



TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

LARRY J. WILSON, DIRECTOR

September 19, 1990

MMS Consultants, Inc.  
465 Highway #1 West  
Iowa City, IA 52246

ATTENTION: Dennis J. Keitel, P.E.

PROJECT NO.: S89-101  
FILE: Altanna Estates  
SUBJECT: Wastewater Treatment Facility

Gentlemen:

The Iowa Department of Natural Resources in accordance with Subrule 567--64.2(9)c of the Iowa Administrative Code has approved your request for a variance from Iowa Wastewater Facilities Design Standard 16.3.1 which requires that final settling tanks following extended air activated sludge treatment processes must have a minimum sidewater depth of 12 feet. The granting of this variance will permit the use of "Aero-Mod" clarifier modules which utilize a 7.25 foot sidewater depth.

The engineering justification submitted substantially demonstrates that this variance will result in at least equivalent effectiveness while significantly reducing costs.

Sincerely,

DARRELL McAllister  
BUREAU CHIEF  
SURFACE AND GROUNDWATER PROTECTION BUREAU

DM:FE:LTR.G/pg

cc: Field Office No. 6



RY E. BRANSTAD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

LARRY J. WILSON, DIRECTOR

March 9, 1987

Mr. Steve Schainker  
City Manager  
City Hall  
Ames, IA 50010

ATTENTION: Honorable Mayor & Council

SUBJECT: Phase 2, Segment 2  
Ames, Iowa  
C190736 04

Dear Mr. Schainker:

The Iowa Department of Natural Resources in accordance with Subrule 567-64.2(9)c of the Iowa Administrative Code has approved Dr. Harris Seidel's August 7, 1986 request for a variance from Iowa Wastewater Facilities Design Standard 17.3.5.3 which requires mixing and aeration of a sludge storage lagoon in accordance with 17.3.4.3. Based on the information presented, the purpose and intent of the rule can be met with appropriate sludge handling practices.

Sincerely,

DARRELL McALLISTER  
BUREAU CHIEF  
SURFACE & GROUNDWATER PROTECTION BUREAU

*(now Water Quality Bureau)*

DM:mla/EPW068F12.01

cc: Harris Seidel, Ames  
Rieke, Carroll, Muller Associates, Hopkins, Minnesota  
Field Office 5



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DARRELL McAlister  
BUREAU CHIEF  
SURFACE AND GROUNDWATER PROTECTION BUREAU

DM:FE:LTR.G/pg

cc: Field Office No. 6

# VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date	:	9/12/90	13. Decision:	Approved
2. Review Engineer	:	Fred Evans	Date:	9/17/90
3. Date Received	:	9/10/90		
4. Facility Name	:	Altanna Estates Subd.	14. Appeal:	
5. County Number	:	52	Date:	
6. Program Area	:	CP		
7. Facility Type	:	C04		
8. Subject Area	:	325		
9. Rule Reference	:	567-64.2(9)		
10. Design Std. Ref.	:	16.3.1		
11. Consulting Engr.	:	MMS Consultants		
12. Variance Rule	:	567-64.2(9)c		

## 15. Description of Variance Request

An "Aero Mod" treatment plant is proposed to serve the Altanna Estates Subdivision to be located in Johnson County, Iowa. This unit utilizes a modular final settling unit with tube settlers. These units utilize a 7.25 foot side water depth rather than the 12 foot SWD required by our design standards for final clarifiers following the activated sludge process. Therefore, a variance has been requested.

## 16. Consulting Engineer's Justification

1. The modular final settling units incorporated into the Aero-Mod treatment plant utilize a 7.25-foot water depth, but the tube settlers are incorporated into the settling chamber which enhances settling effectiveness and prevents solids from reaching the submerged effluent withdrawal pipe.
2. These clarifier modules can be considered equivalent or superior to conventional clarifiers in providing the required solids removal.
3. Previous variance requests from this standard for Atalissa and Gladden have been granted by IDNR.



16. Consulting Engineer's Justification (cont.)

17. Department's Justification

Approval is recommended.  
The side water depth required in the design standards is assumed to be related to the settling characteristics of extended air floc. The 12 foot depth assures that no solids will be carried over the weirs at normal flows. The proposed "Aero-Max" clarifier module is designed such that a sludge blanket will not form in the settling tank to the extent of a conventional clarifier. Tube settlers are utilized also to enhance settling and prohibit solids from reaching the effluent withdrawal pipe located above the tube settlers. These modules are in operation in other areas of the country and are working well. These clarifier modules can be considered equivalently effective to conventional clarifiers in providing required solids removal.

18. Precedents Used

Atalissa - granted 3/5/87  
Gladden - granted 6/15/88

19. Staff Reviewer

:

Fred Evans

Date:

9/12/90

20. Supervisor

:

Samuel H. Alt

Date:

9/12/90

21. Authorized by

:

Samuel H. Alt

Date:

9/17/90



# MMS CONSULTANTS, INC.

465 IOWA HIGHWAY N<sup>o</sup> 1 WEST • IOWA CITY • IOWA 52246-4205

319-351-8282

Robert D. Mickelson	L.S.
Larry R. Schnittjer	L.A.
Christopher M. Stephan	P.E.
Dean E. Beranek	L.S.
Dennis J. Keitel	P.E.
Glen D. Meisner	P.E. & L.S.

September 6, 1990

Mr. Fred Evans

Iowa Department of Natural Resources  
Wallace State Office Building  
900 East Grand Avenue  
Des Moines, Iowa 50319-0034

Re: Altanna Estates Subdivision  
Wastewater Treatment Plant  
Johnson County, Iowa  
IDNR Project No. S89-101

Dear Mr. Evans:

Enclosed please find the below listed items relative to our telephone conversation on August 27, 1990 concerning the above referenced project:

1. Three (3) sets of revised Construction Plans  
(MMS Dwg No. 977-005, sheets 1-5, Rev.1)
2. One additional set of Construction Specifications.
3. Two (2) copies of DNR Wastewater Forms: Schedules G and P.
4. August 28, 1990, letter from Eltech concerning D-CHLOR tablets' reaction time, and no requirement for a contact chamber.
5. Articles of Incorporation of Muddy Creek Homeowners Association. Refer to Article III, Paragraph 2 for responsibility of central sewer system and wastewater treatment plant.

With this letter we are requesting a variance from Section 16.3.1 of the Iowa Wastewater Design Standards which requires a 12 foot depth for secondary settling tanks. The modular final settling units incorporated into the AERO-MOD treatment plant utilize a 7.25 foot water depth, but tube settlers are incorporated into the settling chamber which enhances settling effectiveness and prevents solids from reaching the submerged effluent withdrawal pipe. These clarifier modules can be considered equivalent or superior to conventional clarifiers in providing the required solids removal. Previous variance requests from this standard for Atalissa and Glidden have been granted by the Iowa Department of Natural Resources. Both cities use AERO-MOD treatment plants.

If you have any questions or require any additional information, please contact us accordingly.

Respectfully submitted,  
MMS CONSULTANTS, INC.

*Dennis J. Keitel*  
Dennis J. Keitel, P.E.

DJK/kmc-0977005M.01  
Encl.

LANDSCAPE ARCHITECTURE

JG

PLAN

LAND SURVEYING

ENGINEERING