

DATE RECEIVED		FACILITY NAME	COUNTY NO.	PROGRAM AREA CODE	FACILITY TYPE CODE	SUBJECT AREA CODE
3	9/22/86	4 DELTA, IOWA	5 54	6 CF	7 CO 1	8 305
RULE REFERENCE		DESIGN STANDARD REFERENCE	DECISION		APPEAL ACTION	
9	900-64.2(9) a	10 12.5.1	11 Approval 11/10/86		12	
ENGINEER			VARIANCE RULE			
13 FRENCH-RENEKER			14 900-64.2(9) C			

15. DESCRIPTION OF VARIANCE REQUESTED: ENGINEER WANTS TO
USE 6" GRAVITY SEWERS. SEE OBIR MEMO OF
MAY 27, 1986

The Following SEGMENTS are Approved

L.H. 20 - M.H. 19 ✓ L.H. 63 - M.H. 60 ✓

L.H. 18 - M.H. 17 ✓ L.H. 69 - M.H. 65 ✓

L.H. 26 - M.H. 11 ✓

L.H. 32 - M.H. 28 ✓

~~L.H. 33 - M.H. 29 error~~

L.H. 46 - M.H. 48 ✓

L.H. 58 - M.H. 56 ✓

L.H. 59 - M.H. 56 ✓

* M.H. 45 - M.H. 44 * - needs to be verified

COST SAVINGS.

17. DEPARTMENTS JUSTIFICATION: OBIR MEMO OF MAY 27 1986. Special consideration was given to the segment between m.H.'s 45 \rightarrow 44. Tributary to m.H. 45 is a 1 1/2 inch force main. m.H. 45 is located at the top of a hill. Gravity flow is only possible towards m.H. 44 (East). A combination 6" and 8" gravity sewer flows in the opposite direction ^(west) of manhole 45 \rightarrow 44. This gravity line picks up the WW from 7 homes and discharges to a duplex grinder pump station. The Grav. sewer is about 1100 ft long and the force main 1300 feet long. The slope of the 6" in question (45-44) is 0.008" \Rightarrow capacity of 320,000 gpd flowing full or 1,280 P.E. (peak flow). There is more than enough capacity in the proposed 6" and the extra flow can only help the hydraulics/cleansing abilities of the segment. Approve as equivalent or better than that identified in OBIR memo.
18. PRECEDENTS USED: OBIR MEMO OF MAY 27, 1986

1. STAFF REVIEWER: Bob Graf
2. SUPERVISOR: WAYNE FARLAND
3. AUTHORIZED BY: David H. White 11/10/86

DATE RECEIVED		FACILITY NAME	COUNTY No.	PROGRAM AREA CODE	FACILITY TYPE CODE	SUBJECT AREA CODE
9/22/86		DELTA, IOWA	54	CP	CO1	331
RULE REFERENCE	DESIGN STANDARD REFERENCE	DECISION		APPEAL ACTION		
9 900-64.2(9)a	10 12.5.7.1 (C)	11 Approval 11/10/86		12		
ENGINEER		VARIANCE RULE				
13 FRENCH-RENEKER		14 900-64.2(9) C				

15. DESCRIPTION OF VARIANCE REQUESTED: ENGINEER DESIRES

TO USE LAMPHOLES IN LIEU OF MANHOLES

AT THE END OF SEWER LINES OF 150 OR GREATER
LENGTH

THE USE OF THE FOLLOWING LAMPHOLES ARE
GRANTED VARIANCE

L.H. 15, 18, 25, 26, 31, 32, 33, 42, 46, 51

54, 55, 58, 62, 63, 66, 67, 68 and 71

COST SAVINGS

17. DEPARTMENT'S JUSTIFICATION: _____

SEE OBR MEMO OF MAY 27, 1986
regarding variances on request for
lamp holes at end of sewer lines

18. PRECEDENTS USED: NONE

19. STAFF REVIEWER: _____

Bob Graf

20. SUPERVISOR: _____

WAYNE FARRAND

21. AUTHORIZED BY: _____

Daniel McAllister 10/28/86



TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
LARRY J. WILSON, DIRECTOR

November 10, 1986

The Honorable Harold L. Knowler
Mayor of Delta
City Hall
Delta, Iowa 52550

SUBJECT: Design Standards Variance Requests
Wastewater Collection, Conveyance and Treatment System Improvements
Delta, Iowa
C191315 01

Dear Mayor Knowler:

In accordance with IAC 900-64.2(9)a and c, the Iowa Department of Natural Resources has reviewed the submittal packages accompanying the requests of September 22, 1986, for variances to the Iowa Wastewater Facilities Design Standards. This review has lead to the following actions:

Variance to Chapter 12.5.1.

The use of six-inch diameter gravity sewers is hereby approved for the following sewer segments:

L.H. 20 to M.H. 19	L.H. 18 to M.H. 17
L.H. 26 to M.H. 11	L.H. 32 to M.H. 28
L.H. 46 to M.H. 48	L.H. 58 to M.H. 56
L.H. 59 to M.H. 56	M.H. 45 to M.H. 44
L.H. 63 to M.H. 60	L.H. 69 to M.H. 65

Variance to Chapter 12.5.3.

The request to construct the 1,350 linear foot, eight-inch interceptor sewer at a grade of 0.3 percent is denied. The proposed design has insufficient fall to meet the minimum slope required by state design standards; however, the deficiency is 0.50 feet by our calculations. While one option to meet this deficiency is to construct a lift station, we agree that to be inappropriate considering the small magnitude of the deficiency. Other options were not discussed. The standards of Chapter 12.5.3 could be met by lowering the high water elevation of the primary cell. The surface area of the primary cell must then be increased to maintain the current volume.

Variance to Chapter 12.5.7.1(c).

The use of lampholes at the end of sewer lines 150 feet or greater is approved. These lampholes are: 15, 18, 25, 26, 31, 32, 33, 42, 46, 51, 54, 55, 58, 62, 63, 66, 67, 68, and 71.

If you have any questions, please feel free to contact Bob Graf at 515/281-8779.

Sincerely,



DARRELL MCCALLISTER, BUREAU CHIEF
SURFACE AND GROUND WATER PROTECTION

DM:BG:rlt:L037

cc: French-Reneker Associates, Fairfield, Iowa
Field Office No. 6

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Larry J. Wilson — Director
Wallace State Office Building, Des Moines, Iowa 50319-0034
515/281-5145

An EQUAL OPPORTUNITY Agency

October 22, 1986

The Honorable Harold L. Knowler
Mayor of Delta
City Hall
Delta, Iowa 52550

SUBJECT: Facility Plan
Wastewater Collection, Conveyance and Treatment System Improvements
Delta, Iowa
C191315 01

Dear Mayor Knowler:

The Iowa Department of Natural Resources has completed a preliminary review of your request for variance to Chapter 18C.3.6.2 of the Iowa Wastewater Facility Design Standards. Due to indications that the lagoon system will be redesigned to some extent, final review and the status of the variance request will not be determined until the redesign is finished and the need for a variance reaffirmed.

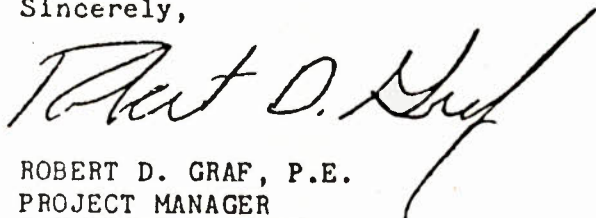
Our preliminary review, however, has concluded that certain precautions be incorporated into the final design of the lagoon. These were developed in a cooperative effort with the Geological Survey Bureau and the Environmental Protection Bureau of this department and later discussed and agreed to by Ken Bucklin of French-Reneker Associates. They are: 1) An underground drain tile be installed around the western one-third to one-half of the site at a depth of at least three (3) feet below the bottom of the lagoon. 2) That the tile line be installed in a manner conducive to visual observation, sampling, and testing as may be required in the city's future NPDES permit. 3) Decrease the permeability of the primary or westernmost cell to avoid the possibility of high strength waste entering and contaminating the ground water and the drain tile discharge. 4) The depths of the aerated cells should be decreased and the bottom raised as much as possible.

Item No. 4 was not specifically addressed during a discussion with Mr. Bucklin on October 21, 1986, but previous discussions have indicated that some effort toward maximizing the benefits of Item No. 4 through redesign were forthcoming.

In addition, the high water level in the primary cell should be lowered a minimum of 0.50 feet to meet design standard requirements and maximize the pipe hydraulics in the interceptor sewer and flow measurement facilities, also in accordance with previous discussions with Mr. Bucklin.

If you have any questions, please feel free to contact me at 515/281-8779.

Sincerely,



ROBERT D. GRAF, P.E.
PROJECT MANAGER
CONSTRUCTION GRANTS SECTION

RDG:rlt:L42

cc: ✓ French-Reneker Associates, Inc., Fairfield, Iowa
Field Office No. 6

STATE OF IOWA
DEPARTMENT OF NATURAL RESOURCES
HENRY A. WALLACE BUILDING
DES MOINES, IOWA 50319

*Unsewered
Community*

CONSTRUCTION PERMIT

Honorable Harold L. Knowler
Mayor of Delta
City Hall
Delta, Iowa 52550

PERMIT NO.: 87-156-S
FILE: Delta 02 and Sewage
RE: Wastewater Collection
Conveyance and Treatment
System Improvements
Delta, Iowa
DNR PROJECT NO: S85-155
EPA PROJECT NO: C191315 01

In accordance with the provisions of Section 455B.173.9 and 455B.174.4, Code of Iowa, and Rule 567--64.2(455B) or Rule 567--65.5(455B), or Rule 567--41.12(455B) of the Iowa Administrative Code, the Director of the Department of Natural Resources does hereby issue a permit for the construction of:

Division I - A gravity collection system consisting of 19,964 L.F. of 8-inch, 3,595 L.F. of 6-inch sanitary sewer, 2,135 L.F. of 1 1/2-inch pressure sewer and appurtenances.

Division II - An interceptor sewer consisting of 1,410 L.F. of 8-inch gravity sanitary sewer to convey a PHWW flow of 193,000 gpd and the construction of an aerated lagoon with an ADW, ANW30 and design flow of 48,000 gpd to meet the following effluent limitations:

Parameter	Daily Ave.	Maximum
*Carbonaceous Biochemical Oxygen Demand (5-day)	25 mg/l	40 mg/l
Suspended Solids	80 mg/l	120 mg/l
pH	Minimum 6.0	Maximum 9.0

* A monthly average removal rate of at least 85% is also required.

The construction of the project shall be initiated within one year of issuance of this permit or this permit is no longer valid. Within thirty days after completion of construction, the permit holder shall submit a certification by a registered professional engineer that the project was completed in accordance with the approved project documents.

Pursuant to Section 455B.174.4, Code of Iowa, you have the right to appeal any condition of this permit by filing with the Director of the Department of Natural Resources a notice of appeal and request for administrative hearing within thirty days of receipt of this permit.

Contact Bob Graf at 515/281-8779 with any questions or comments.

For the Department of Natural Resources

Larry J. Wilson, Director

By: 
ENVIRONMENTAL PROTECTION DIVISION

Date: June 23, 1987

cc: French-Reneker Assoc., Fairfield, IA
Field Office 6

BG:pla/DELTA

Plan Distribution

1 Engineer; 1 Field Office; 1 DNR File; 1 City of Delta