

RECEIVED
OCT 02 1995
Department of Environmental Protection
BY SOUTHWEST DISTRICT

**PHASE IV TEMPORARY PUMP STATION NO. 5
CONSTRUCTION OBSERVATIONS
AND DOCUMENTATION REPORT**

**SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA**

9/29/95

For:

Hillsborough County Department of Solid Waste
601 East Kennedy Boulevard
P.O. Box 1110
Tampa, Florida 33601

Submitted by:

SCS ENGINEERS
3012 U.S. Highway 301 North
Suite 700
Tampa, Florida 33619
(813) 621-0080

September 29, 1995
Job No. 0990018.35



Table of Contents

CONTENTS

Section	Page
BACKGROUND	1
INTRODUCTION	1
SUMMARY OF CONSTRUCTION	1
Weather/Site Conditions	2
Excavation	2
Installation Of Suction Line and Wye Riser	3
Installation of Flowmeter and TPS-5 Connections	4
Backfilling	4
Pipe Fabrication	4
Leachate Depth	5
Record Drawings	5
 Appendices	
A Construction Photographs	
B Record Drawings	



BACKGROUND

On August 4, 1995, on behalf of the Hillsborough County Department of Solid Waste (HCDSW), SCS Engineers (SCS) submitted the responses to address the final questions raised by the Florida Department of Environmental Protection (FDEP) concerning the operation permit renewal for the Southeast County Landfill (SELF). In the response to FDEP Statement 1 and in the revised Leachate Management Plan (LMP), the HCDSW indicated that currently there is a temporary low spot under Phase IV which is preventing some leachate from being conveyed to the existing Temporary Pump Station No. 3 (TPS-3). In order to achieve the objectives of the LMP, the HCDSW proposed to install a Temporary Pump Station No. 5 (TPS-5) in Phase IV with a suction line that would reach the leachate within the low area. The design for TPS-5 was presented in Appendix B of the LMP and the FDEP had no objections to the construction of TPS-5 as proposed in the LMP. In accordance with the FDEP letter dated August 4, 1995, the TPS-5 construction of the connections to the existing leachate collection and removal system (LCRS) were completed during August 21 through August 30, 1995.

INTRODUCTION

This report presents SCS's site observations performed during construction of the TPS-5 in Phase IV. The excavation and installation of the piping was performed by personnel from the HCDSW. The TPS-5 piping connections were fabricated by Fife Industrial Pipe Company (FIFE). The collected data was recorded in a time/event log and photographs. Appendix A includes photographs that were taken to document the construction activities.

SUMMARY OF CONSTRUCTION

Construction began at 9:30 a.m. on August 21, 1995. Matt Matthews and Roger Crow from HCDSW, and Larry Ruiz from SCS were present during construction activities. Mr. Rostam Parsi and Mr. Carl Heinz from the Hillsborough County Environmental Protection Commission (EPC) were present on August 21, 1995. Ms. Patricia Berry from the



HCDSW, Mr. Rostam Parsi and Ron Cope from EPC, and Mr. Kim Ford from FDEP were present on August 25, 1995.

Weather/Site Conditions

On August 21, 1995, the sky was clear, the temperature ranged from low 80°F to high 90°F and no rainfall occurred. On August 22, the sky was cloudy, the temperature ranged from low 80°F to high 90°F and 1.5 inches of rainfall occurred. On August 23, the sky was cloudy, the temperature ranged from high 70°F to high 90°F and no rainfall occurred. On August 24, the sky was cloudy, the temperature ranged from low 80°F to high 90°F and no rainfall occurred.

On August 25, the sky was cloudy, the temperature ranged from high 70°F to high 90°F and 0.7 inches of rainfall occurred. On August 26, the sky was cloudy, the temperature ranged from high 70°F to high 90°F and 4.5 inches of rainfall occurred. On August 28, the sky was cloudy, the temperature ranged from low 80°F to high 90°F and 0.5 inches of rainfall occurred. On August 29, the sky was cloudy, the temperature ranged from low 80°F to high 90°F and 0.8 inches of rainfall occurred.

Excavation

Excavation began on August 21, 1995, approximately 90 feet north of the TPS-3 in the area flagged by the Hillsborough County Surveyor as representative of the approximate location of the PVC header of the existing LCRS (Photos No. 1 & 2, see Plan on Drawing No. 1, Appendix B). Excavation was accomplished by use of a John Deere track excavator. The intermediate cover was stockpiled adjacent to the excavation area. Approximately 460 cubic yards (CY) of soil and waste was excavated and approximately 210 CY was transported for disposal at the active landfill area in Phase I. The remaining excavated waste was stockpiled adjacent to the excavation area and used as backfill when the connections to the LCRS were completed. During construction, the stockpiled waste was covered with a tarp at the end of the day and temporary swales were constructed around the working area to prevent any stormwater runoff into other areas of Phase IV (Photo No. 3).



The primary objective of the initial excavations were to locate the gravel pack surrounding the LCRS PVC pipe header, making sure to stay at least 20 feet from the liner between Phases IV and VI (Photo No. 4). Once the gravel pack was located on August 22, leachate flow into the excavation area began and a sump was created approximately 5 feet to the east to dewater the excavation area. The leachate from the excavation area was pumped directly into the existing TPS-3. The excavation then proceeded in a westerly direction to locate the "tee" connection that would be modified by the new TPS-5 riser. Once the "tee" was found on August 23, the excavation proceeded downward in approximately 6-inch lifts and the header pipe was uncovered. A HCDSW employee checked the excavation for confined space entry and the presence of landfill hydrogen sulfide and combustible gases. Once the excavation area was cleared for entry, the Hillsborough County Public Utilities employee proceeded to clean the leachate header for approximately 165 feet with a pressure hose (Photos No. 5 & 6). As the excavation to expose the leachate header for approximately 15 feet proceeded, an excavation area with side slopes ranging from approximately 2H:1V to 3H:1V was created to allow for safe entry. On August 25, the excavation was stopped due to rain and a malfunction of the pump being used for dewatering. Excavation was resumed on August 26, and preparation of the header pipe began (Photo No. 7).

Installation Of Suction Line and Wye Riser

On August 26, 1995, the existing LCRS was fully exposed, the header pipe was cut with a chain saw. PVC all purpose cement was used to connect the 8-inch diameter coupling and the PVC flanges to the existing PVC header pipe. The coupling was necessary to provide a section of pipe to make the opening 7'-3" face to face between flanges so that the fabricated wye riser would fit tight and lock in place the new joints (Photos No. 8 & 9). After the flanges were in place, HCDSW personnel pushed in the 4-inch diameter HDPE pipe into the 8-inch PVC header approximately 145 linear feet (Photo No. 10). The track excavator was used to hoist the wye into the air for proper alignment. The flanges were connected with stainless steel bolts (Photos No. 11 & 12).



Installation of Flowmeter and TPS-5 Connections

On August 24, 1995, the existing 6-inch diameter HDPE Leachate Force Main (LFM) was excavated. The excavation locations are as shown on Details 1 and 2 on Drawing No. 1, Appendix B. The excavated areas were lined with plastic and the pump in TPS-3 was shut off during construction of the fittings. Any leachate that leaked from the LFM onto the plastic, was pumped into TPS-3 (Photos No. 13 & 14).

On August 25, the LFM was cut using an electric saw at the location where the flow meter will be installed, (approximately 14 feet was removed). All the necessary connections and bends were field welded by FIFE. On August 28, the LFM was cut using the procedure as described above, at the location where a wye connection was necessary to place the new in-line 4-inch diameter HDPE LFM from the TPS-5 discharge.

Backfilling

On August 26, 1995, at 2:00 p.m., the track excavator began to backfill the portions of the gravel trench that were disturbed during construction. A filter fabric was placed below the header and on top of the gravel trench after it was completed. Approximately 10 CY of granite rock was replaced (Photos No. 15 & 16).

On August 28, backfilling continued by placing a 3 feet thick layer of clean sand over the bottom of the excavation area. The excavated refuse was then used to backfill the excavation area using a track dozer. The remainder of the excavation was backfilled with clayey sand from the borrow area (Photos No. 17 & 18). Backfilling, regrading, and seeding of the area around the excavation was completed on August 30, 1995.

Pipe Fabrication

FIFE fabricated the non-perforated 8-inch diameter HDPE pipe riser and other fittings necessary for connection to the existing force main. The fittings were fabricated with the materials specified below and in accordance with FIFE fabrication specifications (Photo No. 19 & 20):



1. High density polyethylene Pipes, SDR 17.
2. HDPE fabricated fittings, SDR 17.
3. 8-inch PVC schedule 80 glue-on flange.
4. 316-stainless steel bolts, nuts, and washers.
5. Fusion unit.

Leachate Depth

The leachate depth varied during construction. Leachate was not encountered until the excavation reached the gravel trench (Photo No. 4). At times, the leachate depth was just below the top of the granite rock trench (Photos No. 4, 5 & 6). With the dewatering pump in operation, leachate flow within the PVC headers appeared to be approximately 2 inches (Photos No. 8 & 9). At the end of connecting the wye riser (on August 26, 1995), the dewatering pump was turned off and the leachate depth stabilized at approximately 2 inches above the leachate header pipe (Photos No. 15 & 16). The top elevation of the PVC header was surveyed at 119.13 feet NGVD; therefore, leachate depth in the excavation area appeared to range between 120.05 and 119.30 feet NGVD.

Record Drawings

Appendix B contains information showing the location of the installed TPS-5 connections. The existing leachate collection header tee was surveyed by the HCDSW surveyor while the excavation was open. TPS-5 connections to the existing LCRS were completed by August 30, 1995 with the following exceptions (Photo No. 21):

1. Pump: a temporary pump was installed until the ordered permanent pump arrives.
2. Concrete pad for permanent pump.
3. Electric panel for permanent pump.
4. Pump control well.
5. Gauges and flow meter: ordered.



APPENDIX A
CONSTRUCTION PHOTOGRAPHS



Photo No. 1



Date: 8/21/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking southwest at surveyed location of E-W leachate collection header.

Photo No. 2



Date: 8/21/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking southeast at beginning of excavation.

Photo No. 3



Date: 8/23/95 Location: NE corner of Phase IV, Southeast County Landfill
Description: Looking south at stockpiled excavated waste covered with tarp.

Photo No. 4



Date: 8/22/95 Location: NE corner of Phase IV, Southeast County Landfill
Description: Looking south at first location of gravel trench around E-W leachate header.
Beginning of leachate flow into excavation.

Photo No. 5



Date: 8/23/95 Location: NE corner of Phase IV, Southeast County Landfill
Description: Looking west, punching hole on N-S header to insert cleaning pressure hose.

Photo No. 6



Date: 8/23/95 Location: NE corner of Phase IV, Southeast County Landfill
Description: Looking southwest, cleaning N-S leachate header with pressure hose.

Photo No. 7



Date: 8/26/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking southwest at N-S leachate header exposed approximately 15 feet.

Photo No. 8



Date: 8/26/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking NW at "tee" connection of leachate headers E-W and N-S. View of glue-on PVC flange.

Photo No. 9



Date: 8/26/95 Location: NE corner of Phase IV, Southeast County Landfill
Description: Looking southeast at glue-on PVC flange and coupling on N-S leachate
header.

Photo No. 10



Date: 8/26/95 Location: NE corner of Phase IV, Southeast County Landfill
Description: Looking southwest at 4-inch diameter HDPE suction line into N-S 8-inch
diameter PVC leachate header.

Photo No. 11



Date: 8/26/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking west at 8-inch diameter HDPE "wye riser" being lowered into
alignment with N-S leachate header.

Photo No. 12



Date: 8/26/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking west at wye riser being bolted to N-S leachate header.

Photo No. 13



Date: 8/25/95 Location: SE corner of Phase VI, Southeast County Landfill.
Description: Looking southeast at existing 6-inch diameter HDPE leachate header being cut and leachate containment. Installation for flow meter location.

Photo No. 14



Date: 8/28/95 Location: SE corner of Phase VI, Southeast County Landfill
Description: Looking north at existing 6-inch diameter HDPE leachate header being cut and leachate containment. Installation of new 4-inch diameter HDPE discharge from new pump.

Photo No. 15



Date: 8/26/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking south at excavator restoring granite rock trench around N-S leachate header. Bottom filter fabric installed.

Photo No. 16



Date: 8/26/95 Location: NE corner of Phase IV, Southeast County Landfill
Description: Looking southwest at filter fabric over granite rock trench.

Photo No. 17



Date: 8/28/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking southwest at sand layer backfill.

Photo No. 18



Date: 8/30/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking southwest at clayey sand completion and regrading.

Photo No. 19



Date: 8/25/95 Location: SE corner of Phase VI, Southeast County Landfill
Description: Looking west at FIFE pipe fittings fusion.

Photo No. 20



Date: 8/25/95 Location: SE corner of Phase VI, Southeast County Landfill.
Description: Looking south at several fused and fabricated HDPE fittings.

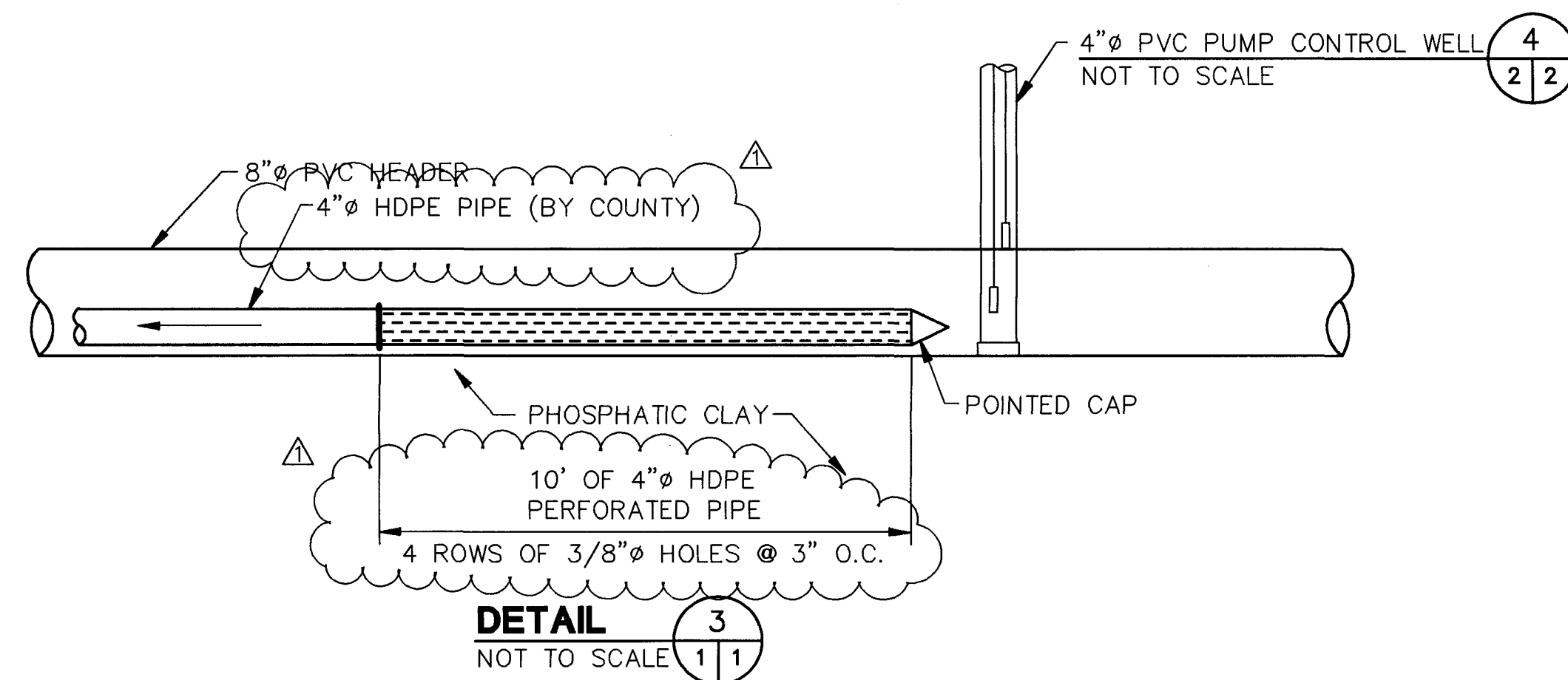
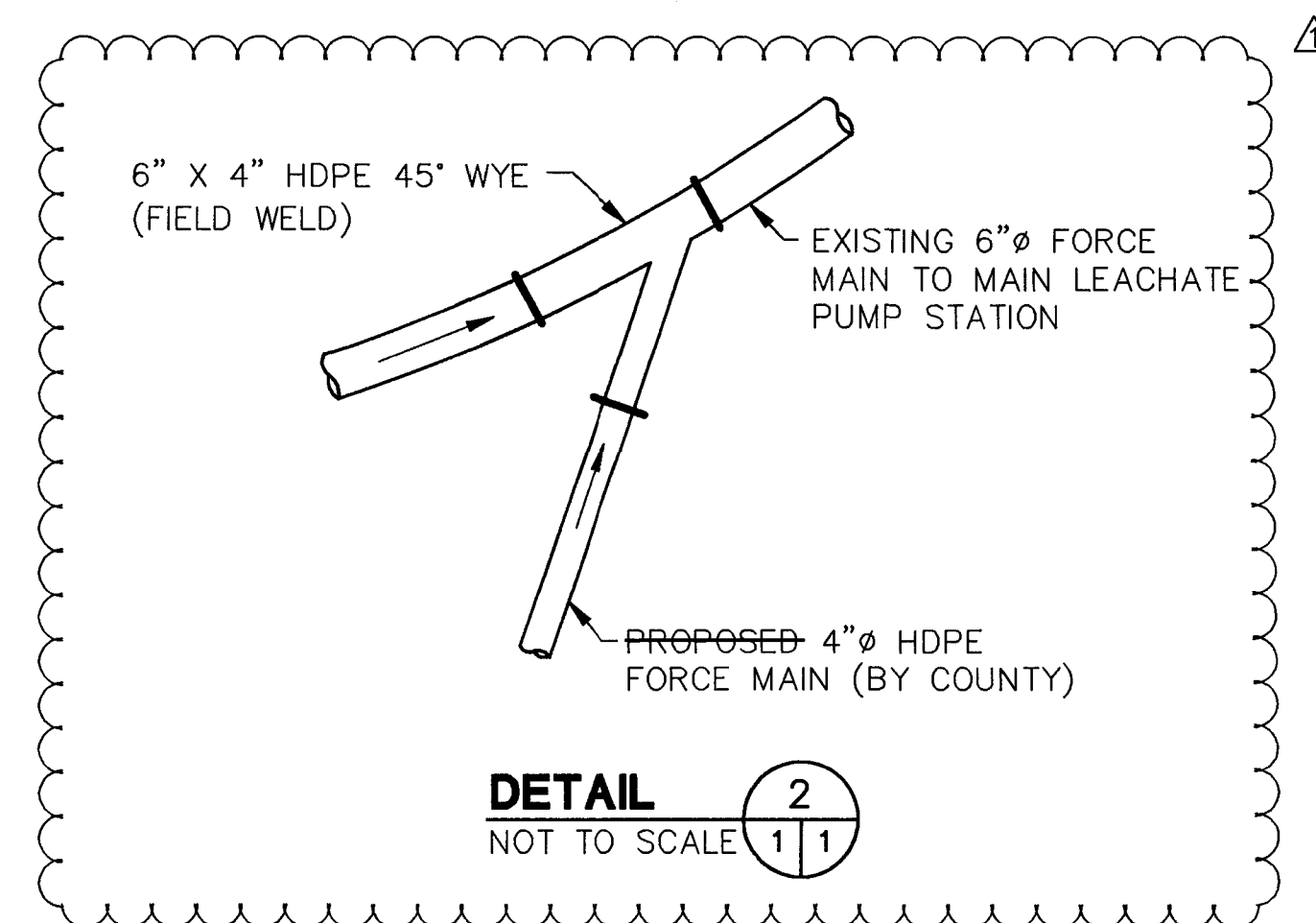
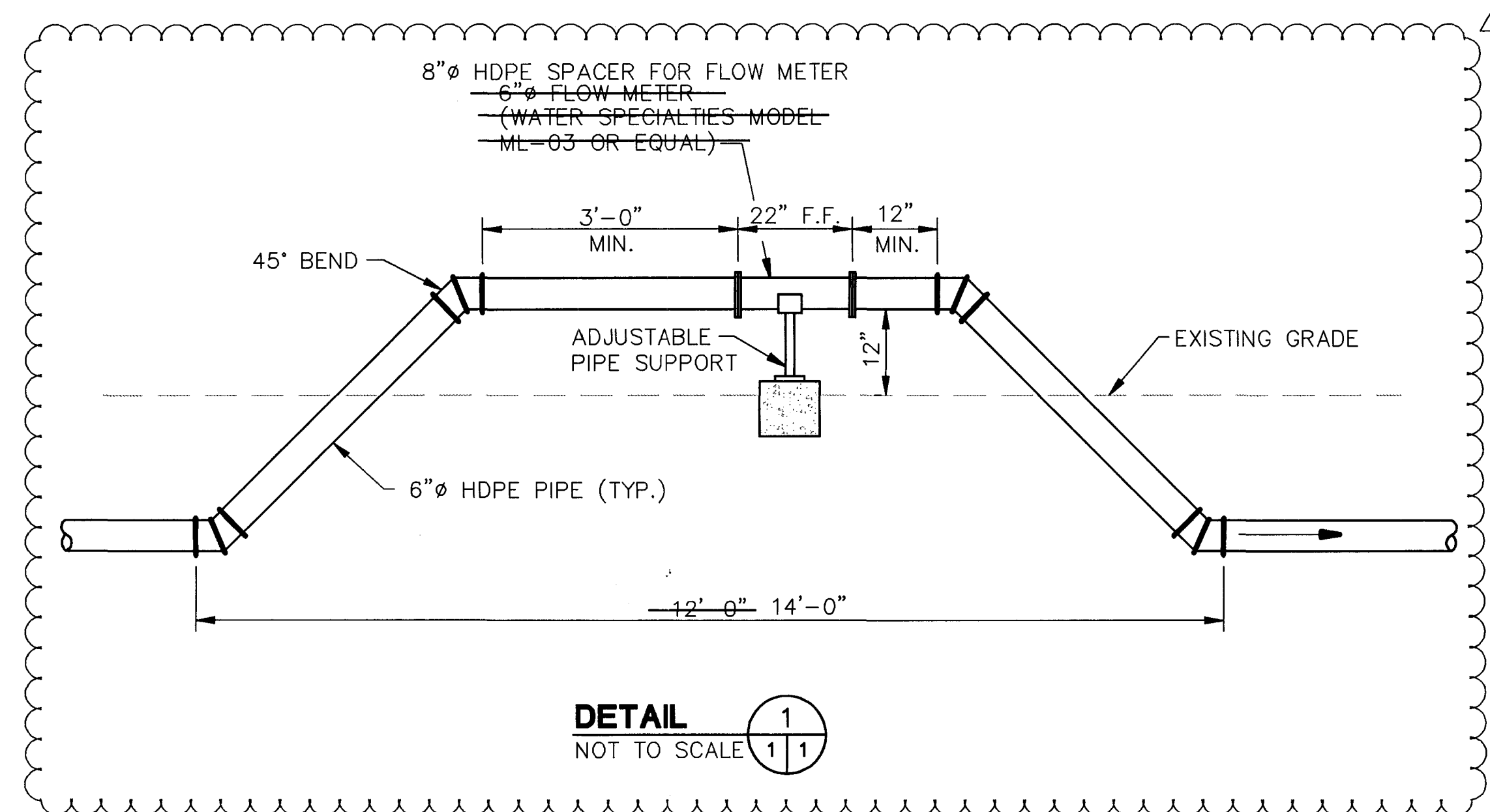
Photo No. 21



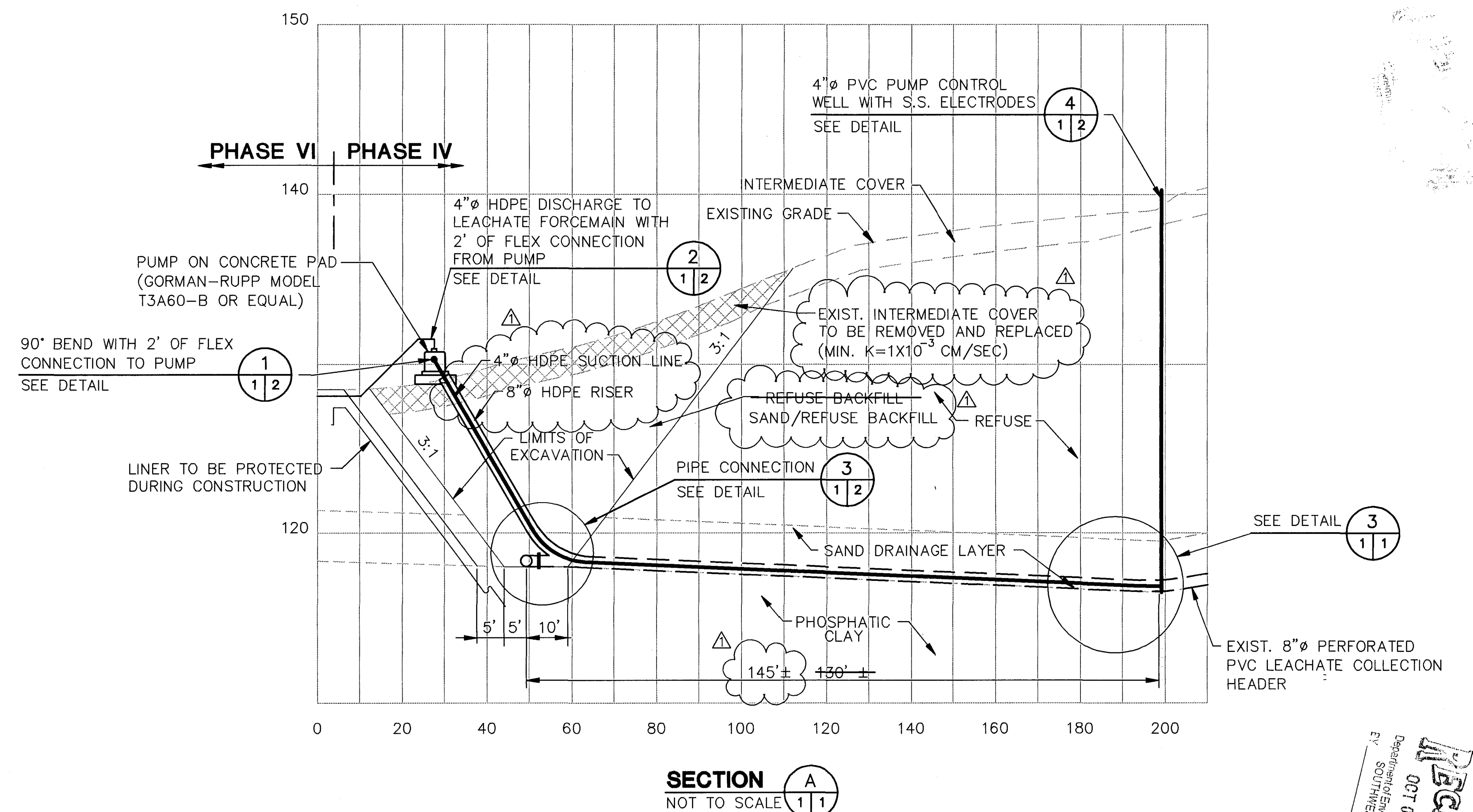
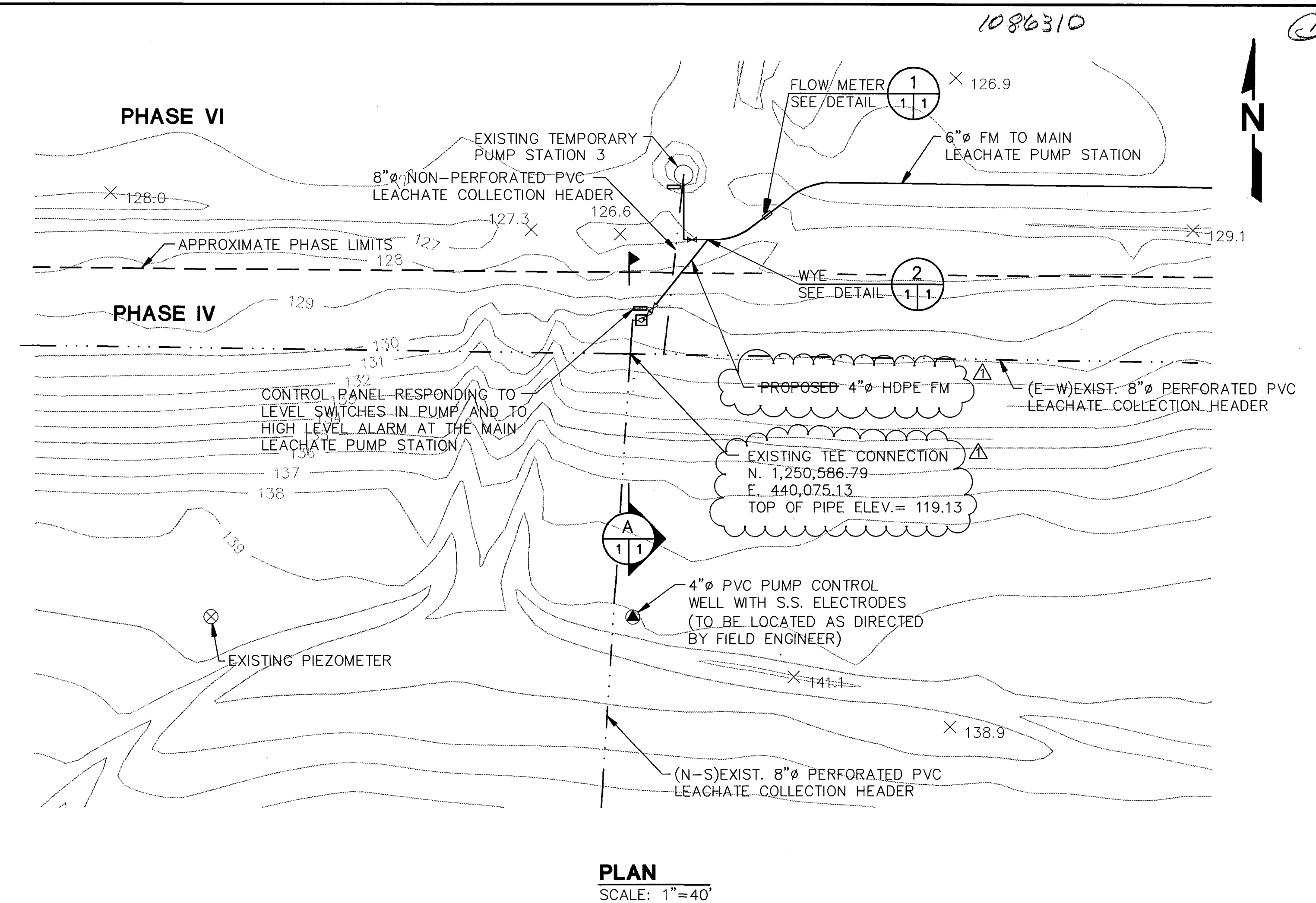
Date: 8/29/95 Location: NE corner of Phase IV, Southeast County Landfill.
Description: Looking north at completed connections at the new pump location. Stakes
for concrete pad and temporary pump.


**APPENDIX B
RECORD DRAWINGS**





GENERAL NOTE:
PROPOSED ITEMS WITHOUT RECORD REVISION
NOTES HAVE NOT BEEN CONSTRUCTED AS OF
AUGUST 31, 1995.



<div><div>SCS ENGINEERS</div><div>STEARNS, CONRAD AND SCHMIDT</div><div>CONSULTING ENGINEERS</div><div>3012 US HWY. 301 NORTH, SUITE 100, TAMPA, FL 33619</div><div>PH (813) 621-0080 FAX NO. (813) 623-9757</div></div>										<div><div>CLIENT</div><div>HILLSBOROUGH COUNTY</div><div>DEPARTMENT OF SOLID WASTE</div><div>TAMPA, FLORIDA</div></div>										<div>DRAWING TITLE</div> <div>PLAN AND DETAILS</div>		<div>REV.</div> <div>DATE</div>		<div>DESCRIPTION</div>		<div>CK. BY</div>		<div></div>	
										<div>PROJECT TITLE</div> <div>TEMPORARY PUMP STATION NO. 5</div> <div>SOUTHEAST COUNTY LANDFILL</div>		<div>4/25/95</div>		<div>Record drawing items completed</div> <div>as of 8/31/95</div>		<div>LER</div>													

