

VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date	: 7/19/94	13. Decision:	Approved
2. Review Engineer	: Fred Evans	Date:	7/20/94
3. Date Received	: 7/18/94		
4. Facility Name	: Clermont	14. Appeal:	
5. County Number	: 33	Date:	
6. Program Area	: CP		
7. Facility Type	: C01		
8. Subject Area	: 305		
9. Rule Reference	: 64.2(9)		
10. Design Std. Ref.	: 12.5.1		
11. Consulting Engr.	: Erdman Engineering		
12. Variance Rule	: 64.2(9) c		

15. Description of Variance Request

A small 7 lot residential subdivision is proposed in the City of Clermont (1990 census population of 523). Since there is no possibility of further extension of the last 500 feet of pipe serving the individual lots in the subdivision, the engineer proposes the use of 6-inch diameter sewers for this portion of the sanitary sewer extension. Inasmuch as DNR design standards require a minimum pipe diameter of 8-inch for public gravity sanitary sewers in sewered communities, the designing engineer has requested a variance to use 6-inch diameter sewer pipe for the last 500 feet of sanitary sewer extension as indicated in the attached plat.

16. Consulting Engineer's Justification

There is no chance that the sewer (proposed 6" portion) will be extended in the future so it will never serve more than 7 residential lots. The balance of the sewer might eventually serve a larger area and is specified as 8 inch diameter.

6. Consulting Engineer's Justification (cont.)

17. Department's Justification

Approval of The variance request is recommended based upon the above justification and following additional considerations:

1. The proposed minimum slope of 0.64% for the 6-inch sewer exceeds the minimum slope of 0.60% required in our design standards for 6-inch sewers serving unsewered communities.
2. The proposed 6-inch diameter sewer at a 0.64% slope has a carrying capacity of approximately 200,000 GPD based upon Kutter's formula. The calculated design flow from the 7 lot subdivision is less than 10,000 GPD as noted on the attached copy of Application Schedule C.

18. Precedents Used Variances for use of 6-inch diameter sewers in sewerred communities have been approved for the following cities:
Albia - 7/22/87, Fairfield - 10/10/89, Keokuk - 6/2/87, Lisbon - 1/11/89,
Leon - 10/1/91, Pleasantville - 6/11/89, University Park - 8/24/88,
West Union - 3/1/88, McGregor - 5/7/93, Waucoma - 8/5/93

19. Staff Reviewer

:

Bred M. Evans

Date: 7/19/94

20. Supervisor

:

Donna J. Janssen

Date: 7/19/94

21. Authorized by

:

Donna J. Janssen

Date: 7/20/94

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

CONSTRUCTION PERMIT

Darrel Bushman
405 Olive
Clermont, IA 52135

Permit No.: 94-349-S

File: **Clermont** - Sewage

Re: Oak Ridge Heights - 2nd Add.

Project No.: S94-288

In accordance with the provisions of Sections 455B.173.3, and 455B.174.4 Code of Iowa, and Rule 567--64.2 (455B) or Rule 567--65.6 (455B), or Rule 567--43.3 (455B) of the Iowa Administrative Code, the Director of the Department of Natural Resources does hereby issue a permit for the construction of:

2,842 feet of 8-inch and 500 feet of 6-inch sanitary sewer & appurtenances, Oak Ridge Heights Second Addition, Clermont, Iowa.

The **requested variance** from our design standards to permit the **use of 6-inch diameter pipe** for the last 500 feet of sewer main is hereby approved.

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 Fred M. Evans at 515/281-8995 with any questions or comments.

For the Department of Natural Resources:

Larry J. Wilson, Director

By: *Fred M. Evans*
ENVIRONMENTAL PROTECTION DIVISION

Date: *July 21, 1994*

cc: City Clerk; Clermont, IA
Erdman Engineering, P.C.; Decorah, IA
Field Office #1

FME202A.pa

Plan Distribution

2 Engineer; 1 DNR File

ERDMAN ENGINEERING, P.C.

708 COMMERCE DRIVE
P. O. BOX 246
DECORAH, IOWA 52101-0246

PHONE (319) 382-4194
FAX (319) 382-3623

Civil Engineering



Land Surveying

July 6, 1994

Mr. Fred Evans
Iowa Department of Natural Resources
Wallace State Office Building
900 East Grand Avenue
Des Moines, Iowa 50319

Re: Oak Ridge Heights 2nd Addition
Clermont, Iowa
Water and Sanitary Sewer Improvements, 1994

Dear Fred:

The owner of the referenced project, Darell Bushman, requests a variance to allow the use of 6 inch pipe in lieu of 8 inch pipe for the last 500 feet of sewer main.

As stated in the letter of June 21, 1994, which accompanied the submittals, there is no chance that the sewer will be extended in the future so it will never serve more than 7 residential lots. The balance of the sewer might eventually serve a larger area and is specified as 8 inch diameter.

Very truly yours,

A handwritten signature in cursive script, appearing to read "L.P. Erdman".

L.P. Erdman, P.E.

LPE/aml

ERDMAN ENGINEERING, P.C.

708 COMMERCE DRIVE / P. O. BOX 246

PHONE (319) 382-4194

FAX (319) 382-3623

DECORAH, IOWA 52101

Consulting
Civil Engineering



Land Surveying

June 21, 1994

Mr. Fred Evans
Iowa Department of Natural Resources
Wallace State Office Building
900 East Grand Avenue
Des Moines, Iowa 50319

Dear Fred:

Enclosed are 3 sets of plans and specifications for the referenced project. Also included are schedules 1, 1a, 2a, 1b, 2b, water supply service agreement, schedule A (2 sheets), B, C, and Sewage Treatment agreement, and a check for \$50.00 from the owner.

This is a small 7 lot subdivision with the potential for a large future development.

The sewer has been laid out to benefit an area where the same owner anticipates future lot sales. There are no particular grade or construction problems involved with the sewer. The design does call for the last 500 feet of pipe to be 6" since there is no possibility of a future extension and the line will only serve 7 lots.

The Water Main will be 6-inch even though it will be attached to a 4-inch main. However, when the future subdivision is developed the 6-inch will be looped back into an existing 6-inch main as shown on the plan.

No fire hydrant will be installed because of the static pressure of approximately 20 p.s.i. However, a flushing hydrant will be installed on the end of the new 6-inch main.

The entire project is to be paid for by the owner.

Very truly yours,



L.P. Erdman, P.E.

LPE/aml

Hand-drawn site plan on graph paper showing a proposed sewer line and manholes. The plan includes streets like Union St, Oak Ridge, and Heights. It shows existing manholes (M.H. #2 to #11) and a proposed sewer line with manholes #12 to #15. Slopes are noted as 0.64% and 19.69%. A future building is also indicated.

5cc/e: 1" = 200'

**IOWA DEPARTMENT OF NATURAL RESOURCES
WASTEWATER PERMITS SECTION
CONSTRUCTION PERMIT APPLICATION
SCHEDULE C, Lateral Sewer Extension**

DATE PREPARED June 15, 1994	PROJECT IDENTITY Oak Ridge Heights Second Addition Water and Sanitary Sewer Improvements Clermont, Iowa	DNR USE
DATE REVISED June 20, 1994		PROJECT NO. PERMIT NO.

7 lot subdivision

1. Design Basis	Initial	Design Year (2014)	
Residential service area	9	Acres	40
Population	21	Persons	150
Flow (100 GPCD)	2100	GPD	15,000
BOD5 (0.17 #/d/cap)	4	#/day	26
Industrial service area	0	Acres	0
Rated Flow	0	GPD	0
BOD5	0	#/day	0
Other	0	Acres	0
Rated Flow	0	GPD	0
BOD5	0	#/day	0
Total BOD5	4	#/day	26
Total Flow	2100	GPD	15,000
Peak Hourly Flow	4800	GPD	60,000

Appendix I Design flow = 2100 x 4.5 = 9450 GPD

(to serve 7 lot subdivision)

2. Pipe	8 inch	8 inch	6 inch
Diameter	8 inch	8 inch	6 inch
Material	PVC	D.I.P.	
Joint	Slip-on Gasketed	Slip-on Gasketed	PVC Slip-on Gasketed
Minimum Slope	.40 %	1.52 %	0.64 %
Maximum Manhole Space	400 Ft.	266 Ft.	313 Ft.
Total Sewer Length	2782 Ft.	60 Ft.	500' Ft.
Maximum Cover	9.5 Ft.	5 Ft.	10' Ft.
Minimum Cover	4 Ft.	5 Ft.	8.5 Ft.

Construction specifications (indicate ASTM No. or other standard included in the specifications). A brief description is required in each part.

- A. Bedding class ASTM D2321 and Standard Specifications
- B. Pipe laying ASTM D2321 and Standard Specifications
- C. Compaction C-ASTM-698 and Standard Specifications
- D. Manhole C-478-77
- E. Specified maximum infiltration/exfiltration rate 200 GPDPMP1
- F. Infiltration/exfiltration test procedures Clay Pipe Engineering Manual
- G. Alignment & grade test procedures
 (1) During construction: Stake & Batter Board X Laser X
 (2) After construction: Lamping X Other
- H. Deflection test procedures Standard Specifications

4. Are detailed manhole drawings included? Yes X No Typical frame and cover assembly Neenah R-1736
 Are manhole covers nonvented? Yes X No Manhole diameter 48 in.
 Manhole opening diameter 24 in. Material Precast Concrete
5. Minimum sewer & water main separation: Horizontal 10 ft. Vertical 18 in. Are specifications included? Yes
6. Stream, road, or railroad crossing protection NA
 Are specifications included? NA