



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CN 402
Trenton, N.J. 08625

PERMIT



The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to the further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit.

Permit No. 15389	Issuance Date DEC 16 1988	Effective Date JAN 06 1989	Expiration Date JAN 06 1991
Name and Address of Applicant American Realty & Investing Co. 1776 South Second Street Piscataway, N.J. 08854	Location of Activity/Facility	Name and Address of Owner	
Issuing Division Coastal Resources	Type of Permit Stream Encroachment	Statute(s) N.J.S.A. 58:16A-50 et. seq.	Application No.

This permit grants permission to:

establish stream encroachment lines, and construct two (2) stormwater outfalls in connection with the construction of an industrial warehouse along Bonygutt Brook at a location immediately downstream of the Hazelwood Place crossing of said stream, within Lot Nos. 7-11, 42 and 42A of Block No. 41, in Piscataway Township, Middlesex County, New Jersey. PROJECT IS SHOWN ON APPROVED DRAWINGS LISTED ON PAGE 4 AND 5 OF THIS PERMIT.

Prepared by: _____
Hala S. Andrews

1988 DEC 22 PM 3:04
PUBLIC WORKS
ENGINEERING DIVISION
COMMISSIONER OF DEPARTMENT OF ENVIRONMENTAL PROTECTION

Approved by the Department of Environmental Protection

See page 5 for signature

DATE

TERMS AND CONDITIONS**1. Recording of Permit**

This permit shall be **RECORDED** in the office of the **COUNTY CLERK** (the **REGISTRAR OF DEEDS AND MORTGAGES** in the applicable counties) in the county wherein the lands included in the permit are located within ten (10) days after receipt of the permit by the applicant and verified notice shall be forwarded to the Division of Coastal Resources immediately thereafter.

2. Department Responsibility

The action of the Department in approving this application and issuing this permit shall not relieve the party constructing the works hereby approved from the responsibility for damage caused by such works; nor does the Department accept responsibility for the structural design.

3. Time Limit for Work

- a. **General** - The work shall be **COMPLETED WITHIN TWO YEARS** of the **ISSUANCE DATE** of this permit; **OTHERWISE**, this permit, if not previously revoked or specifically extended upon written application, shall automatically become null and void, and none of the works herein shall be commenced or continued until such time as this permit has been reinstated or until a new application has been submitted to and approved by the Department.
- b. **Pipelines, Cables and Similar Work** - The time limit for backfilling and/or stabilizing all earth work and the removal of all temporary fill and other construction, in connection with pipelines, cables and other similar projects shall be 30 days after starting excavation or construction for each individual stream crossing and/or section of the project along any stream channel.

4. Supervision and Inspection, Change in Plans, Completion Report

- a. **Supervision and Inspection** - All work shall be done under the supervision and direction of a professional engineer licensed in New Jersey. The work shall be subject to inspection at any time by representatives of the Department. **PERMIT** and all approved **DRAWINGS** shall be at project site at all times during construction.
- b. **Change in Plans** - No changes in plans and specifications as approved shall be made except with the written consent of the Department or its designee.
- c. **Construction Notice** - A construction notice on a prescribed form shall be prepared by the applicant or his/her designee and submitted to the Division of Coastal Resources two (2) weeks prior to construction beginning.
- d. **Completion Report** - A completion report on a prescribed form shall be prepared by a professional engineer licensed in New Jersey and submitted to the Division of Coastal Resources within 30 days after completion of the work.

TERMS AND CONDITIONS (Continued)5. Maintenance of Land Within Stream Encroachment Permit

The applicant and its agents shall not cause or permit any unreasonable interference with the free discharge of the stream nor with navigation during construction, by the placing and/or dumping of any materials, equipment, debris or structure, or in any way, in or about the stream or channel in any manner which may cause interference. Upon completion or abandonment of the work, the applicant and its agents shall cause to be removed from lands within the flood plain, all excess materials, equipment, debris and structures, and dispose of same in a lawful manner.

6. Erosion Control

ALL FILL and OTHER EARTH WORK on the lands encompassed within this stream encroachment permit shall be STABILIZED in accordance with "Standards for Soil Erosion and Sediment Control in New Jersey" (obtainable from local Soil Conservation District Offices), or equal engineering specifications, so as to prevent eroded soil therefrom from entering the waterway at any time during and after construction.

7. Channel and Bank Stabilization

Where the stream channel and/or banks are altered in the course of the work approved herein, the channel and/or banks shall be stabilized in such a manner as to prevent erosion and the subsequent silting of the channel. The applicant hereby agrees to maintain the channel and/or banks as shown on the approved drawings(s) for either such time as is required for the channel and/or banks to become reasonably stabilized or for one year after completion of the project (as evidenced by Certificate of Completion), whichever period of time is longer.

8. Requirements for Other Permits

This permit DOES NOT GIVE ANY PROPERTY RIGHTS in either real or personal property, nor any exclusive privileges; neither does it authorize any injury to private property; nor invasion of private rights; nor any infringement of Federal, State or local laws or regulations; nor does it waive the obtaining of Federal or other State or local government consent when necessary. THIS PERMIT IS NOT VALID AND NO WORK SHALL BE UNDERTAKEN UNTIL SUCH TIME AS ALL OTHER REQUIRED APPROVALS AND PERMITS HAVE BEEN OBTAINED INCLUDING BUT NOT LIMITED TO PERMITS AND APPROVALS FROM THE FOLLOWING:

Water Quality Management Element (Bureau of Municipal Waste Management) within the Division of Water Resources.

9. Reservation of Lands within Stream Encroachment Lines

A strip of land along the waterway and described as follows shall be reserved for the passage of flood waters and no fill or structure, except as shown on the approved drawing(s) shall be placed within the land without prior approval of the Department.

All those lands lying between the southerly property line and the lines labelled "Stream Encroachment Line", as shown on the approved drawings.

10. Future Modification Required

- a. All Projects - At any time, if and when indicated in the public interest and after due process, this permit may be reviewed for possible modification thereof.
 - b. Pipes and Cables - Any pipeline or cable approved under this permit shall be removed or modified as required by future channel improvements or for other valid reasons upon order of the Department.
11. Any construction or grading at this project site, within the flood plain, other than that approved by this permit, will require a new stream encroachment approval from the Stream Encroachment Section.
 12. By acceptance of this permit, the applicant acknowledges that adequate precautions shall be taken to prevent and/or minimize discharge of sediments downstream. The Department reserves the right to order the suspension of construction approved under this permit if unacceptable levels of turbidity result from the same.
 13. In accordance with the Federal Water Quality Act of 1987, pertaining to storm water runoff and discharge permits, applications for a NJPDES permit are required in accordance with the following schedule:

For Industrial Facilities - February, 1990

For Municipalities with a population of 250,000
or more - February 1990

For Municipalities with a population of 100,000
or more - February, 1992

The U.S. EPA is presently in the process of drafting rules and regulations concerning application and other requirements. U.S. EPA expects to promulgate these rules by February, 1989. You may contact the Bureau of Industrial or Municipal Waste Management within the Division of Water Resources for further information and guidance.

14. The proposed water quality measures must be adequately maintained in proper working condition at all times. The applicant must make specific arrangements to insure continuous compliance with this condition.
15. The drawings hereby approved are two (2) sheets prepared by the Daniels Engineering Group, Inc., entitled:

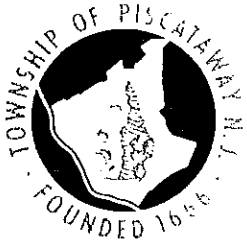
"AMERICAN REALTY & INVESTING TOWNSHIP OF PISCATAWAY MIDDLESEX COUNTY, NEW JERSEY",

"SOIL EROSION & SEDIMENT CONTROL PLAN ENGINEERING SITE PLAN", drawing 1 of 1, dated June 12, 1987, last revised December 15, 1988, and

"PLAN OF STREAM ALIGNMENT", drawing 1 of 1, dated March 11, 1988, last revised September 21, 1988.

Steve Jacobus
Steve Jacobus, Section Chief
Stream Encroachment Section

12-19-88
Date



TOWNSHIP OF
PISCATAWAY
MIDDLESEX COUNTY
PISCATAWAY, NEW JERSEY 08854
201-981-0800

DEPARTMENT OF
PUBLIC WORKS
OFFICE OF THE DIRECTOR

January 25, 1988

Mr. Wayne A. Younie
DANIELS ENGINEERING GROUP, INC.
1215 Livingston Avenue
North Brunswick, New Jersey 08902

Re: AMERICAN REALTY & INVESTING
BLOCK 41, LOTS 7 - 10

Dear Mr. Younie:

I have endorsed the enclosed WQM003 form and I am returning same to your office.

Sincerely,

Leslie Holzmann, P. E. & L. S.
Township Engineer

sm

Encls.



TOWNSHIP OF
PISCATAWAY
MIDDLESEX COUNTY
PISCATAWAY, NEW JERSEY 08854
201-981-0800

File

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Leslie Holzmann, P. E. & L. S.
Township Engineer

sm
Encl.

STATE OF NEW JERSEY

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM (NJPDDES)
SUPPLEMENT TO THE STANDARD APPLICATION FORM CP # 1

ENDORSEMENTS

NOTICE: The following citation relates to violations of the Water Pollution Control Act.

N.J.S.A. 58:10A-10 Violations; remedies, fines and penalties; enforcement

Paragraph (f) "Any person who knowingly makes a false statement, representation, or certification in any application, record, or other document filed or required to be maintained under this act or who falsifies, tampers with or knowingly renders inaccurate, any monitoring device or method required to be maintained pursuant to this act, shall upon conviction, be subject to a fine of not more than \$10,000.00 or by imprisonment for not more than 6 months, or by both."

AMERICAN REALTY & INVESTING
BL 41, LOT 42

A. Endorsements by the municipality in which the project is to be located.

**CERTIFICATION BY GOVERNING BODY

This project as proposed is in conformance with the requirements of all municipal ordinances and the Governing Body of this municipality/authority approves of the project as proposed by the applicant.

Endorsed by: Township Engineer
(Name of Municipality or Authority)

Signed* Leslie Holzmann

Leslie Holzmann, Township Engineer 1/25/88
Print or Type: Name and Title Date

- * Cite authorization to sign for the Governing Body Resolution 5/19/87.
Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists, the full resolution approved by the Governing Body endorsing the project must be submitted with this application.

** NOTE:

Where a municipality has created a sewerage authority, utilities authority, municipal utilities authority or a joint meeting responsible for sewers in the area, the endorsement of the affected sewerage authority(ies) is requested for a sewer extension approval.

B. Determination by the WQMP Agency

This project or activity, as proposed, has been reviewed by this agency in accordance with the Areawide Water Quality Management Plan (WQMP). The following determination has been made by either the appropriate designated WQMP agency, or the Department (where appropriate).

- ☐ Project is consistent with Plan
☐ Project is not inconsistent with Plan*
☐ Project is inconsistent with Plan**

<i>Name of Project</i>		<i>Authorized Signature</i>	
<i>Name of Plan</i>		<i>Name (Print or Type)</i>	<i>Date</i>
<i>Name of Agency</i>		<i>Title</i>	

NOTE: For the name of the appropriate WQMP agency, or any other questions, contact the Division of Water Resources at (609) 984-4429.

* A finding of not inconsistent has the same effect as a finding of consistent.

** A finding of inconsistent must be accompanied by a letter describing the reason for the finding.

Sewer systems (interceptors, collectors, pump stations) for residential developments of 50 units or more and industrial/commercial and mixed use (including residential) developments having flows of 25,000 gpd or more, do require consistency determinations. Projects that are extensions or modifications to existing projects where the cumulative total for the project is greater than 50 units or 25,000 pgd, as appropriate, shall require a consistency determination (N.J.A.C. 7:15-1 et seq.)

Sewer systems to serve less than 50 units or less than 25,000 gpd do not require a consistency determination but must still be consistent with approved WQM/201 plans.

C. Endorsement by the Sewerage Agency in which the project is to be located.CERTIFICATION BY THE 201 SEWERAGE AGENCY

This project as proposed is in conformance with the requirements of all Sewerage Agency rules and regulations and the applicable "201" Facilities Plan and the Governing Body of this Sewerage Agency approves of the project as proposed by the applicant.

Endorsed by _____
Name of Treatment Plant

Signed* _____

Print or Type: Name and Title Date

- * Cite authorization to sign for the Sewerage Agency _____
 Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists, the full resolution approved by the Sewerage Agency endorsing the project must be submitted with the application.

- D. Endorsement by owner of the treatment plant receiving the wastewater.

CERTIFICATION BY OWNER

SEWAGE TREATMENT FACILITY

I (we) hereby certify that the sum of the DEP currently approved projects plus the actual metered flow for the (name of the plant) does not exceed the present design capacity. I (we) further certify that with the addition of this project, the approved design capacity will not be exceeded. Further I (we) certify that the treatment plant is currently complying with its New Jersey Pollutant Discharge Elimination System permit (NPDES) requirements and should continue to do so with the additional flow from this project.

Endorsed by _____
Name of Treatment Plant

Signed* _____

Print or Type: Name and Title Date

If the owner is a public agency, cite authorization to sign for the publicly owned treatment works _____ Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists the full resolution approved by the governing body endorsing the project must be submitted with the application.

- E. 1) Pursuant to N.J.S.A. 58:10A-6 and N.J.A.C. 7:14A-12.1 et seq., no person may build, install, modify or operate any facility for the collection treatment or discharge of any pollutant, including any "extension" as defined in the regulations without the prior approval of the Department.
- 2) Approvals, permits, service contracts or other reservation of capacity issued or agreed to by any participating municipality or sewerage agency does not constitute the required approval of the Department.
- 3) For computation of actual flow at the sewer plant, the average flow processed by the facility for the four (4) month period immediately proceeding the submission shall be used. Under NJPDES Regulations no application shall be submitted if the waste treatment facility is not meeting its discharge permit limits. Under Sewer Ban Regulations, no project is to be submitted if the sewer plant is committed to 100% of its design capacity.
- 4) The owner of the sewage treatment plant shall submit to NJDEP on a quarterly basis the status of sewage flow entering the plant including all outstanding approved sewer extension permits not yet on line. These reports will be used for tracking capacity at the receiving sewage treatment plant. See Form WQM-007.



1215 LIVINGSTON AVE., NO. BRUNSWICK, N.J. 08902

To Piscataway Township Engineering Dept.
455 Hoes Lane
Piscataway, NJ 08854

Attention: Leslie Holzmman, P.E. Township Engineer

Memo

LETTER

Date January 15, 1988

Subject American Realty &
Investing
Block 41, Lot 7-10

Enclosed for your review please find (2) complete NJDEP application packages which include:

- 1) CPI Form
- 2) WQM006 Engineers Report
- 3) WQM003 Endorsements
- 4) Engineering Report - Pump Station/ Force Main
- 5) Construction Specifications - Pump Station/ Force Main
- 6) Construction Specifications - Sanitary Sewer Extension

Please endorse WQM003 and return to this office. All other items are for your files.

Thank you for your attention to this matter. Should you have any questions please contact this office.

pc: Milton Gold

☐ Please reply ☐ No reply necessary

SIGNED

Respectfully,
Wayne A. Youngie
Wayne A. Youngie
for the firm



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

STANDARD APPLICATION FORM (CP #1)
CONSTRUCTION AND DISCHARGE PERMITS

FOR OFFICIAL USE

READ REQUIREMENTS
PLEASE TYPE OR PRINT

1. Applicant/Owner* American Realty & Investing Telephone (201) 752-7722
Permanent Legal Address 1776 South Second Street
City or Town Piscataway State NJ Zip Code 08854
2. Location of Work Site Piscataway
Name of Facility, if applicable N/A
Street/Road South Second Street
Lot No. 7-10 Block No. 41
City or Town Piscataway State NJ Zip Code 08854
Municipality Piscataway County Middlesex
3. If applicable, give name of: Engineer/Surveyor/Well Driller/Geologist/Soil Scientist (Specify).
Name Mark E.V. Daniels N.J. License No. 25617
Name of Firm, if employee The Daniels Engineering Group, Inc.
Address 1215 Livingston Avenue County Middlesex
Municipality North Brunswick State NJ Zip Code 08902
Telephone (201) 249-5900
4. This is an application for Sanitary Sewer Extension Permit
(Name of permit, certification, approval or exemption. See Item 9. Next Page.)
5. Fee is attached (If applicable). \$ 153.97 (No fee required for compost application.)
(Provide explanation of how fee was calculated. Read Requirements Section of Standard Application booklet.)
6. Estimated construction cost of project:
a. \$ 25,662.00 total cost of the project.
b. \$ 25,662.00 portion for which this permit is requested.
7. I have included certifications of any public notifications. Yes X No
8. If applicable:
(For Waterfront Development and Stream Encroachment applications, 8c. must be completed.)
a. Source of Water Supply Public
b. For Treatment at (Water Treatment Plant)
c. Stream, Waterway, Pond or Lake
d. Wastewater Treatment Facility Central Treatment

* Applicant/Owner must be the individual or municipality, public agency, utility, company, industry who will be the eventual owner and operator of said facility (sewer extension or treatment works) when completed.

FOLLOW INSTRUCTIONS CAREFULLY

9. Have any other applications for this site/project been submitted, or have any state permits been issued for this project? (If yes, indicate status and project number below.)

NoX..... Yes Decision

PERMIT TYPE (Use additional sheets if necessary.)		APPLICATION STATUS (PENDING - APPROVED)	PROJECT #
9.1	CAFRA.....	_____	_____
9.2	Waterfront Development (Riparian).....	_____	_____
9.3	Wetlands.....	_____	_____
9.4	Purchase Water.....	_____	_____
	Diversion:		
9.5	Divert Water Supply for Public Use.....	_____	_____
9.6	Divert Surface Waters for Private Use.....	_____	_____
9.7	Divert Subsurface/Percolating Water for Private Use.....	_____	_____
9.8	Well Drilling.....	_____	_____
9.9	Permanent Water Lowering.....	_____	_____
9.10	Temporary Water Lowering.....	_____	_____
9.11	Construct/Modify, Operate Public Potable Water Works.....	_____	_____
9.12	Connection between an approved water supply and non-approved supply.....	_____	_____
9.13	Water Quality Certification.....	_____	_____
9.14	Construct/Repair Dam.....	_____	_____
9.15	Stream Encroachment.....	_____	_____
9.16	Sewer Systems: Collectors, Pump Station, etc.....	_____	_____
9.17	Exemption from Sewer Ban.....	_____	_____
9.18	New Jersey Pollutant Discharge Elimination System (Specify).....	_____	_____
9.19	Solid Waste Permits (Specify).....	_____	_____
9.20	Air Quality Permits (Specify).....	_____	_____
9.21	Delaware and Raritan Canal Review Zone "Certificate of Approval".....	_____	_____
9.22	Pinelands Certificate.....	_____	_____
9.23	Other State agencies' permits.....	_____	_____
9.24	Local Permits.....	_____	_____
9.25	Federal Permits.....	_____	_____

10. Brief Description of the Proposed Project and Intended Use:

1 existing, 2 proposed warehouse/office structures will create 3695 GPD of domestic quality effluent. Building laterals will deliver flow to 571 LF 8" PVC which will direct sewage to on-site pump station. Effluent will be delivered to existing manhole/gravity sewer on Hazelwood Place via 488 LF 1½" PVC Force Main

11. I hereby certify that the information furnished on this application (and the attachments) is true. I am aware that false swearing is a crime in this State and subject to prosecution.

Milton Gold 12/22/87

Type: Name and Date

President-American Realty & Investing

Type: Position



Signature of Applicant

1/14/88

Date

ENDORSEMENTS

SOME PERMIT APPLICATIONS REQUIRE SPECIFIC ENDORSEMENTS OF OWNERS, AGENTS,
MUNICIPALITIES, ETC. ENDORSEMENTS MAY BE REQUIRED FOR YOUR PERMIT.

VERIFY THE NEED FOR ENDORSEMENTS IN THE "REQUIREMENTS" SECTION OF THE
STANDARD APPLICATION FORM CP #1 BOOKLET OR WITH THE APPROPRIATE DEP AGENCY.

A. PROPERTY OWNER'S CERTIFICATION*†

I hereby certify that _____
Property Owner's Name

is the owner of the property upon which the proposed work is to be done. This endorsement is certification that the owner grants permission for the conduct of the proposed activity.

In addition, the aforementioned property owner shall certify:

1. Whether any work is to be done within an easement — Yes _____ No _____
*(initial)**(initial)*
2. Whether any part of the entire project (i.e., pipeline, roadway, cable, transmission line, etc.) will be located within property belonging to the State of New Jersey.
Yes _____No _____
*(initial)**(initial)*

*Type or Print Name and Address of Owner,
if different from Item 1 on Page 1*

Date

Signature of Owner

* Not required for Sewer System Application.

† Required for the Land Application of Sludge, Septage or Compost.

B. APPLICANT'S AGENT

I, the applicant (name) _____
authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name _____ Phone _____

Address _____ County _____

City or Town _____ State _____ Zip Code _____

Occupation/Profession _____

Signature of Applicant

AGENT'S CERTIFICATION

Sworn before me

this _____ day of

_____ 19____

I agree to serve as agent for the above-named applicant

Notary Public

Signature of Agent

C. PROPER CONSTRUCTION AND OPERATION CLAUSE (Sewer Extensions, Treatment Works Approval, Water Works)

I, the applicant, agree that the works will be properly constructed and operated in accordance with the engineering plans and specifications, as approved, and the conditions under which approval is granted by the State Department of Environmental Protection.



Milton Gold *Signature of Applicant*

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS AND ENGINEER'S REPORT

I hereby certify that the engineering plans, specifications and engineer's report applicable to this project comply with the current rules and regulations of the State Department of Environmental Protection with the exceptions as noted.



Signature of Engineer

Mark E.V. Daniels, NJPE 25617 12/22/87

Type: Name and Date

PROFESSIONAL ENGINEER'S
EMBOSSSED SEAL

President, The Daniels Engineering Group
Position, Name of Firm

E. OWNER'S COMPLIANCE WARRANT (NJPDES ONLY)

I, the owner, hereby agree that any treatment works constructed to meet the NPDES/NJPDES permit discharge limits will be properly constructed and operated to meet those limits. I also warrant that the discharge(s) will meet the effluent limitations as described in the NPDES/NJPDES permit, as issued, subject to my rights to contest such limitations under Section 8 of the NJPDES Regulations (N.J.A.C. 7:14A-1 et seq.).

Signature of Owner

Title

Date

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

ORIGINAL

ENGINEER'S REPORT FOR SEWER SYSTEMS

Class of Construction — Check all applicable blocks

Report Prepared Date _____

Application Dated _____

- ☐ New System
☐ Replacement of Existing System
☐ Extension(s) to Existing System

FOR DEPARTMENT USE ONLY

Project No. _____

Major Drainage Basin _____

Stream Classification _____

Report Rec'd Date _____

Construction & Operation _____

Application Rec'd Dated _____

Application Signed By _____ Position _____

Mark E.V. Daniels

P. E. Consultant Engineer

Authorization to Sign Application _____

Municipality _____

Municipal Approval Date _____
(Attach Approval)

Name _____

Title _____

Sewerage Authority Approval Date _____
(Attach Approval)

Name _____

Title _____

County Middlesex

Owners & Operators Middlesex County Utilities Authority

Engineering Firm The Daniels Engineering Group, Inc.

Address 1215 Livingston Avenue, North Brunswick, NJ 08902

Estimated Cost \$ \$25,662.00

Contributory Flow 3695 GPD

Nature of Waste: Domestic X Industrial _____

Receiving Waters of Treated Waste Raritan Bay

Specifications, signed & sealed by the engineer.

a) Dated December 22 19 87 ; 2 copies

Entitled Construction Specifications for Sanitary Sewer Extension/Pump Station/Force

Main American Realty & Investing, Block 41, Lot 7-10, Piscataway Township, Middlesex

County

Complete section (b) below if making reference to specifications previously approved by the DEP.

b) Previously Approved On _____ Under Approval No. _____

Description of Project Construct 571 LF 8" PVC, 3 manhole structures, 1 prepackaged duplex
pump station & 488 LF 1½" PVC Force Main

Plans Identified as American Realty & Investing

(From Title Block)

Township of Piscataway, Middlesex County, NJ

Engineering Site Plan

No. of Copies 2 No. of Sheets 3

Dated, Signed & Sealed
by the Engineer

12/22/87

Area Map Showing the
Proposed Project Dated _____

TABLE I - CONTRIBUTORY FLOW

Gravity Sewer Extensions, Collection Systems and Force Mains

a) Number and type of units (Single family dwellings, Townhouses, Condominiums, Office Buildings, etc.)	<u>1 existing warehouse/office building</u> <u>2 proposed warehouse/office buildings</u>
b) Population to be served	<u>Ex. Bldg: Warehouse=42,090 sf office=5758 sf</u> <u>Prop. Bldg.1 Warehouse=18000 sf office=2000sf</u> <u>Prop. Bldg 2 Warehouse=18000 sf office=2000sf</u> <u>Office Total = 9758 sf</u> <u>.125 GPD/sf * 9758 sf = 1220 G.P.D.</u>
c) Total Occupied Area (Sq. ft.) (For Offices, Shopping Centers, etc.)	<u>Warehouse Total = 78090 sf</u> <u>78090 sf</u> <u>800 sf/person = 98 persons</u> <u>98 persons * 25 GPD/person = 2450 GPD</u>
d) Miscellaneous (Schools, Restaurants, Hotels, Factories, etc.)	<u>3695</u> <u>G.P.D.</u>
e) Infiltration	<u>G.P.D.</u>
f) Total daily average flow	<u>G.P.D.</u>
Type of Area (Residential, Commercial, etc.)	

TABLE II - GENERAL DESIGN

PIPE DIAMETER (in.)	MINIMUM SLOPE (%)	MAXIMUM SLOPE (%)	MAXIMUM VELOCITY (FPS)	MAXIMUM FLOW (MGD)	MAXIMUM DISTANCE BETWEEN MANHOLES (ft.)		"N" VALUE	TYPE OF SEWER MATERIAL USED
					Sewer 18" or less	Sewer 18" or more		
8"	.5	1.0	345 FPS	.756	296 LF		.013	PVC
1½"	N/A	N/A	6 FPS	.035	488 LF		.013	PVC

Total Length of Proposed Sewers 8" PVC = 571 LF
1½" PVC Force Main = 488 LF

RECEIVING SEWAGE TREATMENT PLANT

a) Owner of Plant Middlesex County Utilities Authority

b) Name of Plant Central Treatment

c) NPDES/NJPDES Permit Number 0020141

IF ANY REPLY IS NEGATIVE OR EXPLANATION IS NEEDED, PLEASE ATTACH SEPARATE SHEET/OR SHEETS WITH THE QUESTION NUMBER AND REPLY.

	YES	NO	N/A
1. Are the proposed sewers designed as separate Sanitary Sewers?	☒	☐	
2. Specify the type of leakage test (infiltration and/or exfiltration) and the limit to be used, preferably in terms of gallons per inch of pipe diameter per miles per day.			
3. Are manholes provided at all changes in size, grade, alignment, and sewer intersections?	☒	☐	☐
4. Are drop manholes provided where the entrance sewer invert is 24 inches or more above manhole invert?	☐	☐	☒
5. Are manholes spaced in compliance with maximum distances of 400' for 18" or less; 500' for greater than 18"?	☒	☐	
6. Are watertight covers used where manholes are subject to flooding by street runoff of high water?	☐	☐	☒
7. Are there adequate provisions for ventilation at the manholes if required?	☐	☐	☒
8. Are the sewers of the minimum size of 8 inches?	☒	☐	☐
9. Are sewers crossing streams or located within ten feet of a stream embankment constructed of steel, reinforced concrete, ductile iron. If other material please specify.	☐	☐	☒
10. Are sewers within 100 feet of a public water supply well or a below-grade reservoir constructed of steel, reinforced concrete, ductile iron. If other material please specify.	☐	☐	☒
11. Does the slope of the sewers produce velocities in excess of 10 ft/sec?	☐	☒	
12. Are the sewers designed to carry at least twice the estimated average design flow when flowing half full?	☒	☐	
13. Are curved sewers part of this project? Do they comply with the Rules and Regulations of the Department?	☐	☐	☒

	YES	NO	N/A
14. Are the sewers designed with a hydraulic slope that will provide a mean velocity of not less than two feet per second when flowing full or half full based on Kutter's or Manning's formula with $N=0.013$?	☒	☐	
15. Are sewers located at least 10 feet horizontally from potable water lines and/or at least 18 inches below potable water lines and in separate trenches? This does not include individual house connections.	☐	☐	☒
16. If the proposed sewer extension will discharge to sewers and/or a treatment plant of another municipality, have appropriate agreements been reached?	☒	☐	☐
17. Do existing sewers and/or pump stations to which the proposed sewers will connect have adequate capacity to carry this additional flow?	☒	☐	
18. Have any of the sewer lines been designed at less than the State required minimum slope?	☐	☒	
19. Have other permits been applied for if required, such as CAFRA, Wetlands, Stream Encroachment, etc.?	☐	☒	☐
20. If siphons are part of the project do they comply with the Department's design Rules and Regulations?	☐	☐	☒

FORCE MAINS

- | | | |
|---|---|--|
| 1. Is the velocity within the force main at least 2 ft/second? | ☒ | ☐ |
| 2. Is three feet of cover provided along the entire force main? | ☒ | ☐ |
| 3. Are air and/or vacuum release valves provided on the high points of the force main?
No high points on profile | ☐ | ☒ |
| 4. Have provisions for testing force mains been included such as pressure and leakage tests, allowance, etc.? | ☒
☐ | ☐
☐ |

DRY WELLS AND WET WELLS

- | | | |
|--|-------------------------------------|--------------------------|
| N/A 1. Are dry wells provided with sufficient space for accessibility, repair and removal of pumps and motors? | ☐ | ☐ |
| 2. Is the capacity of the well or control level such that the detention time does not exceed 10 minutes at average flow? | ☒ | ☐ |
| 3. Are the sides of the wet well sloped at least 45 degrees to prevent solids accumulations? | ☒ | ☐ |
| N/A 4. Is the dry well provided with a sump pump? | ☐ | ☐ |

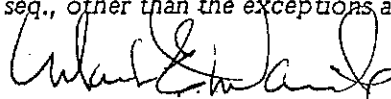
PUMPING STATIONS

- | | | |
|---|-------------------------------------|-------------------------------------|
| 1. Is the raw sewage screened or comminuted prior to pumping? | ☒ | ☐ |
| 2. Will an automatic sound alarm, independent of the Station power be provided? (Such an alarm shall extend to a police station or other location where competent assistance can be obtained in emergency.) If yes, where will the alarm sound? Sanitary flow occurs only when buildings are occupied, therefore alarms will be heard | ☐ | ☒ |
| 3. Is the automatic alarm system designed for high water conditions, power failures and mechanical breakdowns. | ☒ | ☐ |

- | | <u>YES</u> | <u>NO</u> |
|---|-------------------------------------|--------------------------|
| 4. Is adequate light and ventilation provided? (Where operational and maintenance duties are required in enclosed areas or pits, force ventilation by suitable means shall be provided and with sufficient capacity to induce twelve air changes per hour. If not continuous 30 changes/hour. Explosion-proof equipment shall be utilized.) | ☒ | ☐ |
| 5. Are adequate fresh-water facilities provided to permit routine washdown and cleaning operations at the pump station? | ☒ | ☐ |
| 6. If domestic water service connection is utilized is it protected by an approved backflow prevention device? | ☒ | ☐ |
| 7. Are a minimum of two pumps provided. | ☒ | ☐ |
| 8. Are shut off valves provided on both suction and discharge piping and a check valve on the discharge piping? | ☒ | ☐ |
| 9. Is auxiliary power provided for electrically driven pumps? | ☒ | ☐ |

Owner has access to portable generator

I hereby certify that the Engineering Plans, Specifications and Engineer's Report applicable to this project comply with the State Department of Environmental Protection Rules and Regulations for the Preparation and Submission of Plans for Sewer Systems and Wastewater Treatment Plants, N.J.A.C. 7:9.1 et seq., other than the exceptions as noted.



P.E.

Signature of Engineer
Mark E.V. Daniels NJPE 25617 12/22/87

Name & Date, Typed

Professional Engineer's Embossed Seal

Position, Name of Firm

Review and approval of this project is based solely upon the information contained in the CP# 1 application and the representations contained within this report as certified by the Licensed Professional Engineer as being in compliance with the Department's Rules and Regulations.

FOR DEPARTMENT USE ONLY

Project NOT recommended for issuance of an approval to ☐ CONSTRUCT and/or ☐ OPERATE

Project recommended for issuance of an approval to ☐ CONSTRUCT and/or ☐ OPERATE

Subject to the conditions common to all projects.

SPECIAL PROVISOS (If required, list below)

Typed Name

State Review Engineer

Written Signature

ENGINEERING REPORT
PUMP STATION/ FORCE MAIN
AMERICAN REALTY & INVESTING
BLOCK 41 LOT 7-10
PISCATAWAY TOWNSHIP
MIDDLESEX COUNTY

This work prepared under
my immediate supervision

A handwritten signature in dark ink, appearing to read 'Mark E.V. Daniels', written over a horizontal line.

Mark E.V. Daniels
NJPE #25617 NJPP #2440

December 22, 1987

Scope

Effluent will be delivered via building laterals to proposed 571 linear feet 8" PVC which will direct sewage to on site pump station. Effluent will be delivered to existing Manhole/ gravity sewer on Hazelwood Place via 488 linear feet 1½' PVC Force Main.

THE DANIELS ENGINEERING GROUP, INC.
1215 LIVINGSTON AVENUE
NORTH BRUNSWICK, NEW JERSEY 08902
(201) 249-5900

JOB American Realty & Investing #147-87

SHEET NO. 1 OF 3

CALCULATED BY W.A.Y. DATE 12/15/87

CHECKED BY DATE

SCALE Block 41, Lot 7-10, Edison Township

Sanitary flow calculations

Existing Building : Warehouse = 42,090 S.F.
Office = 5758 S.F.

$$\text{Warehouse} = \frac{42,090 \text{ S.F.}}{800 \text{ S.F./person}} = 53 \text{ persons} \times 25 \text{ GPD/person} = \underline{1325 \text{ GPD}}$$

$$\text{Office} = 5758 \text{ S.F.} \times .125 \text{ GPD/S.F.} = \underline{720 \text{ GPD}}$$

Proposed Building # 1 : Warehouse = 18,000 S.F.
Office = 2000 S.F.

$$\text{Warehouse} = \frac{18,000 \text{ S.F.}}{800 \text{ S.F./person}} = 23 \text{ persons} \times 25 \text{ GPD/person} = \underline{575 \text{ GPD}}$$

$$\text{Office} = 2000 \text{ S.F.} \times .125 \text{ GPD/S.F.} = \underline{250 \text{ GPD}}$$

Proposed Building # 2 : Warehouse = 18000 S.F.
Office = 2000 S.F.

$$\text{Warehouse} = \frac{18000 \text{ S.F.}}{800 \text{ S.F./person}} = 23 \text{ persons} \times 25 \text{ GPD/person} = \underline{575 \text{ GPD}}$$

$$\text{Office} = 2000 \text{ S.F.} \times .125 \text{ GPD/S.F.} = \underline{250 \text{ GPD}}$$

$$\text{Total} = \underline{3695 \text{ GPD}}$$

$$\frac{3695 \text{ GPD}}{8 \text{ hrs/day}} = 370 \text{ GPH}$$

$$\frac{370 \text{ GPH}}{60 \text{ min/hr}} = 6.17 \text{ GPM}$$

$$\text{Average daily flow} = 6.17 \text{ GPM}$$

$$\text{Peak daily flow} = 25 \text{ GPM} = .0557 \text{ C.F.S.}$$

Sizing of Force Main

$$\text{Peak flow} = 25 \text{ GPM} = .0557 \text{ CFS}$$

$$\text{Design velocity} = 5 \text{ FPS}$$

$$Q = VA \Rightarrow A = \frac{Q}{V} = \frac{.0557 \text{ CFS}}{5 \text{ FPS}} = .01114 \text{ S.F.}$$

$$A = \frac{\pi d^2}{4} \Rightarrow D = \sqrt{\frac{4A}{\pi}} = \sqrt{\frac{(4)(.0111)}{\pi}} = .118 \text{ ft (12)} = 1.42''$$

∴ Use 1½" dia force main

Check velocity in line with both pumps working
Assume flow = 12.5 GPM (½ peak)

$$Q = VA \Rightarrow V = \frac{Q}{A} = \frac{12.5 \text{ GPM}}{\frac{\pi (\frac{1.5}{12})^2}{4} \times 7.48 \frac{\text{Gal}}{\text{Cu.ft.}} \times 60 \frac{\text{sec}}{\text{min}}} = 2.27 \text{ FPS}$$

Set levels

Wet well dia. = 5'

$$\text{Volume} = 10 \text{ min} \times 6.17 \text{ GPM} = 61.7 \text{ gallons}$$

$$\frac{61.7 \text{ gallons}}{7.48 \frac{\text{gallons}}{\text{Cu.ft.}}} = 8.25 \text{ Cu.ft.}$$

$$\text{Volume} = \pi r^2 h$$

$$8.25 \text{ Cu.ft.} = \pi (2.5)^2 h$$

$$\frac{8.25 \text{ Cu.ft.}}{\pi (2.5)^2} = h = .42'$$

PUMP ON @ EL 51.0

PUMP OFF @ EL 50.58

.42'

THE DANIEL S ENGINEERING GROUP, INC.
1215 LIVINGSTON AVENUE
NORTH BRUNSWICK, NEW JERSEY 08902
(201) 249-5900

JOB American Realty Investing # 147-87

SHEET NO. 3 OF _____

CALCULATED BY W.A.Y. DATE 12/15/87

CHECKED BY _____ DATE _____

SCALE _____

HEAD LOSS

$$\text{Displaced head} = 6.7'$$

$$\text{Friction loss} = .6 / 100 \text{ ft} * 488 \text{ ft} = 2.93$$

$$\text{TDH} = 9.63'$$

$$\text{Required} = 6.17 \text{ GPM} * 4 = 25 \text{ GPM @ } 9.63 \text{ TDH}$$

$$\text{Proposed} = \text{Pumps provided can supply } 44 \text{ GPM @ } 9.63 \text{ TDH}$$

THE DANIELS ENGINEERING GROUP, INC.
1215 LIVINGSTON AVENUE
NORTH BRUNSWICK, NEW JERSEY 08902
(201) 249-5900

SHEET NO. _____ OF _____

CALCULATED BY W.A.Y. DATE 12/15/87

CHECKED BY _____ DATE _____

REF: R.S. MEANS SITE WORK COST DATA 87 SCALE Block 41, Lot 7-10 Edison Township

Sanitary Service Cost Estimate

$$571 \text{ 4" 8" PVC @ } \$20^{00} \text{ LF} = \$11420^{00}$$

$$3 \text{ manhole structures } \$1200^{00} = \$3600^{00}$$

$$1 \text{ - premanufactured pump station} = \$6000^{00}$$

$$488 \text{ 4" 1 1/2" } \phi \text{ PVC @ } \$9^{00} \text{ LF} = \$4392^{00}$$

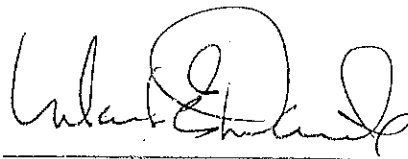
$$\text{Tie into existing M.H.} = \$200^{00}$$

$$\text{Pavement repair} = 50^{00}$$

$$\text{Total} = \$25662^{00}$$

CONSTRUCTION SPECIFICATIONS
for
PUMP STATION/ FORCE MAIN
AMERICAN REALTY and INVESTING
BLOCK 41, LOT 7-10
PISCATAWAY TOWNSHIP
MIDDLESEX COUNTY

This work prepared under
my immediate supervision

A handwritten signature in dark ink, appearing to read 'Mark E.V. Daniels', written over a horizontal line.

Mark E.V. Daniels
NJPE #25617 NJPP #2440

December 22, 1987

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I. PUMP STATION SPECIFICATIONS

A) General

Furnish and install one (1) complete prepackaged waste water pumping station which shall include 2 Model E2 ABS PIRANHA Grinder Pump(s) to deliver 44 USGPM against a total head of 9.63 feet. The motor shall be 2 HP 3450 RPM connected for operation on a 230 volt 60 HZ 1 phase service. The motor shall be an integral part of the pumping unit. The pump discharge size shall be 1 1/4". This pumping station shall be a "duplex Guide Rail" unit as manufactured by ABS Pumps Inc., Meriden, Connecticut. The basic lift station shall be a factory assembled fiberglass basin package and it shall be equipped with duplex alternating pumps, mercury level control switches, gas tight 3/8" aluminum cover, antifloatation plate, cast iron inlet hub, cast iron rail system, basket strainer, flashing light/audible high water alarm and all other necessary internal piping, valves and fittings.

Water service for maintenance purposes shall be supplied with Conbraco 38-404-01 Anti-freeze Hose Connection Vacuum Breaker or approved equal.

B) Basin

Basin shall be of molded, lay-up and spray technique, reinforced polyester resin and fiberglass construction. The basin shall have a minimum wall thickness of 3/16". A 8" diameter inlet hub of the caulking type or O-ring seal type shall be provided; location as specified on sheet 3 of 7, American Realty and Investing, Duplex Sewage Pump/Basin Detail.

C) Cover

Basin shall have a round, aluminum cover plate with integral access cover and trash basket access with an access plate from which the Piranha E2 grinder pump, discharge pipe, and control floats are supported permitting pump, piping, trash basket and floats removable as a unit without disturbing the main steel cover. Integral to the access plate shall be an inspection opening permitting removal of the control floats without disturbing the access plate or main cover. Pump power cable, float cables and pump discharge shall exit the access plate through sealing grommets and an 1 1/4" NPT flange respectively. Access plate shall have two lifting eyes and the main cover shall have a 2" flanged vent. Cover shall be manufactured by Halliday Products, Orlando Florida. See sheet 3 of 7 American Realty and Investing for details.

D) Grinder Pump Construction

The grinder unit shall be capable of shearing and reducing to a fine slurry all material normally found in domestic and commercial sewage such as sanitary napkins, disposable diapers, cloth diapers, wash rags, wood, plastics, etc. The slurry shall be capable of freely passing through a 1 1/4" piping system including check and gate valves.

The pump shall be of the centrifugal type with the rotating cutter mounted on the pump shaft directly against the impeller. The stationary cutter shall be mounted in an adjustable bottom plate. The bottom plate shall be cast with grooves threading outward from the center opening of the plate to the outer diameter. The impeller shall be a multiple vane centrifugal type. The cutter material shall be similar to an AISI 440C stainless steel with the addition of cobalt, vanadium, and molybdenum for superior abrasion resistance and a hardness 58-62 Rockwell C.

The common pump and motor shaft shall be 420 stainless steel supported by a heavy duty lower double row ball bearing Piranha 3, 4 & 5, single row for Piranha E2, E2.5 and an upper sealed single row ball bearing, all models. The cutting elements and impeller shall be designed to keep the overhung load distance to a minimum. All fasteners shall be 304 stainless steel.

Shaft Seals: Each pump shall be equipped with two seals. The lower seal (pump side) shall be of the mechanical type with silicone carbide faces. The upper seal shall be a lip type seal mounted at a slight angle to the shaft.

Seal Failure Warning System: The seals shall be separated by an oil chamber. An electronic probe shall be provided in the oil chamber to detect the leakage of water into the chamber. A solid-state device mounted in the pump control panel or in a separate enclosure shall send a low voltage, low amperage signal to the probe. If water enters the oil chamber the probe shall activate a warning light in the control panel.

E) Motor Construction

The motor shall be of the submersible type rated 2 HP at 3450 RPM. The full load current shall not exceed 12.5 amps at 230 volts. Single phase motors shall be of the capacitor start capacitor run type for high starting torque.

The motor shall be airfilled and shall have Class "F" insulation. Bimetallic thermal switches shall be imbedded in each phase of the winding to sense high temperature. The rating of the switch shall be 140 degrees C $\pm$ 5 degrees C. The control current shall be connected through the bimetallic switches so that the motor is shut down should a high temperature condition exist. The switches shall be self-resetting when the motor cools.

II ACCESSORY SPECIFICATIONS

Installation

- A) **Guide Rail Installation:** A cast iron guide rail base shall be mounted on the floor of the pump station. The grinder pump shall be guided onto the cast iron discharge base by a single guide rail supported at the top by an upper guide bracket and at the bottom by the discharge base. The pump base shall be equipped with a straightening vane which properly aligns the pump on the discharge base just prior to final seating. When the pump is in position, the weight of the pump shall compress the gasket and seal the connection. The area under the pump shall be free and clear of any additional support legs or guide pipes to insure free entrance of solids to the impeller.

OPTION: With each guide rail installation, a 1 1/4" fully ported ball or a flapper type check valve integral to, and removable with each pump shall be installed.

- B) **Vertical Pedestal Installation:** The grinder pump shall be equipped with a vertical pedestal base. The base and pump shall be free standing on the floor of the pump station. The discharge pipe shall be 1 1/4" galvanized steel. A galvanized union will be mounted at the top of the piping system as shown on the drawing for quick disconnect of the pump. The pump will be fitted with a lifting chain. The pump shall be removed from the wet well by means of the discharge pipe and chain.

C) Valves

A 1 1/4" fully ported 150 P.S.I. rated ball check valve with a corrosion resistant phenolic ball and a rubber seat shall be installed in the discharge line of each pump.

D) Floats

Four airfilled polypropylene/mercury float switches shall be provided for pump on/off control and high level alarm.

E) Junction Box

A NEMA 4X junction box, fully gasketed, shall be mounted in the basin.

F) Basket Strainer

A trash basket strainer shall be installed over inlet hub of basin. Strainer manufactured by Halliday Products, Orlando Florida see sheet 3 of 3 McGlone Property for detail

G) Electrical Controls

All control elements shall be housed in a NEMA 3R door-in-door enclosure. The enclosure shall be fully gasketed and shall have a drip cap. The enclosure shall be suitable for wall or pole mounting.

A combination manual motor starter and disconnect switch shall be provided for each pump. The unit shall have instantaneous trip magnetic overcurrent protection. The unit shall have adjustable thermal trips.

The control circuit shall be 110 volts. The control circuit shall be connected through the heat sensing switches in the pump and shall disconnect the control circuit of a high temperature condition in the grinder pump motor.

A HP rated contactor for each pump shall be provided. Definite purpose contactors will not be acceptable.

Single phase controls to have start and run capacitors and start relays mounted in control cabinet.

A seal failure warning light shall be mounted on the dead front door.

Duplex units only: An alternator relay shall be supplied to alternate pumps on each successive cycle. A lag float switch shall be used to start both pumps if inflow is greater than one pump can handle and shall also start the second pump in case operating pump fails.

A terminal strip with box type connectors shall be supplied to make all power and control connections for the pump. All terminals shall be marked for easy identification. A ground terminal strip shall also be provided.

A high level alarm light shall be mounted on the top of the control cabinet. The light shall be enclosed in a red polycarbonate enclosure. An audible alarm shall also be provided. The light and audible alarm shall be activated by the high level alarm float installed in the pump station as shown on the drawings.

H) Emergency Power

The contractor shall furnish and install an emergency power source receptacle for a portable emergency power generator. This receptacle shall be weatherproof and shall lead directly into the emergency power main fusible switch. The receptacle shall be rated for 50 AMPS, 2 wire, 4 pole, 60 hertz 230 volts per Russell & Stoll 7334-R reverse service or equal.

III. FORCE MAIN SPECIFICATONS

A) General

PVC pressure pipe shall be manufactured in accordance with AWWA C-900 standard for Poly Vinyl Chloride Pipe. The pipe supplied shall be designed to allow connection to standard ductile iron bell and spigot or mechanical joint type connection without the use of special adaptors. The pipe shall be Fluid-tite, Integral Bell, as manufactured by Certain Teed, or approved equal.

B) Size

Pipe supplied shall be 1½" size, PVC 1120. 160 PSI

C) Installation

The PVC force main shall be installed in accordance with "Recommended Standards for Installation of PVC Pressure Pipe" as published by Uni-Bell Plastic Pipe Association and to the location and grades as called for by plans.

CONSTRUCTION SPECIFICATIONS
FOR
SANITARY SEWER EXTENSION

AMERICAN REALTY & INVESTING
BLOCK 41, LOT 7-10
PISCATAWAY TOWNSHIP
MIDDLESEX COUNTY, NEW JERSEY

This work prepared under
my immediate supervision

A handwritten signature in black ink, appearing to read 'Mark E.V. Daniels', written over a horizontal line.

Mark E.V. Daniels
NJPE #25617 NJPP #2440

December 22, 1987

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I Construction Specifications

A Polyvinyl Chloride Pipe

Plastic pipe shall be polyvinyl chloride sewer pipe with bell spigot ends, O-ring rubber gasketed joints shall conform to ASTM D-3212. Plastic pipe and fittings shall conform to ASTM D-3034 latest revision, with a wall thickness designation of SDR 35 (minimum).

The material from which the pipe and fittings are extruded shall be high impact types of PVC, unplasticized having high mechanical strength and maximum chemical resistance conforming to Type 1, Grade 1, of the specification for rigid polyvinyl chloride compounds, ASTM D-1784, latest edition.

Pipe shall be free from defects, bubbles and other imperfections in accordance with accepted commercial practice.

The adequacy of the pipe gasketed joint shall be demonstrated, if required, by a test at the manufacturing plant in accordance with ASTM D-2444 for impact and ASTM D-2412 for deflection and pipe stiffness, latest revisions. Rubber ring gaskets shall be manufactured as per ASTM F-477 latest revision. The gasket shall be the sole element depended upon to make the joint watertight.

The pipe shall be installed as specified in ASTM designation D-2312, latest revision. In no case shall less than a Class III material be used for bedding and haunching material unless approved in writing by the Engineer. Particular attention should be given to the special requirements for installing pipe in unstable soil or excessive ground water. Any additional cost for materials used under these trench conditions, is to be borne by the applicant.

B Pipe Bedding and Trenching

Trench dimensions, maximum depths, and bedding requirements (including cradles and encasement) for sewers, laterals, etc., shall be in accordance with the manufacturer's recommendations and as a minimum shall conform to the details shown in the Engineering Site Plans.

C Manholes

Manholes shall be provided at ends of sewer lines, at intersections and at changes of grade or alignment. Distances between manholes shall not exceed 400 feet for sewers 18 inches or less in diameter and 500 feet for sewers larger than 18" in diameter. Where lateral sewers enter manholes at elevations two feet or more above the invert, drop manholes shall be provided and drop pipes shall be built. Manholes shall be of precast concrete, cast-in-place concrete or concrete block construction. Use of concrete block manholes will only be approved for special construction conditions which prevent use of precast manholes.

(2)

If precast manhole bases, barrels and cones are used, they shall be equal to reinforced concrete pipe and fitting conforming to A.S.T.M. Specification C-478, with round rubber gasketed joints, conforming to A.S.T.M. Specification C-361. Maximum absorption shall be 8% in accordance with A.S.T.M. Specification C-76.

Manhole frames and covers shall be of cast iron conforming to Specifications A.S.T.M. A-48, Class 30 and be suitable for H-20 loading capacity. Frames shall weigh a minimum 312 pounds, covers shall weigh a minimum of 182 pounds. All manhole covers in easements or in remote areas shall be provided with locking devices, unless otherwise required by the Authority. Manhole covers in low lying or flood prone areas shall be water tight and locking. Manholes shall be supplied with suitable adaptor for the various pipe materials used. Details of manholes, manhole frames and covers are required to be as shown on the construction detail drawings.

II Inspection of Sewage System During the Course of Construction

A General

All construction of sewage systems shall be under the jurisdiction of the engineer for the Authority, either directly or through inspectors under his supervision. He shall enforce compliance with the approved plans and specifications. He shall have the authority to discontinue work in the event of non-compliance.

The applicant shall give 48 hours notice to the authority prior to construction of sewers at all times during the construction period for the project. Should any sewer construction be performed wherein a qualified inspector is absent due to the applicant's failure to provide the proper notification, the Authority may require said work to be uncovered at the applicant's expense. Failure to do so may result in non-acceptance of the work.

He shall also furnish the name of the occupant, the street address and lot and block number of every connection made to an approved section of sewer during the month.

No house service connections shall be made to a street main, whether tested or not, unless under the supervision and inspection of the engineer for the Authority.

When a section of sewer has been satisfactorily tested, then all individual house connections must also be satisfactorily tested.

(3)

A temporary leak-proof, bulkhead type plug shall be installed in the downstream (outlet) side of the manhole furthest downstream in any sewer main or branch under construction and shall remain intact and unloosened until written permission is received from the Authority Engineer to remove same.

This permission will not be granted until each section of the sewer has been cleaned and flushed in a manner acceptable to the Authority's Engineer.

Upon satisfactory completion of construction, the Authority's Engineer will certify to the Authority and to the NJDEP that the project has been inspected and tested under his supervision. The applicant's engineer must certify to the Authority and to the State that the project has been constructed according to the approved plans and specifications. NJDEP requires that such certification be given prior to its issuance of a permit to operate new sewage facilities.

B Testing of Completed Sewage System

All gravity sewers shall be subjected to either air pressure testing or an infiltration/exfiltration test.

Exfiltration tests shall be conducted in lieu of infiltration tests when the pipe has been laid above the ground water level. The tests shall be performed between two manholes or as otherwise directed by the Engineer for the Authority and shall include all related sewage including the house connections.

The applicant's contractor shall furnish all labor, material and equipment necessary for the testing.

Exfiltration tests shall be under at least a ten foot head or a pressure corresponding to a head equal to the depth of the lower manhole of the section under test.

Infiltration testing will be acceptable only when ground water levels are ten feet or more above pipe grade.

Allowable infiltration or exfiltration in excess of the permissible limit shall be repaired, or removed and replaced in accordance with latest revision of "Repair Guidelines" published by Utility Contractor's Association of New Jersey.

Air testing of facilities may be substituted for the above listed requirements only if existing facilities and conditions are ideally suited to this use. Details of testing procedures shall be established by the Authority.

III As-Built Drawings and Manuals

After construction and before final acceptance by the Authority, the applicant shall furnish the Authority one (1) complete set of reproduces, approved by the Authority's Engineer, and two (2) sets of prints (blue on white) of each drawing showing the details of the

(4)

collection system, all facilities, connections, etc., as actually constructed. The applicant shall also provide for each connection to this system data including depth at cleanout, length of lateral from cleanout to main, stationing, upstream and downstream manhole data, and location by triangulation of the cleanout, all of which can be shown on an Individual Sewer Connection Application. As-built drawings shall be signed and sealed by a licensed professional engineer.

After construction and before final acceptance by the authority, two (2) complete and up to date sets of operation and maintenance manuals including materials and parts listings, approved by the Authority's Engineer, shall be furnished.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

STANDARD APPLICATION FORM (CP #1)
CONSTRUCTION AND DISCHARGE PERMITS

FOR OFFICIAL USE

READ REQUIREMENTS
PLEASE TYPE OR PRINT

1. Applicant/Owner* American Realty & Investing Telephone (201) 752-7722
Permanent Legal Address 1776 South Second Street
City or Town Piscataway State NJ Zip Code 08854
2. Location of Work Site Piscataway
Name of Facility, if applicable N/A
Street/Road South Second Street
Lot No. 7-10 Block No. 41
City or Town Piscataway State NJ Zip Code 08854
Municipality Piscataway County Middlesex
3. If applicable, give name of: Engineer/Surveyor/Well Driller/Geologist/Soil Scientist (Specify).
Name Mark E.V. Daniels N.J. License No. 25617
Name of Firm, if employee The Daniels Engineering Group, Inc.
Address 1215 Livingston Avenue County Middlesex
Municipality North Brunswick State NJ Zip Code 08902
Telephone (201) 249-5900
4. This is an application for Sanitary Sewer Extension Permit
(Name of permit, certification, approval or exemption. See Item 9. Next Page.)
5. Fee is attached (If applicable). \$ 153.97 (No fee required for compost application.)
(Provide explanation of how fee was calculated. Read Requirements Section of Standard Application booklet.)
6. Estimated construction cost of project:
a. \$ 25,662.00 total cost of the project.
b. \$ 25,662.00 portion for which this permit is requested.
7. I have included certifications of any public notifications. Yes X No
8. If applicable:
(For Waterfront Development and Stream Encroachment applications, 8c. must be completed.)
a. Source of Water Supply Public
b. For Treatment at (Water Treatment Plant)
c. Stream, Waterway, Pond or Lake
d. Wastewater Treatment Facility Central Treatment

* Applicant/Owner must be the individual or municipality, public agency, utility, company, industry who will be the eventual owner and operator of said facility (sewer extension or treatment works) when completed.

FOLLOW INSTRUCTIONS CAREFULLY

9. Have any other applications for this site/project been submitted, or have any state permits been issued for this project? (If yes, indicate status and project number below.)

NoX..... Yes Decision

		APPLICATION STATUS (PENDING - APPROVED)	PROJECT #
PERMIT TYPE	(Use additional sheets if necessary.)		
9.1	CAFRA.....		
9.2	Waterfront Development (Riparian).....		
9.3	Wetlands.....		
9.4	Purchase Water		
	Diversion:		
9.5	Divert Water Supply for Public Use.....		
9.6	Divert Surface Waters for Private Use		
9.7	Divert Subsurface/Percolating Water for Private Use.....		
9.8	Well Drilling		
9.9	Permanent Water Lowering		
9.10	Temporary Water Lowering.....		
9.11	Construct/Modify, Operate Public Potable Water Works.....		
9.12	Connection between an approved water supply and non-approved supply ...		
9.13	Water Quality Certification.....		
9.14	Construct/Repair Dam		
9.15	Stream Encroachment.....		
9.16	Sewer Systems: Collectors, Pump Station, etc.....		
9.17	Exemption from Sewer Ban		
9.18	New Jersey Pollutant Discharge Elimination System (Specify).....		
9.19	Solid Waste Permits (Specify).....		
9.20	Air Quality Permits (Specify).....		
9.21	Delaware and Raritan Canal Review Zone "Certificate of Approval"		
9.22	Pinelands Certificate		
9.23	Other State agencies' permits.....		
9.24	Local Permits		
9.25	Federal Permits.....		

10. Brief Description of the Proposed Project and Intended Use:

1 existing, 2 proposed warehouse/office structures will create 3695 GPD of domestic quality effluent. Building laterals will deliver flow to 571 LF 8" PVC which will direct sewage to on-site pump station. Effluent will be delivered to existing manhole/gravity sewer on Hazelwood Place via 488 LF 1½" PVC Force Main

11. I hereby certify that the information furnished on this application (and the attachments) is true. I am aware that false swearing is a crime in this State and subject to prosecution.

Milton Gold 12/22/87

Type: Name and Date

President-American Realty & Investing

Type: Position



Signature of Applicant

11/14/88

Date

ENDORSEMENTS

SOME PERMIT APPLICATIONS REQUIRE SPECIFIC ENDORSEMENTS OF OWNERS, AGENTS,
MUNICIPALITIES, ETC. ENDORSEMENTS MAY BE REQUIRED FOR YOUR PERMIT.

VERIFY THE NEED FOR ENDORSEMENTS IN THE "REQUIREMENTS" SECTION OF THE
STANDARD APPLICATION FORM CP #1 BOOKLET OR WITH THE APPROPRIATE DEP AGENCY.

A. PROPERTY OWNER'S CERTIFICATION*†

I hereby certify that _____
Property Owner's Name

is the owner of the property upon which the proposed work is to be done. This endorsement is certification that the owner grants permission for the conduct of the proposed activity.

In addition, the aforementioned property owner shall certify:

1. Whether any work is to be done within an easement — Yes _____ (initial) No _____ (initial)
2. Whether any part of the entire project (i.e., pipeline, roadway, cable, transmission line, etc.) will be located within property belonging to the State of New Jersey.
Yes _____ (initial) No _____ (initial)

Type or Print Name and Address of Owner,
if different from Item 1 on Page 1

Date

Signature of Owner

* Not required for Sewer System Application.

† Required for the Land Application of Sludge, Septage or Compost.

B. APPLICANT'S AGENT

I, the applicant (name) _____
authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name _____ Phone _____

Address _____ County _____

City or Town _____ State _____ Zip Code _____

Occupation/Profession _____

Signature of Applicant

AGENT'S CERTIFICATION

Sworn before me

this _____ day of

_____ 19____

I agree to serve as agent for the above-named applicant

Notary Public

Signature of Agent

C. PROPER CONSTRUCTION AND OPERATION CLAUSE (Sewer Extensions, Treatment Works Approval, Water Works)

I, the applicant, agree that the works will be properly constructed and operated in accordance with the engineering plans and specifications, as approved, and the conditions under which approval is granted by the State Department of Environmental Protection.



Milton Gold *Signature of Applicant*

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS AND ENGINEER'S REPORT

I hereby certify that the engineering plans, specifications and engineer's report applicable to this project comply with the current rules and regulations of the State Department of Environmental Protection with the exceptions as noted.



Signature of Engineer

Mark E.V. Daniels, NJPE 25617 12/22/87

Type: Name and Date

PROFESSIONAL ENGINEER'S
EMBOSSSED SEAL

President, The Daniels Engineering Group
Position, Name of Firm

E. OWNER'S COMPLIANCE WARRANT (NJPDES ONLY)

I, the owner, hereby agree that any treatment works constructed to meet the NPDES/NJPDES permit discharge limits will be properly constructed and operated to meet those limits. I also warrant that the discharge(s) will meet the effluent limitations as described in the NPDES/NJPDES permit, as issued, subject to my rights to contest such limitations under Section 8 of the NJPDES Regulations (N.J.A.C. 7:14A-1 et seq.).

Signature of Owner

Title

Date

STATE OF NEW JERSEY

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM (NJPDES)
SUPPLEMENT TO THE STANDARD APPLICATION FORM CP # 1

ENDORSEMENTS

NOTICE: The following citation relates to violations of the Water Pollution Control Act.

N.J.S.A. 58:10A-10 Violations; remedies, fines and penalties; enforcement

Paragraph (f) "Any person who knowingly makes a false statement, representation, or certification in any application, record, or other document filed or required to be maintained under this act or who falsifies, tampers with or knowingly renders inaccurate, any monitoring device or method required to be maintained pursuant to this act, shall upon conviction, be subject to a fine of not more than \$10,000.00 or by imprisonment for not more than 6 months, or by both."

A. Endorsements by the municipality in which the project is to be located. AMERICAN REALTY & INVESTING
BL 41, LOT 42

**CERTIFICATION BY GOVERNING BODY

This project as proposed is in conformance with the requirements of all municipal ordinances and the Governing Body of this municipality/authority approves of the project as proposed by the applicant.

Endorsed by: Township Engineer
(Name of Municipality or Authority)

Signed* Leslie Holzmann

Leslie Holzmann, Township Engineer 1/25/88
Print or Type: Name and Title Date

* Cite authorization to sign for the Governing Body Resolution 5/19/87.
Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists, the full resolution approved by the Governing Body endorsing the project must be submitted with this application.

** NOTE:

Where a municipality has created a sewerage authority, utilities authority, municipal utilities authority or a joint meeting responsible for sewers in the area, the endorsement of the affected sewerage authority(ies) is requested for a sewer extension approval.

B. Determination by the WQMP Agency

This project or activity, as proposed, has been reviewed by this agency in accordance with the Areawide Water Quality Management Plan (WQMP). The following determination has been made by either the appropriate designated WQMP agency, or the Department (where appropriate).

- ☐ Project is consistent with Plan
☐ Project is not inconsistent with Plan*
☐ Project is inconsistent with Plan**

<i>Name of Project</i>		<i>Authorized Signature</i>	
<i>Name of Plan</i>		<i>Name (Print or Type)</i>	<i>Date</i>
<i>Name of Agency</i>		<i>Title</i>	

NOTE: For the name of the appropriate WQMP agency, or any other questions, contact the Division of Water Resources at (609) 984-4429.

- * A finding of not inconsistent has the same effect as a finding of consistent.
 ** A finding of inconsistent must be accompanied by a letter describing the reason for the finding.

Sewer systems (interceptors, collectors, pump stations) for residential developments of 50 units or more and industrial/commercial and mixed use (including residential) developments having flows of 25,000 gpd or more, do require consistency determinations. Projects that are extensions or modifications to existing projects where the cumulative total for the project is greater than 50 units or 25,000 pgd, as appropriate, shall require a consistency determination (N.J.A.C. 7:15-1 et seq.)

Sewer systems to serve less than 50 units or less than 25,000 gpd do not require a consistency determination but must still be consistent with approved WQM/201 plans.

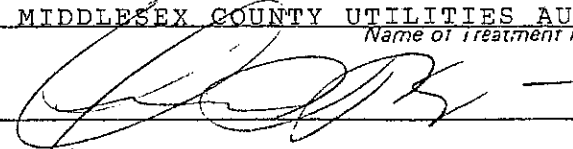
C. Endorsement by the Sewerage Agency in which the project is to be located.CERTIFICATION BY THE 201 SEWERAGE AGENCY

This project as proposed is in conformance with the requirements of all Sewerage Agency rules and regulations and the applicable "201" Facilities Plan and the Governing Body of this Sewerage Agency approves of the project as proposed by the applicant.

South Second Street, Lot 7-10, Blk. 41, Piscataway, NJ

Endorsed by MIDDLESEX COUNTY UTILITIES AUTHORITY

Name of Treatment Plant

Signed* 

Frederick H. Kurtz, Executive Director

2/2/88

Print or Type:

Name and Title

Date

- * Cite authorization to sign for the Sewerage Agency Resolution 1/24/63

Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists, the full resolution approved by the Sewerage Agency endorsing the project must be submitted with the application.

- D. Endorsement by owner of the treatment plant receiving the wastewater.

CERTIFICATION BY OWNER

SEWAGE TREATMENT FACILITY

I (we) hereby certify that the sum of the DEP currently approved projects plus the actual metered flow for the (name of the plant) does not exceed the present design capacity. I (we) further certify that with the addition of this project, the approved design capacity will not be exceeded. Further I (we) certify that the treatment plant is currently complying with its New Jersey Pollutant Discharge Elimination System permit (NPDES) requirements and should continue to do so with the additional flow from this project.

South Second Street, Lot 7-10, Blk. 41, Piscataway, NJ

Endorsed by MIDDLESEX COUNTY UTILITIES AUTHORITY

Name of Treatment Plant

Signed*

Frederick H. Kurtz, Executive Director

2/2/88

Print or Type:

Name and Title

Date

If the owner is a public agency, cite authorization to sign for the publicly owned treatment works Resolution 1/24/63. Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists the full resolution approved by the governing body endorsing the project must be submitted with the application.

- E. 1) Pursuant to N.J.S.A. 58:10A-6 and N.J.A.C. 7:14A-12.1 et seq., no person may build, install, modify or operate any facility for the collection treatment or discharge of any pollutant, including any "extension" as defined in the regulations without the prior approval of the Department.
- 2) Approvals, permits, service contracts or other reservation of capacity issued or agreed to by any participating municipality or sewerage agency does not constitute the required approval of the Department.
- 3) For computation of actual flow at the sewer plant, the average flow processed by the facility for the four (4) month period immediately preceding the submission shall be used. Under NJPDES Regulations no application shall be submitted if the waste treatment facility is not meeting its discharge permit limits. Under Sewer Ban Regulations, no project is to be submitted if the sewer plant is committed to 100% of its design capacity.
- 4) The owner of the sewage treatment plant shall submit to NJDEP on a quarterly basis the status of sewage flow entering the plant including all outstanding approved sewer extension permits not yet on line. These reports will be used for tracking capacity at the receiving sewage treatment plant. See Form WQM-007.

Be it Resolved,

By the Township Council of Piscataway
Township, New Jersey that:

(SEAL)

WHEREAS, it is necessary that applications be made to the Department of Environmental Protection of the State of New Jersey regarding the extension of any sanitary sewer within the Township of Piscataway; and

WHEREAS, it is necessary to designate an agent of the Township of Piscataway for the purpose of executing such applications;

NOW, THEREFORE, BE IT RESOLVED by the Township Council of the Township of Piscataway that Leslie Holzmnn, Township Engineer of the Township of Piscataway be and hereby is designated as agent for the Township of Piscataway for the purpose of filing applications with the Department of Environmental Protection of the State of New Jersey for the extension of any sanitary sewer within the Township.

MOTION MADE BY: Mrs. Merolla
PASSED ON THE FOLLOWING VOTE:

SECONDED BY: Mrs. Fernicola

YEAS: Messrs. Dunphy, Fernicola, Hardenburg, Merolla, Kruse
NAYS: ---

TOWNSHIP OF PISCATAWAY
ENGINEERING DIVISION
MAY 21 PM 1:38

Monique M. Croom
Deputy Clerk of Piscataway Township

MONIQUE M. CROOM

Margaret F. Kruse
President of Township Council

MARGARET F. KRUSE

I certify the foregoing to be a true and correct abstract of a resolution regularly passed at a meeting of the Township Council of Piscataway Township held on May 19, 1987, and in that respect is a true and correct copy of its minutes.

Copies
Adm.
T. Eng.
T. Atty

Monique M. Croom
Deputy Clerk of the Township of Piscataway
MONIQUE M. CROOM

STATE OF NEW JERSEY

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM (NJPDDES)
SUPPLEMENT TO THE STANDARD APPLICATION FORM CP # 1

ENDORSEMENTS

NOTICE: *The following citation relates to violations of the Water Pollution Control Act.*

N.J.S.A. 58:10A-10 Violations; remedies, fines and penalties; enforcement

Paragraph (f) "Any person who knowingly makes a false statement, representation, or certification in any application, record, or other document filed or required to be maintained under this act or who falsifies, tampers with or knowingly renders inaccurate, any monitoring device or method required to be maintained pursuant to this act, shall upon conviction, be subject to a fine of not more than \$10,000.00 or by imprisonment for not more than 6 months, or by both."

A. Endorsements by the municipality in which the project is to be located.

**CERTIFICATION BY GOVERNING BODY

This project as proposed is in conformance with the requirements of all municipal ordinances and the Governing Body of this municipality/authority approves of the project as proposed by the applicant.

Endorsed by: _____
(Name of Municipality or Authority)

Signed* _____

Print or Type: Name and Title Date

* Cite authorization to sign for the Governing Body _____
Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists, the full resolution approved by the Governing Body endorsing the project must be submitted with this application.

** NOTE:

Where a municipality has created a sewerage authority, utilities authority, municipal utilities authority or a joint meeting responsible for sewers in the area, the endorsement of the affected sewerage authority(ies) is requested for a sewer extension approval.

B. Determination by the WQMP Agency

This project or activity, as proposed, has been reviewed by this agency in accordance with the Areawide Water Quality Management Plan (WQMP). The following determination has been made by either the appropriate designated WQMP agency, or the Department (where appropriate).

- ☐ Project is consistent with Plan
☐ Project is not inconsistent with Plan*
☐ Project is inconsistent with Plan**

<i>Name of Project</i>		<i>Authorized Signature</i>	
<i>Name of Plan</i>		<i>Name (Print or Type)</i>	<i>Date</i>
<i>Name of Agency</i>		<i>Title</i>	

NOTE: For the name of the appropriate WQMP agency, or any other questions, contact the Division of Water Resources at (609) 984-4429.

* A finding of not inconsistent has the same effect as a finding of consistent.

** A finding of inconsistent must be accompanied by a letter describing the reason for the finding.

Sewer systems (interceptors, collectors, pump stations) for residential developments of 50 units or more and industrial/commercial and mixed use (including residential) developments having flows of 25,000 gpd or more, do require consistency determinations. Projects that are extensions or modifications to existing projects where the cumulative total for the project is greater than 50 units or 25,000 pgd, as appropriate, shall require a consistency determination (N.J.A.C. 7:15-1 et seq.)

Sewer systems to serve less than 50 units or less than 25,000 gpd do not require a consistency determination but must still be consistent with approved WQM/201 plans.

C. Endorsement by the Sewerage Agency in which the project is to be located.CERTIFICATION BY THE 201 SEWERAGE AGENCY

This project as proposed is in conformance with the requirements of all Sewerage Agency rules and regulations and the applicable "201" Facilities Plan and the Governing Body of this Sewerage Agency approves of the project as proposed by the applicant.

Endorsed by _____
Name of Treatment Plant

Signed* _____

Print or Type: Name and Title Date

- * Cite authorization to sign for the Sewerage Agency _____
 Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists, the full resolution approved by the Sewerage Agency endorsing the project must be submitted with the application.

- D. Endorsement by owner of the treatment plant receiving the wastewater.

CERTIFICATION BY OWNER

SEWAGE TREATMENT FACILITY

I (we) hereby certify that the sum of the DEP currently approved projects plus the actual metered flow for the (name of the plant) does not exceed the present design capacity. I (we) further certify that with the addition of this project, the approved design capacity will not be exceeded. Further I (we) certify that the treatment plant is currently complying with its New Jersey Pollutant Discharge Elimination System permit (NPDES) requirements and should continue to do so with the additional flow from this project.

Endorsed by _____
Name of Treatment Plant

Signed* _____

Print or Type: Name and Title Date

If the owner is a public agency, cite authorization to sign for the publicly owned treatment works _____. Submit the resolution granting such authority to sign. If no such resolution granting authority to sign exists the full resolution approved by the governing body endorsing the project must be submitted with the application.

- E. 1) Pursuant to N.J.S.A. 58:10A-6 and N.J.A.C. 7:14A-12.1 et seq., no person may build, install, modify or operate any facility for the collection treatment or discharge of any pollutant, including any "extension" as defined in the regulations without the prior approval of the Department.
- 2) Approvals, permits, service contracts or other reservation of capacity issued or agreed to by any participating municipality or sewerage agency does not constitute the required approval of the Department.
- 3) For computation of actual flow at the sewer plant, the average flow processed by the facility for the four (4) month period immediately proceeding the submission shall be used. Under NJPDES Regulations no application shall be submitted if the waste treatment facility is not meeting its discharge permit limits. Under Sewer Ban Regulations, no project is to be submitted if the sewer plant is committed to 100% of its design capacity.
- 4) The owner of the sewage treatment plant shall submit to NJDEP on a quarterly basis the status of sewage flow entering the plant including all outstanding approved sewer extension permits not yet on line. These reports will be used for tracking capacity at the receiving sewage treatment plant. See Form WQM-007.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCESENGINEER'S REPORT FOR SEWER SYSTEMS

Class of Construction — Check all applicable blocks

Report Prepared Date _____

Application Dated _____

- ☐ New System
☐ Replacement of Existing System
☐ Extension(s) to Existing System

FOR DEPARTMENT USE ONLY

Project No. _____

Major Drainage Basin _____

Stream Classification _____

Report Rec'd Date _____

Construction & Operation _____

Application Rec'd Dated _____

Application Signed By _____

Position _____

Mark E.V. Daniels

P. E. Consultant Engineer

Authorization to Sign Application _____

Municipality _____

Municipal Approval Date _____
(Attach Approval)

Name _____

Title _____

Sewerage Authority Approval Date _____
(Attach Approval)

Name _____

Title _____

County MiddlesexOwners & Operators Middlesex County Utilities AuthorityEngineering Firm The Daniels Engineering Group, Inc.Address 1215 Livingston Avenue, North Brunswick, NJ 08902Estimated Cost \$ \$25,662.00Contributory Flow 3695 GPDNature of Waste: Domestic X

Industrial _____

Receiving Waters of Treated Waste Raritan Bay

Specifications, signed & sealed by the engineer.

a) Dated December 22 19 87 ; 2 copies

Entitled Construction Specifications for Sanitary Sewer Extension/Pump Station/Force
Main American Realty & Investing, Block 41, Lot 7-10, Piscataway Township, Middlesex
County
 Complete section (b) below if making reference to specifications previously approved by the DEP.

b) Previously Approved On _____ Under Approval No. _____

Description of Project Construct 571 LF 8" PVC, 3 manhole structures, 1 prepackaged duplex
pump station & 488 LF 1½" PVC Force Main

Plans Identified as American Realty & Investing
 (From Title Block) Township of Piscataway, Middlesex County, NJ
Engineering Site Plan

No. of Copies 2 No. of Sheets 3

Dated, Signed & Sealed by the Engineer 12/22/87 Area Map Showing the Proposed Project Dated _____

TABLE I - CONTRIBUTORY FLOW

Gravity Sewer Extensions, Collection Systems and Force Mains

a) Number and type of units (Single family dwellings, Townhouses, Condominiums, Office Buildings, etc.)	<u>1 existing warehouse/office building</u> <u>2 proposed warehouse/office buildings</u>
b) Population to be served	<u>Ex. Bldg: Warehouse=42,090 sf office=5758 sf</u> <u>Prop. Bldg.1 Warehouse=18000 sf office=2000sf</u> <u>Prop. Bldg 2 Warehouse=18000 sf office=2000sf</u>
1. G.P.D./person	
2. G.P.D./unit	
c) Total Occupied Area (Sq. ft.) (For Offices, Shopping Centers, etc.)	<u>Office Total = 9758 sf</u>
1. 0.125 x Sq. ft.	<u>.125 GPD/sf * 9758 sf = 1220 G.P.D.</u>
d) Miscellaneous (Schools, Restaurants, Hotels, Factories, etc.)	<u>Warehouse Total = 78090 sf</u> <u>78090 sf</u> <u>800 sf/person = 98 persons</u> <u>98 persons * 25 GPD/person = 2450 GPD</u>
	<u>3695 G.P.D.</u>
e) Infiltration	<u>G.P.D.</u>
f) Total daily average flow	<u>G.P.D.</u>
Type of Area (Residential, Commercial, etc.)	

TABLE II — GENERAL DESIGN

PIPE DIAMETER (in.)	MINIMUM SLOPE (%)	MAXIMUM SLOPE (%)	MAXIMUM VELOCITY (FPS)	MAXIMUM FLOW (MGD)	MAXIMUM DISTANCE BETWEEN MANHOLES (ft.)		"N" VALUE	TYPE OF SEWER MATERIAL USED
					Sewer 18" or less	Sewer 18" or more		
8"	.5	1.0	3.45 FPS	.756	296 LF		.013	PVC
1½"	N/A	N/A	6 FPS	.035	488 LF		.013	PVC

Total Length of Proposed Sewers 8" PVC = 571 LF
1½" PVC Force Main = 488 LF

RECEIVING SEWAGE TREATMENT PLANT

a) Owner of Plant Middlesex County Utilities Authority

b) Name of Plant Central Treatment

c) NPDES/NJPDES Permit Number 0020141

IF ANY REPLY IS NEGATIVE OR EXPLANATION IS NEEDED, PLEASE ATTACH SEPARATE SHEET/OR SHEETS WITH THE QUESTION NUMBER AND REPLY.

	YES	NO	N/A
1. Are the proposed sewers designed as separate Sanitary Sewers?	☒	☐	
2. Specify the type of leakage test (infiltration and/or exfiltration) and the limit to be used, preferably in terms of gallons per inch of pipe diameter per miles per day.			
3. Are manholes provided at all changes in size, grade, alignment, and sewer intersections?	☒	☐	☐
4. Are drop manholes provided where the entrance sewer invert is 24 inches or more above manhole invert?	☐	☐	☒
5. Are manholes spaced in compliance with maximum distances of 400' for 18" or less; 500' for greater than 18"?	☒	☐	
6. Are watertight covers used where manholes are subject to flooding by street runoff of high water?	☐	☐	☒
7. Are there adequate provisions for ventilation at the manholes if required?	☐	☐	☒
8. Are the sewers of the minimum size of 8 inches?	☒	☐	☐
9. Are sewers crossing streams or located within ten feet of a stream embankment constructed of steel, reinforced concrete, ductile iron. If other material please specify.	☐	☐	☒
10. Are sewers within 100 feet of a public water supply well or a below-grade reservoir constructed of steel, reinforced concrete, ductile iron. If other material please specify.	☐	☐	☒
11. Does the slope of the sewers produce velocities in excess of 10 ft/sec?	☐	☒	
12. Are the sewers designed to carry at least twice the estimated average design flow when flowing half full?	☒	☐	
13. Are curved sewers part of this project? Do they comply with the Rules and Regulations of the Department?	☐	☐	☒

	YES	NO	N/A
14. Are the sewers designed with a hydraulic slope that will provide a mean velocity of not less than two feet per second when flowing full or half full based on Kutter's or Manning's formula with N=0.013?	☒	☐	
15. Are sewers located at least 10 feet horizontally from potable water lines and/or at least 18 inches below potable water lines and in separate trenches? This does not include individual house connections.	☐	☐	☒
16. If the proposed sewer extension will discharge to sewers and/or a treatment plant of another municipality, have appropriate agreements been reached?	☒	☐	☐
17. Do existing sewers and/or pump stations to which the proposed sewers will connect have adequate capacity to carry this additional flow?	☒	☐	
18. Have any of the sewer lines been designed at less than the State required minimum slope?	☐	☒	
19. Have other permits been applied for if required, such as CAFRA, Wetlands, Stream Encroachment, etc.?	☐	☒	☐
20. If siphons are part of the project do they comply with the Department's design Rules and Regulations?	☐	☐	☒

FORCE MAINS

- | | | |
|---|---|--|
| 1. Is the velocity within the force main at least 2 ft/second? | ☒ | ☐ |
| 2. Is three feet of cover provided along the entire force main? | ☒ | ☐ |
| 3. Are air and/or vacuum release valves provided on the high points of the force main?
No high points on profile | ☐ | ☒ |
| 4. Have provisions for testing force mains been included such as pressure and leakage tests, allowance, etc.? | ☒
☐ | ☐
☐ |

DRY WELLS AND WET WELLS

- | | | |
|--|-------------------------------------|--------------------------|
| N/A 1. Are dry wells provided with sufficient space for accessibility, repair and removal of pumps and motors? | ☐ | ☐ |
| 2. Is the capacity of the well or control level such that the detention time does not exceed 10 minutes at average flow? | ☒ | ☐ |
| 3. Are the sides of the wet well sloped at least 45 degrees to prevent solids accumulations? | ☒ | ☐ |
| N/A 4. Is the dry well provided with a sump pump? | ☐ | ☐ |

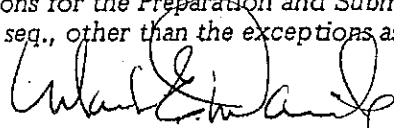
PUMPING STATIONS

- | | | |
|---|-------------------------------------|-------------------------------------|
| 1. Is the raw sewage screened or comminuted prior to pumping? | ☒ | ☐ |
| 2. Will an automatic sound alarm, independent of the Station power be provided? (Such an alarm shall extend to a police station or other location where competent assistance can be obtained in emergency.) If yes, where will the alarm sound? Sanitary flow occurs only when buildings are occupied, therefore alarms will be heard | ☐ | ☒ |
| 3. Is the automatic alarm system designed for high water conditions, power failures and mechanical breakdowns. | ☒ | ☐ |

- | | YES | NO |
|---|-------------------------------------|--------------------------|
| 4. Is adequate light and ventilation provided? (Where operational and maintenance duties are required in enclosed areas or pits, force ventilation by suitable means shall be provided and with sufficient capacity to induce twelve air changes per hour. If not continuous 30 changes/hour. Explosion-proof equipment shall be utilized.) | ☒ | ☐ |
| 5. Are adequate fresh-water facilities provided to permit routine washdown and cleaning operations at the pump station? | ☒ | ☐ |
| 6. If domestic water service connection is utilized is it protected by an approved backflow prevention device? | ☒ | ☐ |
| 7. Are a minimum of two pumps provided. | ☒ | ☐ |
| 8. Are shut off valves provided on both suction and discharge piping and a check valve on the discharge piping? | ☒ | ☐ |
| 9. Is auxiliary power provided for electrically driven pumps? | ☒ | ☐ |

Owner has access to portable generator

I hereby certify that the Engineering Plans, Specifications and Engineer's Report applicable to this project comply with the State Department of Environmental Protection Rules and Regulations for the Preparation and Submission of Plans for Sewer Systems and Wastewater Treatment Plants, N.J.A.C. 7:9.1 et seq., other than the exceptions as noted.


 Signature of Engineer
 Mark E.V. Daniels NJPE 25617 12/22/87
 Name & Date Typed

P.E.

Professional Engineer's Embossed Seal

Position, Name of Firm

Review and approval of this project is based solely upon the information contained in the CP# 1 application and the representations contained within this report as certified by the Licensed Professional Engineer as being in compliance with the Department's Rules and Regulations.

FOR DEPARTMENT USE ONLY

Project NOT recommended for issuance of an approval to ☐ CONSTRUCT and/or ☐ OPERATE

Project recommended for issuance of an approval to ☐ CONSTRUCT and/or ☐ OPERATE

Subject to the conditions common to all projects.

SPECIAL PROVISOS (If required, list below)

Typed Name

State Review Engineer

Written Signature

ENGINEERING REPORT
PUMP STATION/ FORCE MAIN
AMERICAN REALTY & INVESTING
BLOCK 41 LOT 7-10
PISCATAWAY TOWNSHIP
MIDDLESEX COUNTY

This work prepared under
my immediate supervision



Mark E.V. Daniels
NJPE #25617 NJPP #2440

December 22, 1987

Scope

Effluent will be delivered via building laterals to proposed 571 linear feet 8" PVC which will direct sewage to on site pump station. Effluent will be delivered to existing Manhole/ gravity sewer on Hazelwood Place via 488 linear feet 1½' PVC Force Main.

THE DANIELS ENGINEERING GROUP, INC.
1215 LIVINGSTON AVENUE
NORTH BRUNSWICK, NEW JERSEY 08902
(201) 249-5900

JOB American Realty & Investing #147-87

SHEET NO. 1 OF 3

CALCULATED BY W.A.Y. DATE 12/15/87

CHECKED BY DATE

SCALE Block 41, Lot 7-10, Edison Township

Sanitary flow calculations

Existing Building : Warehouse = 42,090 S.F.
Office = 5758 S.F.

$$\text{Warehouse} = \frac{42,090 \text{ S.F.}}{800 \text{ S.F./person}} = 53 \text{ persons} \times 25 \text{ GPD/person} = \underline{1325 \text{ GPD}}$$

$$\text{Office} = 5758 \text{ S.F.} \times .125 \text{ GPD/S.F.} = \underline{720 \text{ GPD}}$$

Proposed Building # 1 : Warehouse = 18,000 S.F.
Office = 2000 S.F.

$$\text{Warehouse} = \frac{18,000 \text{ S.F.}}{800 \text{ S.F./person}} = 23 \text{ persons} \times 25 \text{ GPD/person} = \underline{575 \text{ GPD}}$$

$$\text{Office} = 2000 \text{ S.F.} \times .125 \text{ GPD/S.F.} = \underline{250 \text{ GPD}}$$

Proposed Building # 2 : Warehouse = 18000 S.F.
Office = 2000 S.F.

$$\text{Warehouse} = \frac{18000 \text{ S.F.}}{800 \text{ S.F./person}} = 23 \text{ persons} \times 25 \text{ GPD/person} = \underline{575 \text{ GPD}}$$

$$\text{Office} = 2000 \text{ S.F.} \times .125 \text{ GPD/S.F.} = \underline{250 \text{ GPD}}$$

$$\text{Total} = \underline{3695 \text{ GPD}}$$

$$\frac{3695 \text{ GPD}}{8 \text{ hrs/day}} = 370 \text{ GPH}$$

$$\frac{370 \text{ GPH}}{60 \text{ min/hr}} = 6.17 \text{ GPM}$$

$$\text{Average daily flow} = 6.17 \text{ GPM}$$

$$\text{Peak daily flow} = 25 \text{ GPM} = .0557 \text{ C.F.S.}$$

Sizing off Force Main

$$\text{Peak Flow} = 25 \text{ GPM} = .0557 \text{ CFS}$$

$$\text{Design velocity} = 5 \text{ FPS}$$

$$Q = VA \Rightarrow A = \frac{Q}{V} = \frac{.0557 \text{ CFS}}{5 \text{ FPS}} = .01114 \text{ S.F.}$$

$$A = \frac{\pi d^2}{4} \Rightarrow D = \sqrt{\frac{4A}{\pi}} = \sqrt{\frac{(4)(.0111)}{\pi}} = .118 \text{ ft} (1.42")$$

∴ Use 1 1/2" dia force main

Check velocity in line with both pumps working
Assume flow = 12.5 GPM (1/2 peak)

$$Q = VA \Rightarrow V = \frac{Q}{A} = \frac{12.5 \text{ GPM}}{\frac{\pi (1.5/2)^2}{4} \times 7.48 \frac{\text{Gal}}{\text{Cu.ft.}} \times 60 \frac{\text{sec}}{\text{min}}} = 2.27 \text{ FPS}$$

Set levels

$$\text{Wet well dia.} = 5'$$

$$\text{Volume} = 10 \text{ min} \times 6.17 \text{ GPM} = 61.7 \text{ gallons}$$

$$\frac{61.7 \text{ gallons}}{7.48 \frac{\text{gallons}}{\text{Cu.ft.}}} = 8.25 \text{ Cu.ft.}$$

$$\text{Volume} = \pi r^2 h$$

$$8.25 \text{ Cu.ft.} = \pi (2.5)^2 h$$

$$\frac{8.25 \text{ Cu.ft.}}{\pi (2.5)^2} = h = .42'$$

PUMP ON @ EL	51.0
PUMP OFF @ EL	50.58
	.42'

THE DANIELS ENGINEERING GROUP, INC.
1215 LIVINGSTON AVENUE
NORTH BRUNSWICK, NEW JERSEY 08902
(201) 249-5900

JOB American Realty & Investing # 147-87

SHEET NO. 3

OF

CALCULATED BY W.A.Y.

DATE

12/15/87

CHECKED BY

DATE

SCALE

HEAD LOSS

$$\text{Displaced head} = 6.7'$$

$$\text{Friction loss} = .6 / 100 \text{ ft} * 488 \text{ ft} = 2.93$$

$$\text{TDH} = 9.63'$$

$$\text{Required} = 6.17 \text{ GPM} * 4 = 25 \text{ GPM @ } 9.63 \text{ TDH}$$

$$\text{Proposed} = \text{Pumps provided can supply } 44 \text{ GPM @ } 9.63 \text{ TDH}$$

THE DANIEL'S ENGINEERING GROUP, INC.
1215 LIVINGSTON AVENUE
NORTH BRUNSWICK, NEW JERSEY 08902
(201) 249-5900

SHEET NO. _____ OF _____

CALCULATED BY W.A.Y. DATE 12/15/87

CHECKED BY _____ DATE _____

REF: R.S. MEANS SITE WORK COST DATA 87 SCALE Block 41, Lot 7-10 Edison Township

Sanitary Service Cost Estimate

$$571 \text{ LF } 8" \text{ PVC } @ \$20.00 \text{ LF} = \$11420.00$$

$$3 \text{ manhole structures } @ \$1200.00 = \$3600.00$$

$$1 \text{ - premanufactured pump station} = \$6000.00$$

$$488 \text{ LF } 1\frac{1}{2}" \text{ } \phi \text{ PVC } @ \$9.00 \text{ LF} = \$4392.00$$

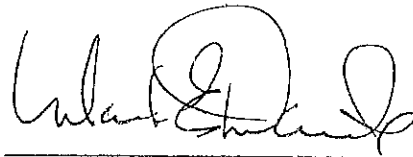
$$\text{Tie into existing M.H.} = \$200.00$$

$$\text{Pavement repair} = \$50.00$$

$$\text{Total} = \$25662.00$$

CONSTRUCTION SPECIFICATIONS
for
PUMP STATION/ FORCE MAIN
AMERICAN REALTY and INVESTING
BLOCK 41, LOT 7-10
PISCATAWAY TOWNSHIP
MIDDLESEX COUNTY

This work prepared under
my immediate supervision

A handwritten signature in black ink, appearing to read 'Mark E.V. Daniels', written over a horizontal line.

Mark E.V. Daniels
NJPE #25617 NJPP #2440

December 22, 1987

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I. PUMP STATION SPECIFICATIONS

A) General

Furnish and install one (1) complete prepackaged waste water pumping station which shall include 2 Model E2 ABS PIRANHA Grinder Pump(s) to deliver 44 USGPM against a total head of 9.63 feet. The motor shall be 2 HP 3450 RPM connected for operation on a 230 volt 60 HZ 1 phase service. The motor shall be an integral part of the pumping unit. The pump discharge size shall be 1 1/4". This pumping station shall be a "duplex Guide Rail" unit as manufactured by ABS Pumps Inc., Meriden, Connecticut. The basic lift station shall be a factory assembled fiberglass basin package and it shall be equipped with duplex alternating pumps, mercury level control switches, gas tight 3/8" aluminum cover, antifloatation plate, cast iron inlet hub, cast iron rail system, basket strainer, flashing light/audible high water alarm and all other necessary internal piping, valves and fittings.

Water service for maintenance purposes shall be supplied with Conbraco 38-404-01 Anti-freeze Hose Connection Vacuum Breaker or approved equal.

B) Basin

Basin shall be of molded, lay-up and spray technique, reinforced polyester resin and fiberglass construction. The basin shall have a minimum wall thickness of 3/16". A 8" diameter inlet hub of the caulking type or O-ring seal type shall be provided; location as specified on sheet 3 of 7, American Realty and Investing, Duplex Sewage Pump/Basin Detail.

C) Cover

Basin shall have a round, aluminum cover plate with integral access cover and trash basket access with an access plate from which the Piranha E2 grinder pump, discharge pipe, and control floats are supported permitting pump, piping, trash basket and floats removable as a unit without disturbing the main steel cover. Integral to the access plate shall be an inspection opening permitting removal of the control floats without disturbing the access plate or main cover. Pump power cable, float cables and pump discharge shall exit the access plate through sealing grommets and an 1 1/4" NPT flange respectively. Access plate shall have two lifting eyes and the main cover shall have a 2" flanged vent. Cover Shall be manufactured by Halliday Products, Orlando Florida. See sheet 3 of 7 American Realty and Investing for details.

D) Grinder Pump Construction

The grinder unit shall be capable of shearing and reducing to a fine slurry all material normally found in domestic and commercial sewage such as sanitary napkins, disposable diapers, cloth diapers, wash rags, wood, plastics, etc. The slurry shall be capable of freely passing through a 1 1/4" piping system including check and gate valves.

The pump shall be of the centrifugal type with the rotating cutter mounted on the pump shaft directly against the impeller. The stationary cutter shall be mounted in an adjustable bottom plate. The bottom plate shall be cast with grooves threading outward from the center opening of the plate to the outer diameter. The impeller shall be a multiple vane centrifugal type. The cutter material shall be similar to an AISI 440C stainless steel with the addition of cobalt, vanadium, and molybdenum for superior abrasion resistance and a hardness 58-62 Rockwell C.

The common pump and motor shaft shall be 420 stainless steel supported by a heavy duty lower double row ball bearing Piranha 3, 4 & 5, single row for Piranha E2, E2.5 and an upper sealed single row ball bearing, all models. The cutting elements and impeller shall be designed to keep the overhung load distance to a minimum. All fasteners shall be 304 stainless steel.

Shaft Seals: Each pump shall be equipped with two seals. The lower seal (pump side) shall be of the mechanical type with silicone carbide faces. The upper seal shall be a lip type seal mounted at a slight angle to the shaft.

Seal Failure Warning System: The seals shall be separated by an oil chamber. An electronic probe shall be provided in the oil chamber to detect the leakage of water into the chamber. A solid-state device mounted in the pump control panel or in a separate enclosure shall send a low voltage, low amperage signal to the probe. If water enters the oil chamber the probe shall activate a warning light in the control panel.

E) Motor Construction

The motor shall be of the submersible type rated 2 HP at 3450 RPM. The full load current shall not exceed 12.5 amps at 230 volts. Single phase motors shall be of the capacitor start capacitor run type for high starting torque.

The motor shall be airfilled and shall have Class "F" insulation. Bimetallic thermal switches shall be imbedded in each phase of the winding to sense high temperature. The rating of the switch shall be $140^{\circ}\text{C} \pm 5^{\circ}\text{C}$. The control current shall be connected through the bimetallic switches so that the motor is shut down should a high temperature condition exist. The switches shall be self-resetting when the motor cools.

II ACCESSORY SPECIFICATIONS

Installation

- A) **Guide Rail Installation:** A cast iron guide rail base shall be mounted on the floor of the pump station. The grinder pump shall be guided onto the cast iron discharge base by a single guide rail supported at the top by an upper guide bracket and at the bottom by the discharge base. The pump base shall be equipped with a straightening vane which properly aligns the pump on the discharge base just prior to final seating. When the pump is in position, the weight of the pump shall compress the gasket and seal the connection. The area under the pump shall be free and clear of any additional support legs or guide pipes to insure free entrance of solids to the impeller.

OPTION: With each guide rail installation, a 1 1/4" fully ported ball or a flapper type check valve integral to, and removable with each pump shall be installed.

- B) **Vertical Pedestal Installation:** The grinder pump shall be equipped with a vertical pedestal base. The base and pump shall be free standing on the floor of the pump station. The discharge pipe shall be 1 1/4" galvanized steel. A galvanized union will be mounted at the top of the piping system as shown on the drawing for quick disconnect of the pump. The pump will be fitted with a lifting chain. The pump shall be removed from the wet well by means of the discharge pipe and chain.

C) Valves

A 1 1/4" fully ported 150 P.S.I. rated ball check valve with a corrosion resistant phenolic ball and a rubber seat shall be installed in the discharge line of each pump.

D) Floats

Four airfilled polypropylene/mercury float switches shall be provided for pump on/off control and high level alarm.

E) Junction Box

A NEMA 4X junction box, fully gasketed, shall be mounted in the basin.

F) Basket Strainer

A trash basket strainer shall be installed over inlet hub of basin. Strainer manufactured by Halliday Products, Orlando Florida see sheet 3 of 3 McGlone Property for detail

G) Electrical Controls

All control elements shall be housed in a NEMA 3R door-in-door enclosure. The enclosure shall be fully gasketed and shall have a drip cap. The enclosure shall be suitable for wall or pole mounting.

A combination manual motor starter and disconnect switch shall be provided for each pump. The unit shall have instantaneous trip magnetic overcurrent protection. The unit shall have adjustable thermal trips.

The control circuit shall be 110 volts. The control circuit shall be connected through the heat sensing switches in the pump and shall disconnect the control circuit of a high temperature condition in the grinder pump motor.

A HP rated contactor for each pump shall be provided. Definite purpose contactors will not be acceptable.

Single phase controls to have start and run capacitors and start relays mounted in control cabinet.

A seal failure warning light shall be mounted on the dead front door.

Duplex units only: An alternator relay shall be supplied to alternate pumps on each successive cycle. A lag float switch shall be used to start both pumps if inflow is greater than one pump can handle and shall also start the second pump in case operating pump fails.

A terminal strip with box type connectors shall be supplied to make all power and control connections for the pump. All terminals shall be marked for easy identification. A ground terminal strip shall also be provided.

A high level alarm light shall be mounted on the top of the control cabinet. The light shall be enclosed in a red polycarbonate enclosure. An audible alarm shall also be provided. The light and audible alarm shall be activated by the high level alarm float installed in the pump station as shown on the drawings.

H) Emergency Power

The contractor shall furnish and install an emergency power source receptacle for a portable emergency power generator. This receptacle shall be weatherproof and shall lead directly into the emergency power main fusible switch. The receptacle shall be rated for 50 AMPS, 2 wire, 4 pole, 60 hertz 230 volts per Russell & Stoll 7334-R reverse service or equal.

III. FORCE MAIN SPECIFICATONS

A) General

PVC pressure pipe shall be manufactured in accordance with AWWA C-900 standard for Poly Vinyl Chloride Pipe. The pipe supplied shall be designed to allow connection to standard ductile iron bell and spigot or mechanical joint type connection without the use of special adaptors. The pipe shall be Fluid-tite, Integral Bell, as manufactured by Certain Teed, or approved equal.

B) Size

Pipe supplied shall be 1½" size, PVC 1120. 160 PSI

C) Installation

The PVC force main shall be installed in accordance with "Recommended Standards for Installation of PVC Pressure Pipe" as published by Uni-Bell Plastic Pipe Association and to the location and grades as called for by plans.

CONSTRUCTION SPECIFICATIONS
FOR
SANITARY SEWER EXTENSION

AMERICAN REALTY & INVESTING
BLOCK 41, LOT 7-10
PISCATAWAY TOWNSHIP
MIDDLESEX COUNTY, NEW JERSEY

This work prepared under
my immediate supervision

A handwritten signature in black ink, appearing to read 'Mark E.V. Daniels', written over a horizontal line.

Mark E.V. Daniels
NJPE #25617 NJPP #2440

December 22, 1987

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I Construction Specifications

A Polyvinyl Chloride Pipe

Plastic pipe shall be polyvinyl chloride sewer pipe with bell spigot ends, O-ring rubber gasketed joints shall conform to ASTM D-3212. Plastic pipe and fittings shall conform to ASTM D-3034 latest revision, with a wall thickness designation of SDR 35 (minimum).

The material from which the pipe and fittings are extruded shall be high impact types of PVC, unplasticized having high mechanical strength and maximum chemical resistance conforming to Type 1, Grade 1, of the specification for rigid polyvinyl chloride compounds, ASTM D-1784, latest edition.

Pipe shall be free from defects, bubbles and other imperfections in accordance with accepted commercial practice.

The adequacy of the pipe gasketed joint shall be demonstrated, if required, by a test at the manufacturing plant in accordance with ASTM D-2444 for impact and ASTM D-2412 for deflection and pipe stiffness, latest revisions. Rubber ring gaskets shall be manufactured as per ASTM F-477 latest revision. The gasket shall be the sole element depended upon to make the joint watertight.

The pipe shall be installed as specified in ASTM designation D-2312, latest revision. In no case shall less than a Class III material be used for bedding and haunching material unless approved in writing by the Engineer. Particular attention should be given to the special requirements for installing pipe in unstable soil or excessive ground water. Any additional cost for materials used under these trench conditions, is to be borne by the applicant.

B Pipe Bedding and Trenching

Trench dimensions, maximum depths, and bedding requirements (including cradles and encasement) for sewers, laterals, etc., shall be in accordance with the manufacturer's recommendations and as a minimum shall conform to the details shown in the Engineering Site Plans.

C Manholes

Manholes shall be provided at ends of sewer lines, at intersections and at changes of grade or alignment. Distances between manholes shall not exceed 400 feet for sewers 18 inches or less in diameter and 500 feet for sewers larger than 18" in diameter. Where lateral sewers enter manholes at elevations two feet or more above the invert, drop manholes shall be provided and drop pipes shall be built. Manholes shall be of precast concrete, cast-in-place concrete or concrete block construction. Use of concrete block manholes will only be approved for special construction conditions which prevent use of precast manholes.

(2)

If precast manhole bases, barrels and cones are used, they shall be equal to reinforced concrete pipe and fitting conforming to A.S.T.M. Specification C-478, with round rubber gasketed joints, conforming to A.S.T.M. Specification C-361. Maximum absorption shall be 8% in accordance with A.S.T.M. Specification C-76.

Manhole frames and covers shall be of cast iron conforming to Specifications A.S.T.M. A-48, Class 30 and be suitable for H-20 loading capacity. Frames shall weigh a minimum 312 pounds, covers shall weigh a minimum of 182 pounds. All manhole covers in easements or in remote areas shall be provided with locking devices, unless otherwise required by the Authority. Manhole covers in low lying or flood prone areas shall be water tight and locking. Manholes shall be supplied with suitable adaptor for the various pipe materials used. Details of manholes, manhole frames and covers are required to be as shown on the construction detail drawings.

II Inspection of Sewage System During the Course of Construction

A General

All construction of sewage systems shall be under the jurisdiction of the engineer for the Authority, either directly or through inspectors under his supervision. He shall enforce compliance with the approved plans and specifications. He shall have the authority to discontinue work in the event of non-compliance.

The applicant shall give 48 hours notice to the authority prior to construction of sewers at all times during the construction period for the project. Should any sewer construction be performed wherein a qualified inspector is absent due to the applicant's failure to provide the proper notification, the Authority may require said work to be uncovered at the applicant's expense. Failure to do so may result in non-acceptance of the work.

He shall also furnish the name of the occupant, the street address and lot and block number of every connection made to an approved section of sewer during the month.

No house service connections shall be made to a street main, whether tested or not, unless under the supervision and inspection of the engineer for the Authority.

When a section of sewer has been satisfactorily tested, then all individual house connections must also be satisfactorily tested.

(3)

A temporary leak-proof, bulkhead type plug shall be installed in the downstream (outlet) side of the manhole furthest downstream in any sewer main or branch under construction and shall remain intact and unloosened until written permission is received from the Authority Engineer to remove same.

This permission will not be granted until each section of the sewer has been cleaned and flushed in a manner acceptable to the Authority's Engineer.

Upon satisfactory completion of construction, the Authority's Engineer will certify to the Authority and to the NJDEP that the project has been inspected and tested under his supervision. The applicant's engineer must certify to the Authority and to the State that the project has been constructed according to the approved plans and specifications. NJDEP requires that such certification be given prior to its issuance of a permit to operate new sewage facilities.

B Testing of Competed Sewage System

All gravity sewers shall be subjected to either air pressure testing or an infiltration/exfiltration test.

Exfiltration tests shall be conducted in lieu of infiltration tests when the pipe has been laid above the ground water level. The tests shall be performed between two manholes or as otherwise directed by the Engineer for the Authority and shall include all related sewage including the house connections.

The applicant's contractor shall furnish all labor, material and equipment necessary for the testing.

Exfiltration tests shall be under at least a ten foot head or a pressure corresponding to a head equal to the depth of the lower manhole of the section under test.

Infiltration testing will be acceptable only when ground water levels are ten feet or more above pipe grade.

Allowable infiltration or exfiltration in excess of the permissible limit shall be repaired, or removed and replaced in accordance with latest revision of "Repair Guidelines" published by Utility Contractor's Association of New Jersey.

Air testing of facilities may be substituted for the above listed requirements only if existing facilities and conditions are ideally suited to this use. Details of testing procedures shall be established by the Authority.

III As-Built Drawings and Manuals

After construction and before final acceptance by the Authority, the applicant shall furnish the Authority one (1) complete set of reproducible, approved by the Authority's Engineer, and two (2) sets of prints (blue on white) of each drawing showing the details of the

(4)

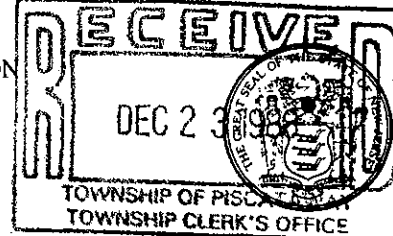
collection system, all facilities, connections, etc., as actually constructed. The applicant shall also provide for each connection to this system data including depth at cleanout, length of lateral from cleanout to main, stationing, upstream and downstream manhole data, and location by triangulation of the cleanout, all of which can be shown on an Individual Sewer Connection Application. As-built drawings shall be signed and sealed by a licensed professional engineer.

After construction and before final acceptance by the authority, two (2) complete and up to date sets of operation and maintenance manuals including materials and parts listings, approved by the Authority's Engineer, shall be furnished.



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
CN 402
Trenton, N.J. 08625

PERMIT



The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to the further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit.

Permit No. 15389	Issuance Date DEC 16 1988	Effective Date JAN 06 1989	Expiration Date JAN 06 1991
Name and Address of Applicant American Realty & Investing Co. 1776 South Second Street Piscataway, N.J. 08854	Location of Activity/Facility	Name and Address of Owner	
Issuing Division <u>Coastal Resources</u>	Type of Permit Stream Encroachment	Statute(s) N.J.S.A. 58:16A-50 et. seq.	Application No.

This permit grants permission to:

establish stream encroachment lines, and construct two (2) stormwater outfalls in connection with the construction of an industrial warehouse along Bonygutt Brook at a location immediately downstream of the Hazelwood Place crossing of said stream, within Lot Nos. 7-11, 42 and 42A of Block No. 41, in Piscataway Township, Middlesex County, New Jersey. PROJECT IS SHOWN ON APPROVED DRAWINGS LISTED ON PAGE 4 AND 5 OF THIS PERMIT.

RECEIVED
TOWNSHIP OF PISCATAWAY
1989 JAN 12 PM 3:21
PUBLIC WORKS
ENGINEERING DIVISION

Prepared by: _____
Hala S. Andrews

Approved by the Department of Environmental Protection

See page 5 for signature

DATE

TERMS AND CONDITIONS1. Recording of Permit

This permit shall be **RECORDED** in the office of the **COUNTY CLERK** (the **REGISTRAR OF DEEDS AND MORTGAGES** in the applicable counties) in the county wherein the lands included in the permit are located within ten (10) days after receipt of the permit by the applicant and verified notice shall be forwarded to the Division of Coastal Resources immediately thereafter.

2. Department Responsibility

The action of the Department in approving this application and issuing this permit shall not relieve the party constructing the works hereby approved from the responsibility for damage caused by such works; nor does the Department accept responsibility for the structural design.

3. Time Limit for Work

- a. General - The work shall be **COMPLETED WITHIN TWO YEARS** of the **ISSUANCE DATE** of this permit; **OTHERWISE**, this permit, if not previously revoked or specifically extended upon written application, shall automatically become null and void, and none of the works herein shall be commenced or continued until such time as this permit has been reinstated or until a new application has been submitted to and approved by the Department.
- b. Pipelines, Cables and Similar Work - The time limit for backfilling and/or stabilizing all earth work and the removal of all temporary fill and other construction, in connection with pipelines, cables and other similar projects shall be 30 days after starting excavation or construction for each individual stream crossing and/or section of the project along any stream channel.

4. Supervision and Inspection, Change in Plans, Completion Report

- a. Supervision and Inspection - All work shall be done under the supervision and direction of a professional engineer licensed in New Jersey. The work shall be subject to inspection at any time by representatives of the Department. **PERMIT** and all approved **DRAWINGS** shall be at project site at all times during construction.
- b. Change in Plans - No changes in plans and specifications as approved shall be made except with the written consent of the Department or its designee.
- c. Construction Notice - A construction notice on a prescribed form shall be prepared by the applicant or his/her designee and submitted to the Division of Coastal Resources two (2) weeks prior to construction beginning.
- d. Completion Report - A completion report on a prescribed form shall be prepared by a professional engineer licensed in New Jersey and submitted to the Division of Coastal Resources within 30 days after completion of the work.

TERMS AND CONDITIONS (Continued)5. Maintenance of Land Within Stream Encroachment Permit

The applicant and its agents shall not cause or permit any unreasonable interference with the free discharge of the stream nor with navigation during construction, by the placing and/or dumping of any materials, equipment, debris or structure, or in any way, in or about the stream or channel in any manner which may cause interference. Upon completion or abandonment of the work, the applicant and its agents shall cause to be removed from lands within the flood plain, all excess materials, equipment, debris and structures, and dispose of same in a lawful manner.

6. Erosion Control

ALL FILL and OTHER EARTH WORK on the lands encompassed within this stream encroachment permit shall be STABILIZED in accordance with "Standards for Soil Erosion and Sediment Control in New Jersey" (obtainable from local Soil Conservation District Offices), or equal engineering specifications, so as to prevent eroded soil therefrom from entering the waterway at any time during and after construction.

7. Channel and Bank Stabilization

Where the stream channel and/or banks are altered in the course of the work approved herein, the channel and/or banks shall be stabilized in such a manner as to prevent erosion and the subsequent silting of the channel. The applicant hereby agrees to maintain the channel and/or banks as shown on the approved drawings(s) for either such time as is required for the channel and/or banks to become reasonably stabilized or for one year after completion of the project (as evidenced by Certificate of Completion), whichever period of time is longer.

8. Requirements for Other Permits

This permit DOES NOT GIVE ANY PROPERTY RIGHTS in either real or personal property, nor any exclusive privileges; neither does it authorize any injury to private property; nor invasion of private rights; nor any infringement of Federal, State or local laws or regulations; nor does it waive the obtaining of Federal or other State or local government consent when necessary. THIS PERMIT IS NOT VALID AND NO WORK SHALL BE UNDERTAKEN UNTIL SUCH TIME AS ALL OTHER REQUIRED APPROVALS AND PERMITS HAVE BEEN OBTAINED INCLUDING BUT NOT LIMITED TO PERMITS AND APPROVALS FROM THE FOLLOWING:

Water Quality Management Element (Bureau of Municipal Waste Management) within the Division of Water Resources.

9. Reservation of Lands within Stream Encroachment Lines

A strip of land along the waterway and described as follows shall be reserved for the passage of flood waters and no fill or structure, except as shown on the approved drawing(s) shall be placed within the land without prior approval of the Department.

All those lands lying between the southerly property line and the lines labelled "Stream Encroachment Line", as shown on the approved drawings.

10. Future Modification Required

- a. All Projects - At any time, if and when indicated in the public interest and after due process, this permit may be reviewed for possible modification thereof.
 - b. Pipes and Cables - Any pipeline or cable approved under this permit shall be removed or modified as required by future channel improvements or for other valid reasons upon order of the Department.
11. Any construction or grading at this project site, within the flood plain, other than that approved by this permit, will require a new stream encroachment approval from the Stream Encroachment Section.
 12. By acceptance of this permit, the applicant acknowledges that adequate precautions shall be taken to prevent and/or minimize discharge of sediments downstream. The Department reserves the right to order the suspension of construction approved under this permit if unacceptable levels of turbidity result from the same.
 13. In accordance with the Federal Water Quality Act of 1987, pertaining to storm water runoff and discharge permits, applications for a NJPDES permit are required in accordance with the following schedule:

For Industrial Facilities - February, 1990

For Municipalities with a population of 250,000
or more - February 1990

For Municipalities with a population of 100,000
or more - February, 1992

The U.S. EPA is presently in the process of drafting rules and regulations concerning application and other requirements. U.S. EPA expects to promulgate these rules by February, 1989. You may contact the Bureau of Industrial or Municipal Waste Management within the Division of Water Resources for further information and guidance.

14. The proposed water quality measures must be adequately maintained in proper working condition at all times. The applicant must make specific arrangements to insure continuous compliance with this condition.
15. The drawings hereby approved are two (2) sheets prepared by the Daniels Engineering Group, Inc., entitled:

"AMERICAN REALTY & INVESTING TOWNSHIP OF PISCATAWAY MIDDLESEX COUNTY, NEW JERSEY",

"SOIL EROSION & SEDIMENT CONTROL PLAN ENGINEERING SITE PLAN", drawing 1 of 1, dated June 12, 1987, last revised December 15, 1988, and

"PLAN OF STREAM ALIGNMENT", drawing 1 of 1, dated March 11, 1988, last revised September 21, 1988.

Steve Jacobus
Steve Jacobus, Section Chief
Stream Encroachment Section

12-19-88
Date