIGURE 1.
RATIO OF EXTREME FLOW TO DAILY AVERAGE FLOW

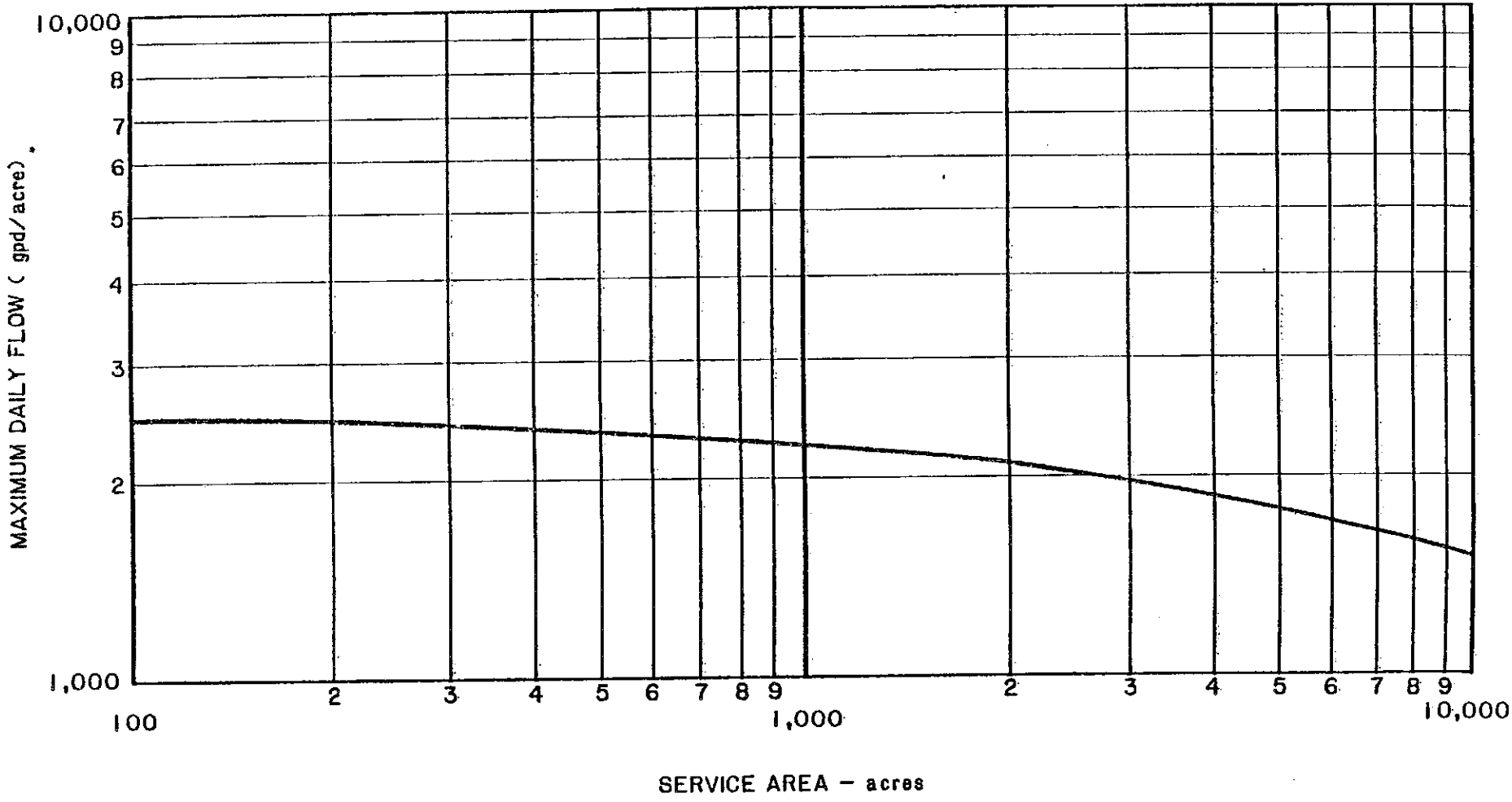


Qmax: Maximum Rate of Sewage Flow (Peak Hourly Flow)

Qave: Average Daily Sewage Flow

Source: $$\frac{Q_{max.}}{Q_{ave.}} = \frac{18 + \sqrt{P}}{4 + \sqrt{P}}$$ - - - (P = population in thousands)

Fair, G.M. and Geyer, J.C. "Water Supply and Waste-Water Disposal"
1st Ed., John Wiley & Sons, Inc., New York (1954), p. 136



DETERMINATION OF MAXIMUM DAILY FLOW RATE

Figure 1-1

MEMORANDUM

TO: District Engineers

FROM: Larry Robinson, Water and Wastewater Engineering Program Manager

DATE: February 24, 2004

SUBJECT: Policy 13.9.9 Wastewater Service Connections.

I. A wastewater service connection as defined in Section 9(c)(iii) of Chapter 11 shall require a permit to construct if any of the following conditions exist:

A.. The service is to an industrial facility discharging sump wastes, solvents, hydrocarbons, or other toxic wastes to a central wastewater treatment facility. See Policy 13-9.1 This permitting requirement is waived if the central wastewater system has an adequate industrial treatment program in place.

B. The service lines carries an average daily flow of more than 2,000 gallons per day. See Sections 9(c) and 99c)(iii), Chapter 11

C The service line carries wastewater that originates from two or more buildings or separate lines from a single building intersect. An exception to this requirement is contained in item C. below.

D. A permit to construct will **not** be required for a 4-inch sanitary sewer that is to be connected to two structures on a single lot that can't be further subdivided. This will allow the owner of an accessory structure on a single lot, such as a guest house, a garage with an attached apartment, a non-commercial shop with a bathroom, or other similar use, to connect the two structures to the publicly owned sewer main via a single 4-inch sewer without having to receive a permit to construct. If a permit will not be required in this situation, the following conditions must be met:

1. The entire sewage collection system on the single lot is viewed as a sewer service and must meet all the UPC requirements for service lines;

2 The total flow from the lot must be less than 2,000 gpd;

3. The owners of the sewer main to which this service will connect, such as a city or town, must be notified and approve of the connection and verify that the lot can't be further subdivided under current local subdivision regulations; and

4. Should local subdivision regulations change in the future and the lot owner propose to split the lot, the local regulatory entity must require that a separate sewer to each structure be installed before the subdivision of the lot is approved.

II.. All other wastewater service connections do not require a permit to construct.

III. Section 9(c)(iii) of Chapter 11 requires that all service connections, including those that do not require a construction permit, conform to the requirements of sewer collection lines of Sections 9(c)(i) and (ii) with the modifications contained in Section 9(c)(iii). Compliance with these requirements is the responsibility of the central wastewater system. Applications for collection systems should include the requirement that the central sewer system comply with these requirement when a service connection is allowed.

DAILYWORK:POLICY13.9.9