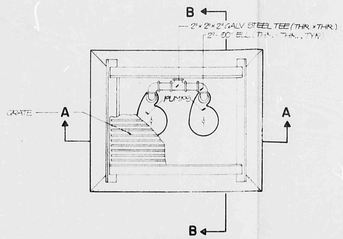
HYDROLOGY

K18/D43
2 PLANS

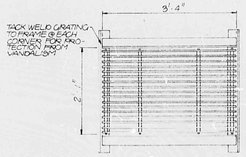
K18/D43

2 PLANS

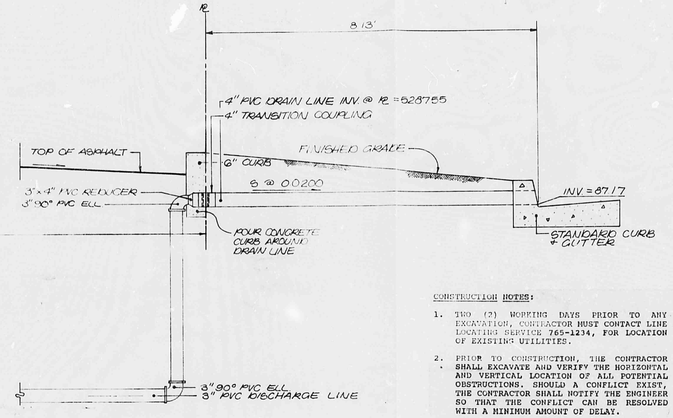
CITY OF ALBUQUERQUE

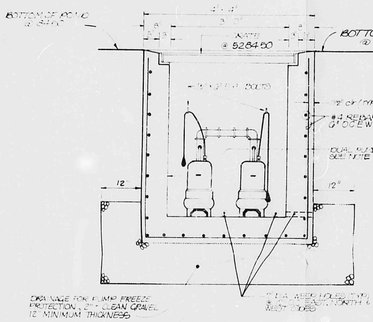


CATCH BASIN PLAN

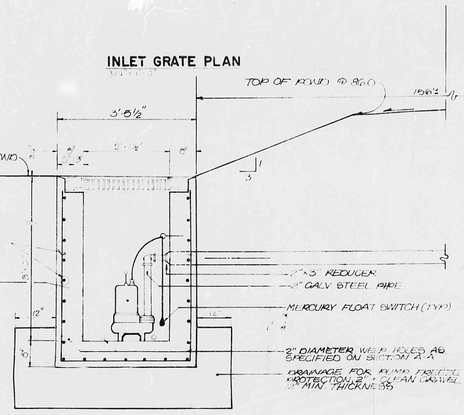


INLET GRATE PLAN

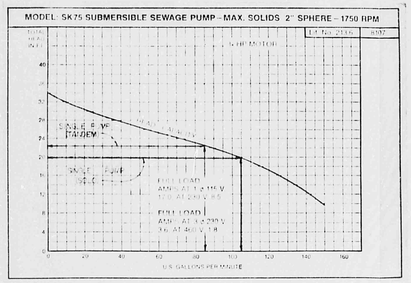




SECTION A·A



SECTION B·B



PUMP CURVE

NOTES

1. Install two HYDRO-O-MATIC submersible pumps, Model SK75, 3/4 Hp motor, or approved equal. Pump installation shall include three mercury float switches with controls set for "LEAD", "LAG" and "ALTERNATE" modes of operation.

2. Refer to Electrical Plans for location of pump control box, installation of electrical cable/conduit and pump/control one-line diagrams.

3. Grating and frame shall be cleaned of all scale, rust and foreign materials and shall be painted with one shop coat of red oxide primer, then 2 finish coats of aluminum paint (AASHO M69).

4. Installation of the mercury float switches shall be at levels providing optimum pumping time without excessive pump cycling.

JEFFREY G. MORTESEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER

PUMP CALCULATIONS

1. Estimated Discharge Rate 100 GPM
2. Head Loss

   A. Elevation: 87.55 - 81.5 = 6.05
   B. Friction (3" pipe)
      Type of Pipe: PVC
      Design C Value: 100
      Chart C Value: 100
      No Correction Required
      H_F = 4.98 ft/100 ft

      Length of Pipe = 180'±

      Equivalent Length of Pipe:
      Sudden Enlargement = 2'
      90° Ell = 2 x 8 = 16'

      Total Equivalent Length of 3" pipe = 198'±
      H_F = 202 (4.98/100) = 10.0'

   C. Friction (2" pipe)
      Type of Pipe: Steel
      Design C Value: 100
      Chart C Value: 100
      No Correction Required
      H_F = 30.5 ft/100 ft

      Length of Pipe = 3'±

      Equivalent Length of Pipe
      90° Ell = 5' x 2 = 10'

      Equivalent Length of Pipe
      H_F = 13 (30.5/100) = 4.0'

   D. Total

      @ $H_T = H_Z + H_{F,3"} + H_{F,2"}$ = 6.05' + 10.0' + 4.0' = 20.0'

3. Pump Curve Interpretation

   @ H_T = 19.0 Q = 104 GPM

   Q = 104 GPM (1 cf/7.48 gallon) (1 min/60 sec) = 0.2 cfs
   Combined capacity of pumps is approximately 0.4 cfs

Reference: Cameron Hydraulic Data, 14th Edition Ingersoll-Rand Company, Woodcliff Lake, NJ 1970, PP-27, 32, 34, and 48.

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.

4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

6. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.

7. BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.

8. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

APPROVALS	NAME	DATE
A.C.E./DESIGN	[illegible]	11/17/86
INSPECTOR	[illegible]	3/16/87
A.C.E./FIELD	[illegible]	3/26/87

RECEIVED NOV 18 1986 HYDROLOGY SECTION

NO.	DATE	BY	REVISIONS

DESIGNED BY L.P.U.
DRAWN BY J.M.C
APPROVED J.G.M.

JOB NO. 61461
DATE 10-86

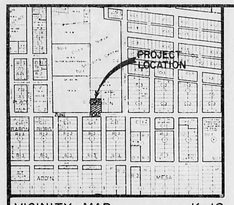
PUMP DETAILS

ZUNI CARWASH

FILE NO. K18/D43
SHEET 2 OF 2

CITY OF ALBUQUERQUE

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT


PROJECT LOCATION
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