Bound Reports
1720

Report of Subsurface Exploration and Geotechnical Engineering Evaluation, Knapp Property - East Parcel Lake County, Florida

Nodarse & Associates, Inc.

September 24, 1997
Project No. W97-G-238

TO: **GREATER CONSTRUCTION CORPORATION**
1105 Kensington Park Drive
Winter Park, Florida 32714

ATTN: Mr. Hamp Conley

RE: **Report of Subsurface Exploration and Geotechnical Engineering Evaluation, Knapp Property - East Parcel Lake County, Florida**

Dear Mr. Conley:

Subsequent to your authorization and in general accordance with our proposal dated July 24, 1997, Nodarse & Associates, Inc. (N&A) has performed a subsurface exploration and geotechnical engineering evaluation for the above-referenced project. The purpose of this exploration was to explore subsurface conditions at the site and to develop geotechnical engineering recommendations for the planned development at the above-referenced site. This report describes our exploration procedures, exhibits the data obtained, and presents our conclusions and recommendations regarding the geotechnical engineering aspects of site development.

SITE AND PROJECT DESCRIPTION

The subject site is located within Section 27, Range 26 East, Township 22 South in Lake County, Florida. More specifically, the subject site is located southeast of State Road 50 and Hancock Road intersection. Based on a plan provided by Jim Branch, P.E. with Conklin Porter and Holmes Engineers, Inc. (CPH), we understand the proposed project will consist of a subdivision comprising approximately 60 acres with 180 lots, a retention pond and roadways. Elevations at the site range from +227 feet NGVD at the north end to +135 feet NGVD at the south end of the site.

Considerable cut and fill terracing of the site is anticipated. Preliminary ponds include a single pond site at the southeast corner of the site with an overflow drainage soakage swale along the south side of the pond edge.

SUBSURFACE EXPLORATION

For this study, six (6) Standard Penetration Test (SPT) borings (TB-2 through TB-7) to depths of 20 feet and nine (9) machine auger borings (AB-2 through AB-10) to depths of 15 to 20 feet were performed in the proposed interior roadway areas. One (1) machine auger boring (AB-1) was performed to a depth of 30 feet and one (1) SPT boring (TB-1) was performed to a depth of 40 feet in the proposed retention pond area. The borings were located in the field by referencing prominent site features, estimating right angles and taping from these features. Therefore, the boring locations shown on **Figure 1** in the **Appendix** should be considered approximate.

Standard Penetration Tests were performed continuously in the SPT borings to a depth of ten (10) feet and at five (5) foot depth intervals thereafter. Each sample was removed from the sampler in the field and was examined, packaged and sealed for transportation to our laboratory for further examination and visual classification. Water levels were measured in the boreholes at the time of our field exploration to evaluate the depth to groundwater.

The machine auger borings were performed by hydraulically turning a 4 inch diameter continuous flight auger into the ground in 5 foot increments. Additional flights were added until the desired termination depth was achieved. The auger was then extracted without further rotation and representative soil samples were retrieved from the auger. Samples were visually classified in the field and were then bagged and returned to our soils laboratory for further classification and testing.

GENERAL SUBSURFACE CONDITIONS

Subsurface conditions encountered in the borings are shown on **Figure 2** in the **Appendix**. Descriptions of the soils encountered in the borings are accompanied by the Unified Soil Classification symbol (SP, SM, etc.) based on visual examination and limited laboratory testing. Stratification boundaries between soil types should be considered approximate as the actual transition between soil types may be gradual.

In general, the borings encountered a surficial layer of grayish-brown to brown fine sand, trace roots (topsoil) (SP) about 6 to 12 inches thick. Below this surficial layer, a layer of light gray to orangish-brown fine sand to slightly silty fine sand (SP) (SP-SM) was encountered to the boring termination depths ranging from 15 to 40 feet. Two exceptions to this generalized subsurface profile occurred in Borings TB-1 and TB-2. Boring TB-1 encountered a layer of dark orangish-brown silty

to clayey fine sand (SM-SC) (**Stratum 3**) approximately 6 to 8.5 feet below the existing ground surface. Boring TB-2 encountered the Stratum 3 material about 7 feet below the existing ground surface to the boring termination depth of 20 feet.

The Standard Penetration Resistances (N), which are determined from the number of hammer blows it takes to drive the split spoon sampler 12 inches, ranged from 2 to 28 in the SPT borings. These resistances indicate the soils range from very loose to medium dense in relative density. A very loose density refers to blow counts in the range of 1 through 3, a loose density refers to blow counts in the range of 4 through 10 and a medium density refers to blow counts in the range of 10 through 30. Soils were generally loose in the upper few feet, becoming more dense with depth.

Groundwater was not encountered in any of the borings performed for this project. Groundwater levels will fluctuate with the amount of local rainfall and with site development. Because groundwater levels were not encountered in the borings, estimated seasonal high groundwater levels for the site could not be determined; however, groundwater is expected to remain at depths which will not have an impact on the project. Based on the USGS Quadrangle Map, several nearby lakes indicated groundwater elevations at about +84 feet NGVD. Also, based on the September 1995 St. Johns River Water Management District Potentiometric Map of the Upper Floridan Aquifer, the artesian level for this project area is at about +94 feet NGVD. However, changes in drainage characteristics due to site development or the installation and operation of irrigation systems may cause significant deviations from these anticipated groundwater levels.

LABORATORY TESTING

Two (2) -200 grain size analysis tests and one (1) Atterberg Limits Test was performed on soil samples obtained during our subsurface exploration. These tests were performed to assist in the visual classification of the soil for the project area. Test results are shown on **Figure 2** in the **Appendix**. The test procedures were performed in accordance with the appropriate American Society for Testing and Materials (ASTM) procedures.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on the project characteristics previously described, the data obtained in our field exploration and our experience with similar subsurface conditions and construction types. If final development locations or grades are significantly different from those previously described, or if subsurface conditions different from those disclosed by the borings are encountered during construction, we should be notified immediately so that we might review the following recommendations in light of such changes.

General Site Preparation: The initial step in routine site preparation should be the complete removal of any highly organic topsoil, trees, major root systems and other deleterious materials from the

construction area. Based on the boring results, maximum stripping thicknesses are expected to be about 6 inches at this site. Because much of the so-called "topsoil" is very sandy and vegetation in some areas may be sparse, in some instances discing of the remaining roots and vegetation may be acceptable. This would have to be evaluated after inspection of the initial clearing and grubbing results.

Areas to receive fill should be proofrolled/compacted until the soil at a depth of 12 inches below the compaction surface has attained a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Specification D-1557. Monitoring of the compaction operations and in-place density tests should be performed by an experienced geotechnical engineering technician working under the direction of a registered geotechnical engineer to verify the required degree of compaction.

After the site has been proofrolled and accepted by the geotechnical engineer, fill required to bring the site to final grade may be placed and properly compacted. All fill should be inorganic, non-plastic, granular soil (clean sands). On-site materials are suitable. The fill should be placed in level lifts not to exceed 12 inches loose thickness if the compactor recommended above to proofroll the site is also used to compact the fill. The fill should be compacted to a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Specification D-1557. In-place density tests should be performed on each lift by an experienced engineering technician working under the direction of a registered geotechnical engineer to verify that the recommended degree of compaction has been achieved.

Stormwater Management Facility Recommendations: As previously mentioned, Borings AB-1 and TB-1 performed in the proposed pond area typically encountered a surficial layer of fine sand, trace roots (SP), fine sand to slightly silty fine sand (SP)(SP-SM) to the boring termination depths of 30 and 40 feet. Boring TB-1 also encountered a layer of silty to clayey fine sand (SM-SC) approximately 6 to 8.5 feet below the existing ground surface.

Based on the great depth to groundwater, a dry-bottom pond should be used. Results of a laboratory permeability test on the clean sand of **Stratum 2** indicates a coefficient of vertical permeability of 33 feet per day. Experience in similar soil types indicates that horizontal permeability is typically in the range of 1.5 to 2.0 times the vertical permeability. However, we recommend limiting the horizontal permeability to 40 feet per day for design. We would be pleased to assist you with pond recovery analyses upon request.

Suitability of soils encountered in the borings (AB-1 and TB-1) performed in the proposed pond area are as follows:

Stratum 1: Heavily root-laden topsoil material should be properly removed from the site. It should not be used as structural fill material.

Nodarse & Associates, Inc.

Stratum 2: This slightly silty to fine sand soil is considered suitable for unrestricted use as a structural fill material. Some wetting may be required to facilitate compaction.

Stratum 3: The silty to clayey fine sand soils are not generally desirable for structural fill. However, this material can be used if placed in thin lifts and moisture contents are controlled near optimum. This material should not be used in the upper 2 feet of fill below finished grades. We recommend that this material be overexcavated in the pond area and replaced with the clean sand of Stratum 2 to optimize pond recovery.

It is our opinion that the soil and groundwater conditions in the pond are suitable for a dry-bottom pond. Based on a review of pond design details, it is our opinion that soils are sufficiently permeable and that operation of the pond should not affect the existing slope. A line from the top bank of the pond to the bottom of the existing borrow pit yields an equivalent slope of 2.5H:1V. Overexcavation of any clayey sands below the pond botttom should be performed to minimize the chance of lateral seepage of perched water on the clayey sands.

Of more concern is erosion of the borrow pit slope unrelated to the operation of the pond. The existing 1H:1V borrow pit slope is steeper than the long term angle of repose that this soil type will normally allow. It is likely maintained in this steep condition by existing vegetation. Erosion of the slope back is more likely to affect the pond than the pond affecting the slope. We recommend that care be taken to direct overflow away from the borrow pit slope.

Pavement: Due to the great depth of groundwater, the conditions on the site are suitable for conventional or semi-flexible pavement constructed to minimum Lake County Specifications. Either a soil-cement or a limerock base may be used with the choice based on overall economy. The limerock should be provided with a stabilized subbase meeting Lake County Specifications. This stabilized subbase is optional for soil-cement. Subgrade, base and asphaltic concrete construction should be according to current Lake County Specifications.

Cut and Fill Slopes: Considerable cut and fill is expected on the site. It is our opinion that cut or fill slopes of 4 horizontal to 1 vertical (4H:1V) can be used on this site without restriction. Steeper slopes should be reviewed by the geotechnical engineer once preliminary plans are available.

Construction Quality Control: As noted previously, the site should be suitable for the proposed development and construction. This construction can be accomplished using conventional site preparation techniques. However, careful construction monitoring and testing is recommended to verify that these procedures are followed and result in a well-constructed project. Careful construction monitoring and testing can help avoid construction delays, cost overruns and

unnecessary removal of suitable materials. N&A has a well-qualified staff of certified Engineering Technicians and Engineers who have performed similar services on numerous projects. We would be pleased to provide you with a proposal to provide these services during construction of this project.

CLOSURE

N&A appreciates the opportunity to be of service to you on this project. If you should have any questions concerning the contents of this report, or if we may be of further assistance, please do not hesitate to contact us.

Very truly yours,

NODARSE & ASSOCIATES, INC.

Anne Marie Arnold, E.I.
Project Engineer

9-24-97

Jay W. Casper, P.E.
Manager, Geotechnical Services
Fl Registration No.36330

cc: Mr. Jim Branch, P.E. Conklin Porter and Holmes, Inc.

W97-238.REP:AMA13/jc

APPENDIX

HILLS OF CLERMONT, PHASES 1-3

Stormwater Calculations & Report

CPH Job No. G6778
October 3, 1997

Conklin, Porter & Holmes-Engineers, Inc.
101 N. Woodland Boulevard, Suite 100
DeLand, Florida 32720

Phone: (904) 736-4142
Fax: (904) 736-8412

10/8/97

HILLS OF CLERMONT, PHASES 1-3

Stormwater Calculations & Report

CPH Job No. G6778
October 3, 1997

TABLE OF CONTENTS

	ITEM	PAGE
1.	Summary and Conclusions	1-4
2.	Site & Project Description	5
3.	Analysis Methodology & Results	5-6
	a. Pre-development Data & Calculations	10-16
	b. Post-development Data & Calculations	17-53
4.	Pollution Abatement & Recovery	55
5.	Environmental	60
6.	Storm Sewer System	61

Figures & Tables

Site & Results Summary 4
USGS / Vicinity Map 7
Depiction of Works 8
USDA/SCS Soils Map 9
Pre-development Areas and Curve Number 10
Pre-development Time of Concentration 11
Pre-development Nodal Diagram 12
Pre-development Input / Output Data 13-16
Typical House and Road Parcel 17
Post-development Areas and CN's 18-19
Post-development Time of Concentration 20
Post-development Nodal Diagram 21
Post-development Input Data 22-37

ITEM **PAGE**

Post-development 10 Yr/2 Hour Storm Results 38
Post-development 25 Yr/24 Hour Storm Results 39
Post-development 50 Yr/24 Hour Storm Results 40-46
Post-development 25 Yr/96 Hour Storm Results 47-53
Discharge Velocity Calculations 54
Pollution Abatement Volume Calculation 56
Retention Pond Stage / Area / Storage Table 57
Pond Recovery Calculations (Modret) 58-59
Hydraflow Calculations 62-119

Attachments and Enclosures

- Aerial Photograph with Site Overlay ..... Map Pocket
- Pre-development Drainage Basin Map ..... Map Pocket
- Post-development Drainage Basin Map ..... Map Pocket
- Site Final Engineering Plans ..... (Separately Bound)
- SJRWMD Individual ERP Permit Application ..... (Separately Bound)
- Geotechnical Report ..... (Separately Bound)
- Environmental Assessment ..... (Separately Bound)

STORMWATER CALCULATIONS AND REPORT

Hills of Clermont, Phases 1, 2 & 3
CPH Job No. G6778

I. Summary and Conclusions

This report presents site specific data, stormwater management system data, and results of stormwater analyses for the proposed Phases 1, 2 & 3 of Hills of Clermont on Hancock Road in South Lake County.

The total drainage basin analyzed is 61.19 acres, of which 58.7 acres is onsite (consisting of three development phases) and 2.49 acres is from offsite areas. The three development phases are to be developed into single family housing with an infrastructure road system, stormwater collection system, and retention pond. The stormwater management system has been designed in accordance with requirements of both the City of Clermont and the St. Johns River Water Management District (SJRWMD). This report is intended to supplement a SJRWMD ERP permit application for the development. This report presents site specific data, stormwater management system data, and results of stormwater analysis for Hills of Clermont on Hancock Road in South Lake County. The commercially zoned parcels to the North of Phases 1-3 will be permitted separately from the residential portion. The areas from the commercial parcels which flow into the residential site have been included as offsite undeveloped areas in both our pre- and post-developed condition analysis.

In the process of constructing Phases 1-3, the excess dirt is to be taken to an offsite stockpile location to the West of Hancock Road, which is also owned by the Greater Construction Corporation. The stockpile location to be used is shown on the Aerial Photograph located in the map pocket. There is no construction proposed within the area of the offsite stockpile. Silt fence will be placed around the entire offsite area being used for stockpiling, with double

silt fence placed at the lower end of the site. The dirt will be placed in 12" lifts, and be compacted to a minimum density of 98% of the AASHTO T-180 maximum density.

Generally, the runoff from the development of Phases 1-3 of Hills of Clermont is to be collected in a retention pond, with discharge from the retention pond into a shallow onsite spreader swale. From the spreader swale, the discharge thence flows offsite to the South. The swale was provided to reduce concentration of flow at any one point and therefore reduce the potential for erosion. Because the site is part of a land-locked system the stormwater analysis includes the 25 year / 96 hour storm event.

The total onsite storage capacity includes both our large retention pond (capacity 15.36 ac-ft to its overflow elevation) and the spreader swale (approximately 0.123 ac-ft capacity.) For WQV purposes we considered only the pond volume and it was more than sufficient.

Four storm events were analyzed as part of this report. The 25-year frequency, 24-hour and 25-year frequency, 96-hour events (8.6" and 12.33" respectively) were analyzed per SJRWMD requirements. The 10-year frequency, 2-hour and 50-year frequency, 24-hour events (3.9" and 9.6" respectively) were analyzed according to the City of Clermont requirements. Since the percent impervious for the site is less than 50%, no analysis of the mean annual pre/post was made, in accordance with the provisions of 40C42.025(8). The attached table on page 4 summarizes the results for all four of the storm events. Post-development runoff rates out of the basins are considerably less than the pre-development runoff rates. The site, which is part of a land-locked system, discharges via overland flow to the East. A 25-year frequency, 96-hour storm event for pre- and post-development conditions was analyzed to determine whether there was any increase in the runoff volume, offsite, due to the proposed development. This is required because the site is part of a land-locked basin. The size of the on-site retention pond was designed to hold the difference between pre- and post- development volumes below the overflow weir elevation, assuring that the volumetric discharge to the land-locked lake did not increase for the 25/96 event. The Summary Table on page 4 also shows the pre-post volumetric results for the 25/96 and 50/24 storm events.

Pollution abatement volumes (WQV) and retention pond recovery times were analyzed for the post-development condition. As can be seen in the Summary Table, the proposed retention pond provides more than the required pollution abatement volume, and recovers in less than 72 hours as required by the SJRWMD.

Nodarse & Associates, Inc. has performed the soil borings for the site. Two of the soil borings for the site were located in the pond area to determine the water tables, and the permeability rates which were used in the Modret drawdown calculations. Based on their soils exploration, they determined the horizontal hydraulic conductivity to be 40 feet per day. No water table was encountered in any of the borings for the site which went as deep as elevation 95. The proposed retention pond bottom elevation is 130.00, 35' above the bottom of the deepest borings, in which no water was encountered. The SJRWMD Potentiometric Map indicates the water level in the area to be at elevation 94.

SUMMARY OF RESULTS

A. Pre/Post Rate Comparison

Item	Pre-development	Post-development
10-Year Frequency / 2-Hour Duration	13.02 cfs	0.00 cfs
25-Year Frequency / 24-Hour Duration	75.17 cfs	6.80 cfs
50-Year Frequency / 24-Hour Duration	98.71 cfs	13.21 cfs
25-Year Frequency / 96-Hour Duration	151.97 cfs	60.88 cfs

B. Pre/Post Volumetric Discharge Comparison

Item	Pre-development	Post-development
50-Year Frequency / 24-Hour Duration	15.40 ac-ft	7.16 ac-ft
25-Year Frequency / 96-Hour Duration	25.07 ac-ft	18.07 ac-ft

Notes:

The Pre-development runoff volume is the summation of basin runoff volumes as listed on the AdICPR Hydrology Output. The Post-development runoff volume is the summation of basin runoff volumes as listed on the AdICPR Hydrology Output, minus the volume provided in the retention pond below the weir (15.36 ac-ft)

C. Required Water Quality Volumes and Recovery Times

Item	WQV Required	WQV Provided	Recovery Time
Retention Pond	5.10 ac-ft	15.36 ac-ft	< 24 Hours

II. Site and Project Description

Phases 1-3 of Hills of Clermont consist of approximately 58.7 acres of land. The site is located on the East side of Hancock Road, South of Clermont, in South Lake County. A vicinity map is included on page 7. Additionally 2.49 acres of offsite lands drain into the land to be developed and have been included in the analysis. This gives a total drainage basin for analysis purposes of 61.19 ac.

It is proposed that the 58.7 acres be developed into 180 single family homes, with a stormwater collection and retention pond system. A depiction of proposed works is attached on page 8. Final Engineering Plans for the proposed roadways and stormwater collection and retention pond system are included with this submittal.

This project site is characterized by Candler soils with slopes ranging from 0 to 12 percent slopes (SCS symbols AtB and AtD) which are in hydrological group "A". A copy of the SCS Soils Map with the site overlaid on it is shown on page 9. The drainage for the site currently travels via overland flow from the northwest corner of the site in a general southeasterly direction. In the proposed development the runoff from the site will be handled by a dry retention pond which is located in the southeast corner of the development. The retention pond will then discharge to the southeast, as in the pre condition.

Attached to this submittal is a SJRWMD aerial photograph of the site with Phases 1-3 of Hills of Clermont overlaid thereon. Pre- and post-development basin maps, which further depict the proposed development are also attached.

III. Analysis, Methodology, and Results

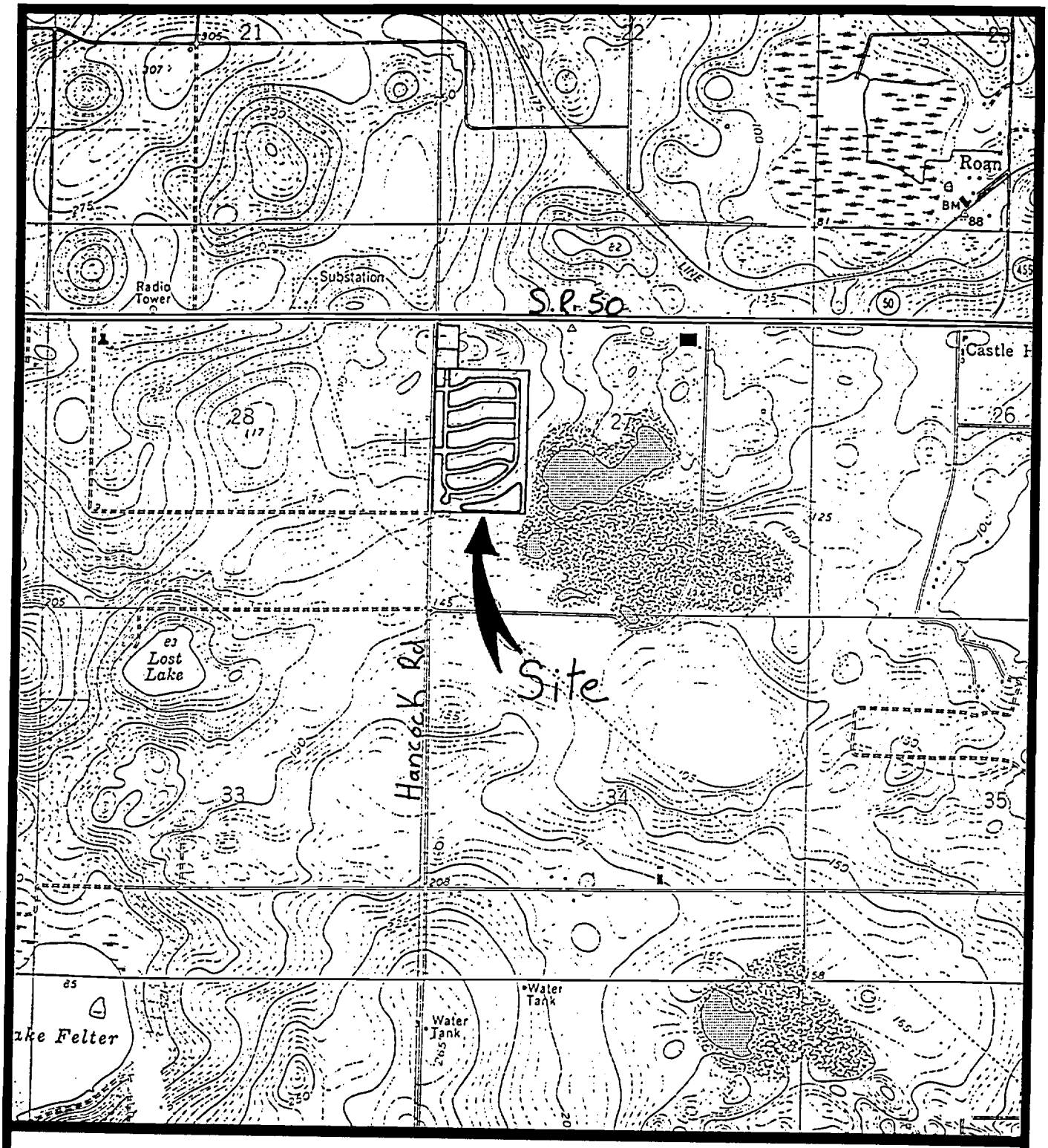
The pre-development parcels, as shown on the pre-development drainage basin map attached, have been subdivided on the basis of topography, their acreages, cover, curve numbers, and their times of concentration have been estimated. The tables on pages 10-11 show the results of the site specific determinations for the pre-development condition. The nodal diagram for the pre-development condition is shown on page 12. The pre-development site data was

analyzed for its runoff using the Santa Barbara Urban Hydrograph for two different storm events; the 8.6" of rain, 25/24 event, and the 12.33" of rain, 25/96 event. Runoff hydrographs were generated using the Advanced ICPR2 computer modeling methodology. Input data used for the modeling the pre-development case is attached as pages 13-16.

In the post-development condition, the site was subdivided into the small runoff basins as shown on the attached post-development drainage basin map. The overall basin was subdivided into the small basins, both for the purpose of the stormwater touring for pond calculations, and also for the purpose of stormwater routing for the individual stormwater pipe collection system analysis. The proposed development consists of single family homes. The percent impervious, and its subdivision into Directly Connected Impervious Area (DCIA), and Non-Directly Connected Impervious Area, estimated for these calculations, is as shown on the attached "Typical House and Road Parcel" drawing on page 17. The post-development nodal diagram, and the calculation of the post-development areas, their curve number determination, and the post-development time of concentration for each of the runoff basins area shown on pages 18-21. The AdICPR Post-development Input Data is included as pages 22-37. Results of the post-development routings for the 10/2, 25/24, 50/24 and 25/96 events are included on pages 38-53.

The time of concentration for each one of the developed condition basins (and the pre-development condition basins) was analyzed using a determination of the path for the time of concentration and a division of that path into the first 300-feet portion, the remaining distance to the storm inlet, and the travel through the storm sewer piping. The time of travel for the first 300-feet portion was determined using the overland flow formula from SCS TR55; the remaining distance to the inlet was calculated using gutter flow; the time of travel in the storm piping was determined based on an average flow velocity of 7 feet per second in the pipes.

On page 54 we have provided calculations of the velocity of flow as it discharges from the pond, and also as it leaves the spreader swale. These calculations show that all flow leaving the swale is moving at a non-erosive velocity.

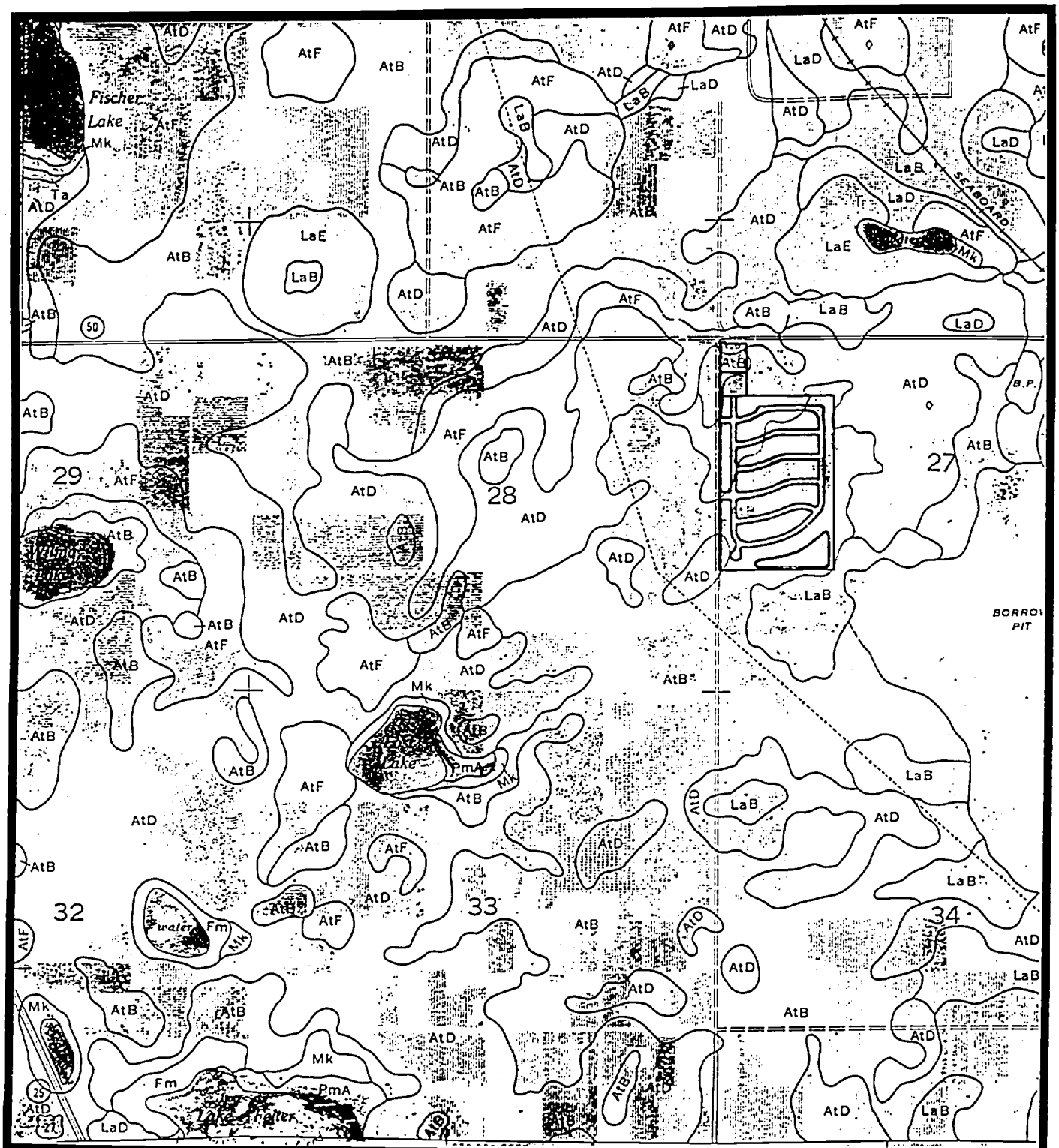


NORTH

Hills of Clermont Lake County

USGS Map "Eustis"

Date: 1980 Scale: 1" = 2000'



NORTH

Hills of Clermont — Lake County

USDA/SCS Soils Map

Date: 1972 — Scale 1" = 1667'

AREA AND SCS METHOD "CN"
EAST KNAPP PARCEL, PHASES 1-3
CPH JOB NO. G6778 DATE: 8/20/97

PRE-DEVELOPED CONDITION

IMPERVIOUS CN =	95	PERVIOUS CN =	48

BASIN No.	TOTAL AREA (AC)	AREA DCIA (AC)	AREA NDCIA (AC)	AREA IMPERVIOUS (AC)	AREA PERVIOUS (AC)	PERCENT DCIA (AS A %)	"CN" FOR NDCIA AND PERVIOUS AREA
Basin A	43.31	0.00	0.00	0.00	43.31	0.00%	48
Basin B	13.38	0.00	0.00	0.00	13.38	0.00%	48
Basin C	4.50	0.00	0.00	0.00	4.50	0.00%	48

NOTES:

1. DCIA = DIRECTLY CONNECTED IMPERVIOUS AREA, i.e. IMPERVIOUS AREA DIRECTLY CONNECTED TO THE STORM DRAINAGE SYSTEM WITHOUT FLOW OVER ANY PERVIOUS AREA.

2. NDCIA = IMPERVIOUS AREA NOT DIRECTLY CONNECTED TO THE STORM SYSTEM, BUT WHICH DISCHARGES OVER A PERVIOUS AREA PRIOR TO ENTRY INTO THE STORM DRAINAGE SYSTEM.

3. AREA OF IMPERVIOUS = DCIA + NDCIA.

4. PERCENT DCIA COMPUTED BY DIVIDING AREA DCIA BY THE TOTAL BASIN AREA.

5. SCS "CN" FOR PERVIOUS AND NDCIA COMPUTED BY DIVIDING THE SUM OF THE PRODUCTS OF THE PERVIOUS AREA TIMES IT'S CN AND THE NDCIA AREA TIMES IT'S CN, BY THE SUM OF THE SAME TWO AREAS.

TIME OF CONCENTRATION - PRE DEVELOPED CONDITION
EAST KNAPP PARCEL, PHASES 1-3
CPH JOB # G6778 8/20/97

BASIN No.	PATH L (ft)	FIRST 300' OF PATH L1-G (ft)	S1-G (ft/ft)	T1-G (min)	L1-C (ft)	S1-C (ft/ft)	T1-C (min)	REMAINING PATH L2-G (ft)	S2-G	T2-G (min)	L2-C (ft)	S2-C	T2-C (min)	TIME T1 (min)
Basin A	2280	300	0.060	12.42	0	0.000	0.00	1980	0.027	12.42	0	0.000	0.00	24.8
Basin B	1172	300	0.076	11.28	0	0.000	0.00	872	0.039	4.57	0	0.000	0.00	15.9
Basin C	718	300	0.055	12.84	0	0.000	0.00	418	0.027	2.64	0	0.000	0.00	15.5

NOTES:

a) L1-G, S1-G & T1-G ARE LENGTH, SLOPE AND COMPUTED TIME OF TRAVEL FOR RUNOFF OVER GRASS IN 1ST 300 FT, USING SHEET FLOW FORMULAE FROM SCS TR55.

b) L1-C, S1-C & T1-C ARE LENGTH, SLOPE AND COMPUTED TIME OF TRAVEL FOR RUNOFF OVER PAVED IN 1ST 300 FT, USING SHEET FLOW FORMULAE FROM SCS TR55.

c) L2-G & T2-G ARE LENGTH AND COMPUTED TIME OF TRAVEL FOR RUNOFF OVER GRASS IN REMAINING PATH LENGTH WHERE V=16.1345*(S)^.5 (PER TR-55 PAGE F-1)

d) L2-C & T2-C ARE LENGTH AND COMPUTED TIME OF TRAVEL FOR RUNOFF OVER PAVED IN REMAINING PATH LENGTH WH V=20.3282*(S)^.5 (PER TR-55 PAGE F-1)

e) TRAVEL TIME (Tt) IS THE SUM OF TIME FOR FIRST 300 FT PLUS TIME FOR REMAINING PATH OR 10 MINUTE MINIMUM PER FDOT.

T1-C&G = {0.007(nL)^0.8}/ {(P)^0.5(s)^0.4}

Where:

T = Time (hrs)
L = Length (ft)
s = slope (ft/ft)
P = 2yr - 24hr Rainfall (in)
n = Manning's roughness coefficient

Assumptions:

n = 0.011 for concrete
n = 0.15 for grass
P = 4.8 in.

Conklin, Porter and Holmes
ENGINEERS, INC.
MAINSTREET CENTER SUITE 100
101 N. WOODLAND BOULEVARD
DELAND, FLORIDA 32720
TEL 904-736-4142 FAX 904-736-8412

Job No. G7 6778

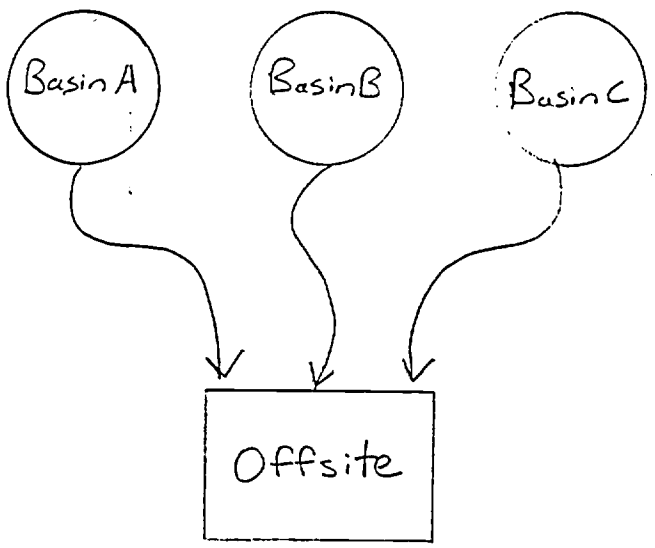
Temp. Sheet No. _____

Calc. by JRK Date _____

Checked by _____ Date _____

SUBJECT Pre-Dev Nodal Diag Div. of Work _____ Sheet No. _____ of _____

Nodal Diagram - Pre-Dev.



Pre Development - Hydrology Data

********** Basin Summary - 10-2 **********

###			
Basin Name:	BASIN-A	BASIN-B	BASIN-C
Group Name:	BASE	BASE	BASE
Node Name:	OFFSITE	OFFSITE	OFFSITE
Hydrograph Type:	SB	SB	SB
Spec Time Inc (min):	5.00	5.00	5.00
Comp Time Inc (min):	5.00	5.00	5.00
Rainfall File:	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	3.90	3.90	3.90
Storm Duration (hr):	2.00	2.00	2.00
Status:	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	22.90	15.90	15.50
Lag Time (hr):	0.00	0.00	0.00
Area (acres):	43.31	13.38	4.50
Curve Number:	48.00	48.00	48.00
DCIA (%):	0.00	0.00	0.00
Time Max (hrs):	1.42	1.25	1.25
Flow Max (cfs):	8.79	3.16	1.07
Runoff Volume (in):	0.23	0.23	0.23
Runoff Volume (cf):	35874	11083	3727

Pre Development - Hydrology Data

********** Basin Summary - 25-24 **********

***			
Basin Name:	BASIN-A	BASIN-B	BASIN-C
Group Name:	BASE	BASE	BASE
Node Name:	OFFSITE	OFFSITE	OFFSITE
Hydrograph Type:	SB	SB	SB
Spec Time Inc (min):	5.00	5.00	5.00
Comp Time Inc (min):	5.00	5.00	5.00
Rainfall File:	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	8.60	8.60	8.60
Storm Duration (hr):	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	22.90	15.90	15.50
Lag Time (hr):	0.00	0.00	0.00
Area (acres):	43.31	13.38	4.50
Curve Number:	48.00	48.00	48.00
DCIA (%):	0.00	0.00	0.00
Time Max (hrs):	12.00	12.00	12.00
Flow Max (cfs):	50.15	18.67	6.35
Runoff Volume (in):	2.39	2.39	2.39
Runoff Volume (cf):	376158	116209	39084

Pre Development - Hydrology Data

********** Basin Summary - 50-24 **********

***			
Basin Name:	BASIN-A	BASIN-B	BASIN-C
Group Name:	BASE	BASE	BASE
Node Name:	OFFSITE	OFFSITE	OFFSITE
Hydrograph Type:	SB	SB	SB
Spec Time Inc (min):	5.00	5.00	5.00
Comp Time Inc (min):	5.00	5.00	5.00
Rainfall File:	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	22.90	15.90	15.50
Lag Time (hr):	0.00	0.00	0.00
Area (acres):	43.31	13.38	4.50
Curve Number:	48.00	48.00	48.00
DCIA (%):	0.00	0.00	0.00
Time Max (hrs):	12.00	12.00	12.00
Flow Max (cfs):	66.03	24.39	8.29
Runoff Volume (in):	3.02	3.02	3.02
Runoff Volume (cf):	474742	146665	49327

Pre Development - Hydrology Data

********** Basin Summary - 25-96 **********

***			
Basin Name:	BASIN-A	BASIN-B	BASIN-C
Group Name:	BASE	BASE	BASE
Node Name:	OFFSITE	OFFSITE	OFFSITE
Hydrograph Type:	SB	SB	SB
Spec Time Inc (min):	5.00	5.00	5.00
Comp Time Inc (min):	5.00	5.00	5.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	22.90	15.90	15.50
Lag Time (hr):	0.00	0.00	0.00
Area (acres):	43.31	13.38	4.50
Curve Number:	48.00	48.00	48.00
DCIA (%):	0.00	0.00	0.00
Time Max (hrs):	59.92	59.92	59.92
Flow Max (cfs):	102.13	37.20	12.64
Runoff Volume (in):	4.92	4.92	4.92
Runoff Volume (cf):	772910	238780	80307

Conklin, Porter and Holmes ENGINEERS, INC.
MAINSTREET CENTER SUITE 100
101 N. WOODLAND BOULEVARD
DELAND, FLORIDA 32720
TEL 904-736-4142 FAX 904-736-8412

Job No. G6778

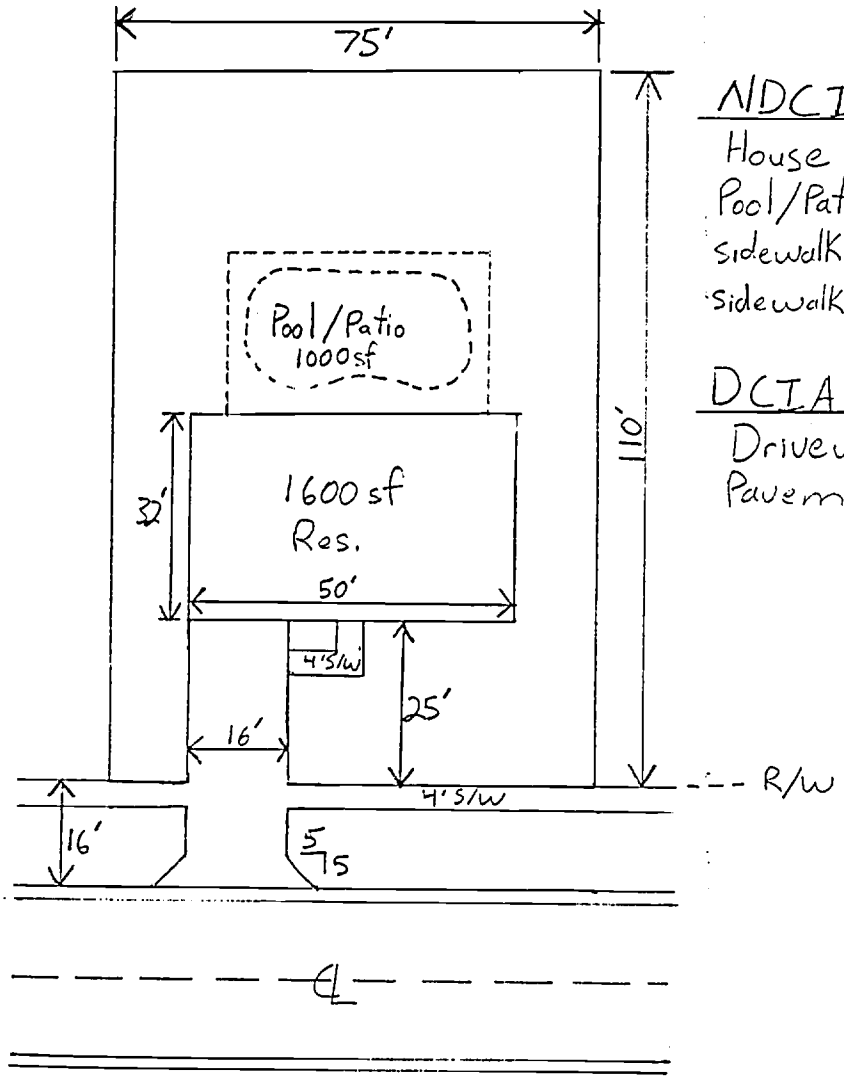
Temp. Sheet No. _____

Calc. by JRK Date _____

Checked by _____ Date _____

SUBJECT East Knapp Parcel Div. of Work _____ Sheet No. _____ of _____

Typical House & Road Parcel



NDCIA
House
Pool/Patio
sidewalk on lot
sidewalk on R/W

DCIA
Driveway
Pavement

Lot Area Breakdown

Total =	8250 sf
Pervious =	4941 sf
House =	1600 sf
Driveway =	617 sf
Pool/Patio =	1000 sf
Sidewalk =	92 sf

AREA AND SCS METHOD "CN"
EAST KNAPP PARCEL, PHASES 1-3
CPH JOB NO. G6778 DATE: 8/20/97

POST-DEVELOPED CONDITION

IMPERVIOUS CN =	95	PERVIOUS CN =	39

BASIN No.	TOTAL AREA (AC)	AREA DCIA (AC)	AREA NDCIA (AC)	AREA IMPERVIOUS (AC)	AREA PERVIOUS (AC)	PERCENT DCIA (AS A %)	"CN" FOR NDCIA AND PERVIOUS AREA
Pond	10.62	0.00	1.33	1.33	9.29	0.0%	46
S-2	0.34	0.15	0.05	0.20	0.14	44.8%	53
S-3	1.16	0.11	0.19	0.31	0.86	9.7%	49
S-4	0.51	0.22	0.05	0.27	0.24	42.5%	49
S-5	1.44	0.14	0.39	0.53	0.91	9.7%	56
S-5B	1.18	0.11	0.32	0.44	0.74	9.6%	56
S-6	1.67	0.23	0.40	0.63	1.04	14.1%	54
S-7	0.83	0.40	0.09	0.49	0.34	48.2%	50
S-8	1.39	0.15	0.36	0.51	0.88	10.8%	55
S-8A	1.21	0.14	0.39	0.52	0.69	11.2%	59
S-9	0.72	0.12	0.27	0.40	0.33	17.1%	65
S-10	0.44	0.16	0.06	0.22	0.22	36.6%	51
S-11	1.44	0.17	0.40	0.57	0.87	11.5%	57
S-11A	0.76	0.08	0.23	0.31	0.45	10.8%	58
S-11B	1.00	0.10	0.29	0.39	0.61	10.2%	57
S-12	0.72	0.11	0.21	0.32	0.40	15.2%	58
S-13	0.72	0.13	0.17	0.30	0.41	17.9%	56
S-14	0.85	0.08	0.20	0.28	0.57	9.8%	54
S-14A	1.30	0.14	0.39	0.53	0.77	10.9%	58
S-15	1.36	0.12	0.31	0.44	0.92	9.0%	53
S-15A	0.90	0.12	0.33	0.45	0.45	13.6%	63
S-16	0.34	0.11	0.05	0.16	0.18	31.8%	52
S-17	0.43	0.19	0.06	0.24	0.19	43.5%	52
S-17A	1.33	0.20	0.27	0.48	0.85	15.3%	53
S-18	1.73	0.22	0.41	0.63	1.10	12.7%	54
S-20	0.41	0.18	0.05	0.24	0.17	44.8%	52
S-21	1.32	0.16	0.39	0.55	0.77	11.9%	58
S-21A	0.98	0.14	0.21	0.35	0.63	14.4%	53
S-21B	1.24	0.15	0.35	0.50	0.74	11.9%	57
S-23	1.03	0.20	0.16	0.36	0.67	19.5%	50
S-25	0.94	0.12	0.23	0.35	0.58	13.3%	55
S-28	0.63	0.27	0.06	0.32	0.30	42.8%	48
S-29	1.00	0.14	0.27	0.42	0.58	14.3%	57
S-30	0.98	0.10	0.26	0.37	0.61	10.4%	56
S-30A	0.89	0.10	0.26	0.36	0.53	10.8%	57
S-30B	1.07	0.12	0.31	0.43	0.64	11.1%	57
S-31	0.26	0.09	0.01	0.10	0.15	36.0%	43
S-32	0.43	0.21	0.05	0.26	0.17	49.1%	52
S-33	2.09	0.29	0.53	0.81	1.28	13.7%	55
S-33A	1.08	0.12	0.30	0.42	0.66	11.3%	56
S-34	0.99	0.22	0.24	0.46	0.53	22.2%	56
S-35	0.16	0.08	0.02	0.09	0.07	45.8%	51
S-36	1.58	0.22	0.46	0.68	0.90	14.2%	58
S-36B	1.04	0.15	0.26	0.41	0.63	14.4%	55

S-37	0.22	0.09	0.03	0.12	0.11	40.1%	51
S-38	0.85	0.10	0.25	0.34	0.51	11.3%	57
S-39	0.71	0.20	0.12	0.32	0.39	27.8%	52
S-40	0.28	0.05	0.07	0.12	0.16	17.1%	57
S-41	0.43	0.12	0.09	0.21	0.22	28.1%	55
S-42	0.38	0.10	0.04	0.14	0.24	27.4%	47
S-43	1.26	0.19	0.24	0.44	0.83	15.4%	52
S-44	2.29	0.16	0.26	0.42	1.87	7.1%	46
S-44A	1.53	0.09	0.14	0.23	1.30	6.0%	44
S-45	0.73	0.17	0.18	0.35	0.38	23.8%	57
Total	61.19	8.06	13.08	21.14	40.05	13.2%	53

NOTES:

1. DCIA = DIRECTLY CONNECTED IMPERVIOUS AREA, i.e. IMPERVIOUS AREA DIRECTLY CONNECTED TO THE STORM DRAINAGE SYSTEM WITHOUT FLOW OVER ANY PERVIOUS AREA.

2. NDCIA = IMPERVIOUS AREA NOT DIRECTLY CONNECTED TO THE STORM SYSTEM, BUT WHICH DISCHARGES OVER A PERVIOUS AREA PRIOR TO ENTRY INTO THE STORM DRAINAGE SYSTEM.

3. AREA OF IMPERVIOUS = DCIA + NDCIA.

4. PERCENT DCIA COMPUTED BY DIVIDING AREA DCIA BY THE TOTAL BASIN AREA.

5. SCS "CN" FOR PERVIOUS AND NDCIA COMPUTED BY DIVIDING THE SUM OF THE PRODUCTS OF THE PERVIOUS AREA TIMES IT'S CN AND THE NDCIA AREA TIMES IT'S CN, BY THE SUM OF THE SAME TWO AREAS.

TIME OF CONCENTRATION - POST DEVELOPED CONDITION
EAST KNAPP PARCEL, PHASES 1-3
CPH JOB # G6778 8/20/97

BASIN No.	PATH L (ft)	FIRST 300' OF PATH L1-G (ft)	S1-G (ft/ft)	T1-G (min)	L1-C (ft)	S1-C (ft/ft)	T1-C (min)	REMAINING PATH L2-G (ft)	S2-G	T2-G (min)	L2-C (ft)	S2-C	T2-C (min)	FLOW IN STORM PIPE LENGTH (ft)	T2-C (min)	TIME Tt (min)
Pond	365	300	0.078	11.21	0	0.000	0.00	65	0.081	0.24	0	0.000	0.00	0	0.00	11.4
S-2	480	12	0.060	0.95	288	0.017	2.48	180	0.038	0.95	0	0.000	0.00	206	0.49	10.0
S-3	385	240	0.038	12.44	60	0.014	0.76	0	0.000	0.00	85	0.014	0.59	254	0.60	14.4
S-4	462	12	0.016	1.59	288	0.018	2.38	0	0.000	0.00	162	0.018	0.98	525	1.25	10.0
S-5	440	235	0.055	10.57	65	0.018	0.73	0	0.000	0.00	140	0.018	0.86	603	1.44	13.6
S-5B	405	240	0.049	11.30	60	0.018	0.69	0	0.000	0.00	105	0.018	0.64	818	1.95	14.6
S-6	570	130	0.014	11.29	170	0.024	1.41	0	0.000	0.00	270	0.024	1.43	684	1.63	15.8
S-7	472	12	0.019	1.48	288	0.024	2.14	0	0.000	0.00	172	0.024	0.91	887	2.11	10.0
S-8	455	230	0.044	11.36	70	0.027	0.66	0	0.000	0.00	155	0.027	0.77	968	2.30	15.1
S-8A	415	255	0.047	12.02	45	0.018	0.54	0	0.000	0.00	115	0.018	0.70	1203	2.86	16.1
S-9	425	125	0.014	11.11	175	0.018	1.62	0	0.000	0.00	125	0.018	0.77	1132	2.70	16.2
S-10	652	12	0.023	1.38	288	0.025	2.12	0	0.000	0.00	352	0.025	1.83	1226	2.92	10.0
S-11	495	190	0.023	12.64	110	0.042	0.79	0	0.000	0.00	195	0.042	0.78	1262	3.00	17.2
S-11A	385	255	0.032	14.02	45	0.009	0.72	0	0.000	0.00	85	0.009	0.73	1572	3.74	19.2
S-11B	390	240	0.056	10.68	60	0.005	1.14	0	0.000	0.00	90	0.005	1.04	1707	4.06	16.9
S-12	350	130	0.005	17.18	175	0.032	1.28	0	0.000	0.00	45	0.032	0.21	1445	3.44	22.1
S-13	455	75	0.024	5.91	225	0.035	1.52	0	0.000	0.00	155	0.035	0.68	1526	3.63	11.7
S-14	390	235	0.039	12.13	65	0.039	0.54	0	0.000	0.00	90	0.039	0.37	1564	3.72	16.8
S-14A	465	240	0.037	12.60	60	0.032	0.54	0	0.000	0.00	165	0.032	0.76	1724	4.10	18.0
S-15	385	185	0.029	11.28	115	0.030	0.94	0	0.000	0.00	85	0.030	0.40	1949	4.64	17.3
S-15A	385	185	0.021	12.83	115	0.017	1.18	0	0.000	0.00	85	0.017	0.53	2154	5.13	19.7
S-16	422	12	0.034	1.19	288	0.023	2.19	0	0.000	0.00	122	0.023	0.66	1977	4.71	10.0
S-17	647	12	0.313	0.49	288	0.028	2.02	0	0.000	0.00	347	0.028	1.71	1665	3.96	10.0
S-17A	300	135	0.021	9.97	165	0.020	1.48	0	0.000	0.00	0	0.020	0.00	1709	4.07	15.5
S-18	815	300	0.063	12.17	0	0.000	0.00	65	0.063	0.27	450	0.022	2.51	1846	4.40	19.3
S-20	367	12	0.038	1.14	288	0.012	2.85	0	0.000	0.00	67	0.012	0.51	192	0.46	10.0
S-21	400	240	0.062	10.25	60	0.008	0.95	0	0.000	0.00	100	0.008	0.92	231	0.55	12.7
S-21A	235	235	0.059	10.28	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	306	0.73	11.0
S-21B	475	225	0.055	10.21	75	0.014	0.91	0	0.000	0.00	175	0.014	1.21	391	0.93	13.3
S-23	400	190	0.082	7.59	110	0.023	1.01	0	0.000	0.00	100	0.023	0.54	201	0.48	10.0
S-25	380	140	0.082	5.94	160	0.043	1.06	0	0.000	0.00	80	0.043	0.32	310	0.74	10.0
S-28	632	12	0.016	1.60	288	0.011	2.93	0	0.000	0.00	332	0.011	2.60	551	1.31	10.0
S-29	440	140	0.052	7.15	160	0.055	0.96	0	0.000	0.00	140	0.055	0.49	579	1.38	10.0
S-30	415	240	0.047	11.45	60	0.008	0.95	0	0.000	0.00	115	0.008	1.05	632	1.50	15.0
S-30A	395	240	0.047	11.45	60	0.009	0.90	0	0.000	0.00	95	0.009	0.82	808	1.92	15.1
S-30B	450	240	0.048	11.35	60	0.007	1.00	0	0.000	0.00	150	0.007	1.47	973	2.32	16.1
S-31	110	110	0.072	5.17	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	858	2.04	10.0
S-32	402	12	0.013	1.74	288	0.012	2.83	0	0.000	0.00	102	0.012	0.76	1068	2.54	10.0
S-33	430	250	0.056	11.03	50	0.016	0.62	0	0.000	0.00	130	0.016	0.84	1119	2.66	15.2
S-33A	450	250	0.045	12.04	50	0.010	0.75	0	0.000	0.00	150	0.010	1.23	1293	3.08	17.1
S-34	400	140	0.073	6.26	160	0.052	0.98	0	0.000	0.00	100	0.052	0.36	950	2.26	10.0
S-35	237	12	0.022	1.41	225	0.059	1.23	0	0.000	0.00	0	0.059	0.00	1004	2.39	10.0
S-36	590	140	0.051	7.20	160	0.029	1.24	0	0.000	0.00	290	0.029	1.40	1244	2.96	12.8
S-36B	405	235	0.045	11.46	65	0.013	0.83	0	0.000	0.00	105	0.013	0.76	1516	3.61	16.7
S-37	312	12	0.028	1.28	288	0.047	1.64	0	0.000	0.00	12	0.047	0.05	1594	3.80	10.0
S-38	410	240	0.057	10.60	60	0.006	1.06	0	0.000	0.00	110	0.006	1.16	1655	3.94	16.8
S-39	405	130	0.015	11.07	170	0.027	1.34	0	0.000	0.00	105	0.027	0.52	1396	3.32	16.3
S-40	270	130	0.030	8.39	140	0.011	1.64	0	0.000	0.00	0	0.011	0.00	1552	3.70	13.7
S-41	205	130	0.046	7.07	75	0.025	0.72	0	0.000	0.00	0	0.025	0.00	1699	4.05	11.8
S-42	0	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	0	0.000	0.00	1849	4.40	10.0
S-43	380	140	0.068	6.42	160	0.058	0.94	0	0.000	0.00	80	0.058	0.27	1909	4.55	12.2
S-44	592	300	0.108	9.81	0	0.021	0.00	132	0.108	0.41	160	0.021	0.91	2039	4.85	16.0
S-44A	500	300	0.053	13.05	0	0.016	0.00	60	0.053	0.27	140	0.016	0.91	2134	5.08	19.3
S-45	193	60	0.016	5.81	130	0.024	1.13	0	0.000	0.00	3	0.024	0.02	2071	4.93	11.9

Conklin, Porter and Holmes
ENGINEERS, INC.
MAINSTREET CENTER SUITE 100
101 N. WOODLAND BOULEVARD
DELAND, FLORIDA 32720
TEL 904-736-4142 FAX 904-736-8412

Job No. 96778

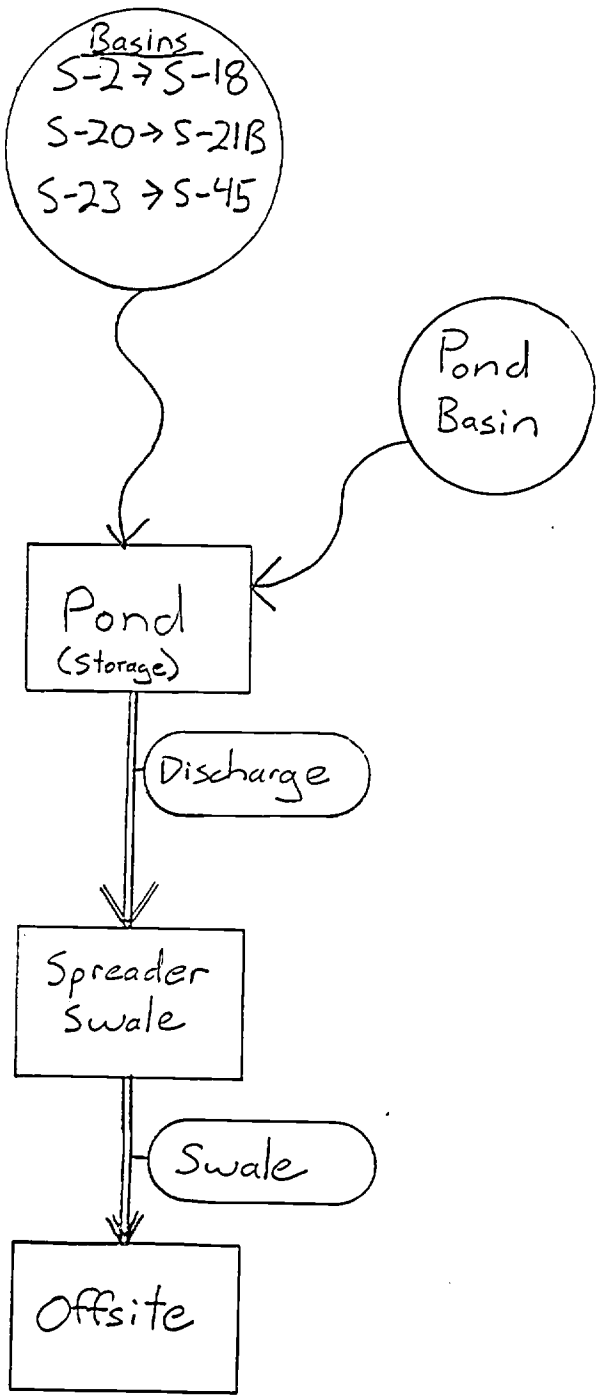
Temp. Sheet No. _____

Calc. by JRK Date _____

Checked by _____ Date _____

SUBJECT Post-Dev Nodal Diag Div. of Work _____ Sheet No. _____ of _____

Nodal Diagram - Post Dev.



Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [1]

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Node----------

Name: OFFSITE Base Flow(cfs): 0 Init Stage(ft): 135
Group: BASE Length(ft): 0 Warn Stage(ft): 135.5
Comment:

Time(hrs)	Stage(ft)
0	135
24	135

--------Class: Node----------

Name: POND Base Flow(cfs): 0 Init Stage(ft): 130
Group: BASE Length(ft): 0 Warn Stage(ft): 136.5
Comment:

Stage(ft)	Area(ac)
130	2.367
131	2.522
132	2.677
133	2.832
134	2.987
135	3.142
135.5	3.22
136.5	3.375
137.5	3.53

--------Class: Node----------

Name: SWALE Base Flow(cfs): 0 Init Stage(ft): 134
Group: BASE Length(ft): 590 Warn Stage(ft): 137.5
Comment:

Stage(ft)	Area(ac)
134	0.068
135	0.178

--------Class: Basin----------

Basin: POND Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 10.62
Curve #: 46 Concentration Time(min): 11.4
DCIA(%): 0 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [2]

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-10 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.44
Curve #: 51 Concentration Time(min): 10
DCIA(%): 36.6 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-11 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.44
Curve #: 57 Concentration Time(min): 17.2
DCIA(%): 11.5 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-11A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.76
Curve #: 58 Concentration Time(min): 19.2
DCIA(%): 10.8 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-11B Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1
Curve #: 57 Concentration Time(min): 16.9
DCIA(%): 10.2 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [3]

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-12 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.72
Curve #: 58 Concentration Time(min): 22.1
DCIA(%): 15.2 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-13 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.72
Curve #: 56 Concentration Time(min): 11.7
DCIA(%): 17.9 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-14 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.85
Curve #: 54 Concentration Time(min): 16.8
DCIA(%): 9.8 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-14A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.3
Curve #: 58 Concentration Time(min): 18
DCIA(%): 10.9 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [4]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-15 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.36
Curve #: 53 Concentration Time(min): 17.3
DCIA(%): 9 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-15A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.9
Curve #: 63 Concentration Time(min): 19.7
DCIA(%): 13.6 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-16 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.34
Curve #: 52 Concentration Time(min): 10
DCIA(%): 31.8 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-17 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.43
Curve #: 52 Concentration Time(min): 10
DCIA(%): 43.5 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [5]

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-17A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.33
Curve #: 53 Concentration Time(min): 15.5
DCIA(%): 15.3 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-18 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.73
Curve #: 54 Concentration Time(min): 19.3
DCIA(%): 12.7 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-2 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.34
Curve #: 53 Concentration Time(min): 10
DCIA(%): 44.8 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-20 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.41
Curve #: 52 Concentration Time(min): 10
DCIA(%): 44.8 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [6]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-21 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.32
Curve #: 58 Concentration Time(min): 12.7
DCIA(%): 11.9 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-21A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.98
Curve #: 53 Concentration Time(min): 11
DCIA(%): 14.4 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-21B Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.24
Curve #: 57 Concentration Time(min): 133
DCIA(%): 11.9 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-23 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.03
Curve #: 50 Concentration Time(min): 10
DCIA(%): 19.5 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [7]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-25 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.94
Curve #: 55 Concentration Time(min): 10
DCIA(%): 13.3 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-28 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.63
Curve #: 48 Concentration Time(min): 10
DCIA(%): 42.8 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-29 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1
Curve #: 57 Concentration Time(min): 10
DCIA(%): 14.3 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-3 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.16
Curve #: 49 Concentration Time(min): 14.4
DCIA(%): 9.7 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [8]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-30 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.98
Curve #: 56 Concentration Time(min): 15
DCIA(%): 10.4 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-30A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.89
Curve #: 57 Concentration Time(min): 15.1
DCIA(%): 10.8 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-30B Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.07
Curve #: 57 Concentration Time(min): 16.1
DCIA(%): 11.1 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-31 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.26
Curve #: 43 Concentration Time(min): 10
DCIA(%): 36 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [9]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-32 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.43
Curve #: 52 Concentration Time(min): 10
DCIA(%): 49.1 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-33 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 2.09
Curve #: 55 Concentration Time(min): 15.2
DCIA(%): 13.7 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-33A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.08
Curve #: 56 Concentration Time(min): 17.1
DCIA(%): 11.3 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-34 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.99
Curve #: 56 Concentration Time(min): 10
DCIA(%): 22.2 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [10]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-35 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.16
Curve #: 51 Concentration Time(min): 10
DCIA(%): 45.8 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-36 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.58
Curve #: 58 Concentration Time(min): 12.8
DCIA(%): 14.2 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-36B Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.04
Curve #: 55 Concentration Time(min): 16.7
DCIA(%): 14.4 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-37 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.22
Curve #: 57 Concentration Time(min): 10
DCIA(%): 40.1 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [11]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin--------
Basin: S-38 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.85
Curve #: 52 Concentration Time(min): 16.8
DCIA(%): 11.3 Lag Time(hrs): 0

--------Class: Basin--------
Basin: S-39 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.71
Curve #: 57 Concentration Time(min): 16.3
DCIA(%): 27.8 Lag Time(hrs): 0

--------Class: Basin--------
Basin: S-4 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.51
Curve #: 49 Concentration Time(min): 10
DCIA(%): 42.5 Lag Time(hrs): 0

--------Class: Basin--------
Basin: S-40 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.28
Curve #: 55 Concentration Time(min): 13.7
DCIA(%): 17.1 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [12]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-41 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.43
Curve #: 47 Concentration Time(min): 11.8
DCIA(%): 28.1 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-42 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.38
Curve #: 52 Concentration Time(min): 10
DCIA(%): 27.4 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-43 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.26
Curve #: 44 Concentration Time(min): 12.2
DCIA(%): 15.4 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-44 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 3
Curve #: 49 Concentration Time(min): 16
DCIA(%): 5.4 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [13]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-44A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.82
Curve #: 57 Concentration Time(min): 19.3
DCIA(%): 11.1 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-45 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.73
Curve #: 53 Concentration Time(min): 11.9
DCIA(%): 13.4 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-5 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.44
Curve #: 56 Concentration Time(min): 13.6
DCIA(%): 9.7 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-5B Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.18
Curve #: 56 Concentration Time(min): 14.6
DCIA(%): 9.6 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [14]
Copyright 1995, Streamline Technologies, Inc.

Hills of Clermont - Post Development

********** Input Report **********

--------Class: Basin----------

Basin: S-6 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.67
Curve #: 54 Concentration Time(min): 15.8
DCIA(%): 14.1 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-7 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.83
Curve #: 50 Concentration Time(min): 10
DCIA(%): 48.2 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-8 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.39
Curve #: 55 Concentration Time(min): 15.1
DCIA(%): 10.8 Lag Time(hrs): 0

--------Class: Basin----------

Basin: S-8A Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 1.21
Curve #: 59 Concentration Time(min): 16.1
DCIA(%): 11.2 Lag Time(hrs): 0

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [15]

Hills of Clermont - Post Development

********** Input Report **********
--------Class: Basin----------
Basin: S-9 Node: POND Status: On Site Type: Santa Barbara
Group: BASE
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8.6 Time Increment(min): 3
Area(ac): 0.72
Curve #: 65 Concentration Time(min): 16.2
DCIA(%): 17.1 Lag Time(hrs): 0

--------Class: Weir----------
Name: SWALE From Node: SWALE
Group: BASE To Node: OFFSITE
Count: 1

Type: Mavis Flow: Both Geometry: Rectangular

Span(in): 7080
Rise(in): 999
Invert(ft): 135
Control Elev(ft): 135
TABLE
Bottom Clip(in): 0
Top Clip(in): 0
Weir Discharge Coef: 3.2
Orifice Discharge Coef: 0.6

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.11) [16]

Hills of Clermont - Post Development

********** Input Report **
--------Class: Weir---
Name: WEIR From Node: POND
Group: BASE To Node: SWALE
Count: 5

Type: Navis Flow: Both Geometry: Rectangular

Span(in): 120
Rise(in): 999
Invert(ft): 135.5
Control Elev(ft): 135.5
TABLE
Bottom Clip(in): 0
Top Clip(in): 0
Weir Discharge Coef: 3.2
Orifice Discharge Coef: 0.6

Post Development - Hydraulics Results

********** Node Maximum Conditions - 10-2 **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
OFFSITE	BASE	0.00	135.00	135.50	0.0000	0.00	0.00	0.00	0.00	0.00
POND	BASE	4.00	131.76	136.50	0.0144	114974.99	1.08	74.28	0.00	0.00
SWALE	BASE	0.00	134.00	137.50	0.0000	2962.08	0.00	0.00	0.00	0.00

Post Development - Hydraulics Results

********** Node Maximum Conditions - 25-24 **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
OFFSITE	BASE	0.00	135.00	135.50	0.0000	0.00	18.63	6.80	0.00	0.00
POND	BASE	18.63	135.62	136.50	0.0149	141085.69	12.00	140.32	18.63	6.80
SWALE	BASE	18.63	135.02	137.50	0.0150	7866.30	18.63	6.80	18.63	6.80

Post Development Hydrology Data

********** Basin Summary - 50-24 **********

***					
Basin Name:	POND	S-2	S-3	S-4	S-5
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	11.40	10.00	14.40	10.00	13.60
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	10.62	0.34	1.16	0.51	1.44
Curve Number:	46.00	53.00	49.00	49.00	56.00
DCIA (%):	0.00	44.80	9.70	42.50	9.70
Time Max (hrs):	12.00	11.95	12.00	11.95	12.00
Flow Max (cfs):	20.11	1.48	2.75	2.04	4.41
Runoff Volume (in):	2.77	6.28	3.77	5.85	4.59
Runoff Volume (cf):	106761	7752	15870	10831	23969

***					
Basin Name:	S-5B	S-6	S-7	S-8	S-8A
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	14.60	15.80	10.00	15.10	16.10
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	1.18	1.67	0.83	1.39	1.21
Curve Number:	56.00	54.00	50.00	55.00	59.00
DCIA (%):	9.60	14.10	48.20	10.80	11.20
Time Max (hrs):	12.00	12.00	11.95	12.00	12.00
Flow Max (cfs):	3.52	4.77	3.56	4.02	3.83
Runoff Volume (in):	4.58	4.60	6.28	4.53	5.01
Runoff Volume (cf):	19618	27900	18918	22856	22017

***					
Basin Name:	S-9	S-10	S-11	S-11A	S-11B

Post Development Hydrology Data

********** Basin Summary - 50-24 **********

Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	16.20	10.00	17.20	19.20	16.90
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.72	0.44	1.44	0.76	1.00
Curve Number:	65.00	51.00	57.00	58.00	57.00
DCIA (%):	17.10	36.60	11.50	10.80	10.20
Time Max (hrs):	12.00	11.95	12.00	12.00	12.00
Flow Max (cfs):	2.70	1.72	4.22	2.17	2.92
Runoff Volume (in):	5.95	5.64	4.80	4.88	4.73
Runoff Volume (cf):	15563	9007	25081	13454	17167

***

Basin Name:	S-12	S-13	S-14	S-14A	S-15
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	22.10	11.70	16.80	18.00	17.30
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.72	0.72	0.85	1.30	1.36
Curve Number:	58.00	56.00	54.00	58.00	53.00
DCIA (%):	15.20	17.90	9.80	10.90	9.00
Time Max (hrs):	12.00	11.95	12.00	12.00	12.00
Flow Max (cfs):	2.00	2.51	2.26	3.82	3.43
Runoff Volume (in):	5.10	5.03	4.36	4.88	4.19
Runoff Volume (cf):	13342	13151	13444	23037	20704

***

Basin Name:	S-15A	S-16	S-17	S-17A	S-18
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND

Post Development Hydrology Data

********** Basin Summary - 50-24 **********

Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	19.70	10.00	10.00	15.50	19.30
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.90	0.34	0.43	1.33	1.73
Curve Number:	63.00	52.00	52.00	53.00	54.00
DCIA (%):	13.60	31.80	43.50	15.30	12.70
Time Max (hrs):	12.00	11.95	11.95	12.00	12.00
Flow Max (cfs):	2.93	1.30	1.82	3.77	4.47
Runoff Volume (in):	5.58	5.44	6.13	4.56	4.52
Runoff Volume (cf):	18235	6708	9572	22021	28401

***

Basin Name:	S-20	S-21	S-21A	S-21B	S-23
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	12.70	11.00	133.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.41	1.32	0.98	1.24	1.03
Curve Number:	52.00	58.00	53.00	57.00	50.00
DCIA (%):	44.80	11.90	14.40	11.90	19.50
Time Max (hrs):	11.95	11.95	11.95	12.45	11.95
Flow Max (cfs):	1.76	4.46	3.11	1.09	3.27
Runoff Volume (in):	6.21	4.93	4.51	4.82	4.49
Runoff Volume (cf):	9242	23640	16039	21693	16804

***

Basin Name:	S-25	S-28	S-29	S-30	S-30A
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB

Post Development Hydrology Data

********** Basin Summary - 50-24 **********

Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	15.00	15.10
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.94	0.63	1.00	0.98	0.89
Curve Number:	55.00	48.00	57.00	56.00	57.00
DCIA (%):	13.30	42.80	14.30	10.40	10.80
Time Max (hrs):	11.95	11.95	11.95	12.00	12.00
Flow Max (cfs):	3.22	2.49	3.65	2.92	2.73
Runoff Volume (in):	4.67	5.80	4.95	4.62	4.76
Runoff Volume (cf):	15932	13255	17957	16448	15381

***

Basin Name:	S-30B	S-31	S-32	S-33	S-33A
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	16.10	10.00	10.00	15.20	17.10
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	1.07	0.26	0.43	2.09	1.08
Curve Number:	57.00	43.00	52.00	55.00	56.00
DCIA (%):	11.10	36.00	49.10	13.70	11.30
Time Max (hrs):	12.00	11.95	11.95	12.00	12.00
Flow Max (cfs):	3.21	0.86	1.91	6.21	3.08
Runoff Volume (in):	4.78	4.95	6.47	4.69	4.67
Runoff Volume (cf):	18554	4671	10093	35592	18318

***

Basin Name:	S-34	S-35	S-36	S-36B	S-37
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00

Post Development Hydrology Data

********** Basin Summary - 50-24 **********

Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	12.80	16.70	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.99	0.16	1.58	1.04	0.22
Curve Number:	56.00	51.00	58.00	55.00	57.00
DCIA (%):	22.20	45.80	14.20	14.40	40.10
Time Max (hrs):	11.95	11.95	11.95	12.00	11.95
Flow Max (cfs):	3.77	0.68	5.42	3.00	0.98
Runoff Volume (in):	5.27	6.20	5.05	4.73	6.32
Runoff Volume (cf):	18924	3601	28980	17858	5045

***

Basin Name:	S-38	S-39	S-40	S-41	S-42
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60	9.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	16.30	16.30	13.70	11.80	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.85	0.71	0.28	0.43	0.38
Curve Number:	52.00	57.00	55.00	47.00	52.00
DCIA (%):	11.30	27.30	17.10	28.10	27.40
Time Max (hrs):	12.00	12.00	12.00	11.95	11.95
Flow Max (cfs):	2.16	2.43	0.89	1.33	1.39
Runoff Volume (in):	4.21	5.66	4.88	4.75	5.17
Runoff Volume (cf):	13000	14598	4961	7418	7135

***

Basin Name:	S-43	S-44	S-44A	S-45
Group Name:	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	9.60	9.60	9.60	9.60

Post Development Hydrology Data

********** Basin Summary - 50-24 **********

Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	12.20	16.00	19.30	11.90
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	1.26	3.00	0.82	0.73
Curve Number:	44.00	49.00	57.00	53.00
DCIA (%):	15.40	5.40	11.10	13.40
Time Max (hrs):	12.00	12.00	12.00	11.95
Flow Max (cfs):	2.86	6.38	2.28	2.22
Runoff Volume (in):	3.59	3.50	4.78	4.45
Runoff Volume (cf):	16426	38071	14219	11793

Post Development - Hydraulics Results

********** Node Maximum Conditions - 50-24 **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
OFFSITE	BASE	0.00	135.00	135.50	0.0000	0.00	15.21	13.21	0.00	0.00
POND	BASE	15.21	135.69	136.50	0.0149	141543.52	12.00	170.92	15.21	13.21
SWALE	BASE	15.21	135.04	137.50	0.0150	7928.98	15.21	13.21	15.21	13.21

Post Development Hydrology Data

********** Basin Summary - 25-96 **********

***					
Basin Name:	POND	S-2	S-3	S-4	S-5
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	11.40	10.00	14.40	10.00	13.60
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	10.62	0.34	1.16	0.51	1.44
Curve Number:	46.00	53.00	49.00	49.00	56.00
DCIA (%):	0.00	44.80	9.70	42.50	9.70
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	31.34	1.66	3.84	2.35	5.71
Runoff Volume (in):	4.59	8.64	5.78	8.12	6.80
Runoff Volume (cf):	176775	10668	24320	15031	35538

***					
Basin Name:	S-5B	S-6	S-7	S-8	S-8A
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	14.60	15.80	10.00	15.10	16.10
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	1.18	1.67	0.83	1.39	1.21
Curve Number:	56.00	54.00	50.00	55.00	59.00
DCIA (%):	9.60	14.10	48.20	10.80	11.20
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	4.58	6.21	4.00	5.26	4.85
Runoff Volume (in):	6.79	6.79	8.61	6.72	7.31
Runoff Volume (cf):	29096	41154	25946	33921	32102

***					
Basin Name:	S-9	S-10	S-11	S-11A	S-11B

Post Development Hydrology Data

********** Basin Summary - 25-96 **********

Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	16.20	10.00	17.20	19.20	16.90
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.72	0.44	1.44	0.76	1.00
Curve Number:	65.00	51.00	57.00	58.00	57.00
DCIA (%):	17.10	36.60	11.50	10.80	10.20
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	3.23	2.01	5.43	2.79	3.77
Runoff Volume (in):	8.40	7.91	7.05	7.15	6.97
Runoff Volume (cf):	21951	12626	36837	19716	25305

***

Basin Name:	S-12	S-13	S-14	S-14A	S-15
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	22.10	11.70	16.80	18.00	17.30
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.72	0.72	0.85	1.30	1.36
Curve Number:	58.00	56.00	54.00	58.00	53.00
DCIA (%):	15.20	17.90	9.80	10.90	9.00
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	2.54	3.10	3.01	4.90	4.63
Runoff Volume (in):	7.40	7.29	6.52	7.15	6.32
Runoff Volume (cf):	19334	19057	20107	33752	31197

***

Basin Name:	S-15A	S-16	S-17	S-17A	S-18
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND

Post Development Hydrology Data

********** Basin Summary - 25-96 **********

Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	19.70	10.00	10.00	15.50	19.30
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.90	0.34	0.43	1.33	1.73
Curve Number:	63.00	52.00	52.00	53.00	54.00
DCIA (%):	13.60	31.80	43.50	15.30	12.70
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	3.60	1.53	2.07	4.91	5.91
Runoff Volume (in):	7.98	7.69	8.47	6.73	6.70
Runoff Volume (cf):	26054	9490	13217	32484	42076

***

Basin Name:	S-20	S-21	S-21A	S-21B	S-23
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	12.70	11.00	133.00	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.41	1.32	0.98	1.24	1.03
Curve Number:	52.00	58.00	53.00	57.00	50.00
DCIA (%):	44.80	11.90	14.40	11.90	19.50
Time Max (hrs):	59.95	59.95	59.95	60.00	59.95
Flow Max (cfs):	1.98	5.61	3.97	1.33	4.14
Runoff Volume (in):	8.55	7.21	6.67	7.07	6.61
Runoff Volume (cf):	12731	34544	23727	31826	24707

***

Basin Name:	S-25	S-28	S-29	S-30	S-30A
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB

Post Development Hydrology Data

********** Basin Summary - 25-96 **********

Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	10.00	15.00	15.10
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.94	0.63	1.00	0.98	0.89
Curve Number:	55.00	48.00	57.00	56.00	57.00
DCIA (%):	13.30	42.80	14.30	10.40	10.80
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	4.02	2.87	4.46	3.78	3.50
Runoff Volume (in):	6.88	8.05	7.21	6.84	7.01
Runoff Volume (cf):	23466	18401	26176	24335	22635

***

Basin Name:	S-30B	S-31	S-32	S-33	S-33A
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	16.10	10.00	10.00	15.20	17.10
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	1.07	0.26	0.43	2.09	1.08
Curve Number:	57.00	43.00	52.00	55.00	56.00
DCIA (%):	11.10	36.00	49.10	13.70	11.30
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	4.13	1.04	2.13	8.02	4.00
Runoff Volume (in):	7.02	7.01	8.84	6.90	6.89
Runoff Volume (cf):	27281	6621	13799	52361	27031

***

Basin Name:	S-34	S-35	S-36	S-36B	S-37
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00

Post Development Hydrology Data

********** Basin Summary - 25-96 **********

Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	10.00	12.80	16.70	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.99	0.16	1.58	1.04	0.22
Curve Number:	56.00	51.00	58.00	55.00	57.00
DCIA (%):	22.20	45.80	14.20	14.40	40.10
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	4.51	0.77	6.77	3.88	1.10
Runoff Volume (in):	7.55	8.53	7.34	6.94	8.72
Runoff Volume (cf):	27133	4956	42100	26218	6965

***

Basin Name:	S-38	S-39	S-40	S-41	S-42
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33	12.33
Storm Duration (hr):	96.00	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	16.80	16.30	13.70	11.80	10.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	0.85	0.71	0.28	0.43	0.38
Curve Number:	52.00	57.00	55.00	47.00	52.00
DCIA (%):	11.30	27.80	17.10	28.10	27.40
Time Max (hrs):	59.95	59.95	59.95	59.95	59.95
Flow Max (cfs):	2.91	2.96	1.13	1.67	1.67
Runoff Volume (in):	6.32	8.00	7.11	6.85	7.40
Runoff Volume (cf):	19516	20622	7228	10696	10203

***

Basin Name:	S-43	S-44	S-44A	S-45
Group Name:	BASE	BASE	BASE	BASE
Node Name:	POND	POND	POND	POND
Hydrograph Type:	SB	SB	SB	SB
Spec Time Inc (min):	3.00	3.00	3.00	3.00
Comp Time Inc (min):	3.00	3.00	3.00	3.00
Rainfall File:	SJRWMD96	SJRWMD96	SJRWMD96	SJRWMD96
Rainfall Amount (in):	12.33	12.33	12.33	12.33

Post Development Hydrology Data

********** Basin Summary - 25-96 **********

Storm Duration (hr):	96.00	96.00	96.00	96.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	12.20	16.00	19.30	11.90
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	1.26	3.00	0.82	0.73
Curve Number:	44.00	49.00	57.00	53.00
DCIA (%):	15.40	5.40	11.10	13.40
Time Max (hrs):	59.95	59.95	59.95	59.95
Flow Max (cfs):	4.03	9.23	2.95	2.89
Runoff Volume (in):	5.48	5.47	7.02	6.60
Runoff Volume (cf):	25061	59551	20907	17502

Post Development - Hydraulics Results

********** Node Maximum Conditions - 25-96 **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
OFFSITE	BASE	0.00	135.00	135.50	0.0000	0.00	60.64	60.88	0.00	0.00
POND	BASE	60.63	136.03	136.50	0.0100	143808.43	60.00	212.31	60.63	60.88
SWALE	BASE	60.64	135.10	137.50	0.0100	8239.10	60.63	60.88	60.64	60.88

Conklin, Porter and Holmes
ENGINEERS, INC.
MAINSTREET CENTER SUITE 100
101 N. WOODLAND BOULEVARD
DELAND, FLORIDA 32720
TEL 904-736-4142 FAX 904-736-8412

Job No. G6778

Temp. Sheet No. _____

Calc. by JRK Date 10/3/97

Checked by _____ Date _____

JBJECT Discharge Velocity Calcs Div. of Work _____ Sheet No. _____ of _____

Weir Discharge

60.88 cfs

5 weirs @ 10' each

$Q = CL H^{3/2}$

$60.88 = 3 * 50 * H^{3/2}$ $H = .55$

$Q = AV$

$60.88 = (.55 * 50) * V$ $V = 2.22$ ft/s

Swale Discharge

60.88 cfs

590 lf of swale w/ safety factor of 2 = 295'

$60.88 = 3 * 295 * H^{3/2}$ $H = .168'$

$60.88 = (.168 * 295) * V$ $\boxed{V = 1.23 \text{ ft/s}}$

IV. Pollution Abatement and Recovery

For the portions of the site to be developed either as single family residential, streets, developed open areas, or retention ponds themselves which contribute runoff, pollution abatement has been provided in the proposed retention pond. The following calculations shown on pages 56-57 summarize the required pollution abatement volumes for the development. The pollution abatement volume is intended to be percolated into the ground in the retention pond. Pollution abatement volume recovery analysis from the overflow elevation downward have been made, using the Modret program, and those calculations are attached on pages 58-59. The recovery time for the retention pond is within the SJRWMD stipulated maximum period of 72 hours.

Conklin, Porter and Holmes
ENGINEERS, INC.
MAINSTREET CENTER SUITE 100
101 N. WOODLAND BOULEVARD
DELAND, FLORIDA 32720
TEL 904-736-4142 FAX 904-736-8412

Job No. 6/6778

Temp. Sheet No. _____

Calc. by TRK Date 9-15-97

Checked by _____ Date _____

SUBJECT Pollution Abatement Vol Div. of Work _____ Sheet No. _____ of _____

Pollution Abatement

Required Volume:

½" over total area, Plus the greater of

½" over total area, or

1¼" over the Impervious area.

Total Area = 61.19 ac.

Impervious = 21.14 ac

½" over total area = ½" * 1/12 * 61.19 = 2.55 ac-ft

1¼" over Impervious Area = 1¼" * 1/12 * 21.14 = 2.20 ac-ft

Required Volume = 2.55 + 2.55 = **5.10 ac-ft**

Provided Volume = **15.36 ac-ft** (see Stage/Area/Storage table)

STAGE / AREA / STORAGE TABLE
EAST KNAPP PARCEL

Stage	Area	Storage
130.00	2.367	0.00
131.00	2.522	2.44
132.00	2.677	5.04
133.00	2.832	7.80
134.00	2.987	10.71
135.00	3.142	13.77
135.50	3.220	15.36
136.50	3.375	18.66
137.50	3.530	22.11

Weir Elevation = 135.50 ft
Storage below weir = 15.36 ac-ft
Treatment Vol. Req. = 5.10 ac-ft

POLLUTION ABATEMENT VOLUME ANALYSIS
USING 'MODRET 4' PROGRAM

Written by: Nicolas E. Andreyev,P.E. (May, 1992)
(Sponsored by: SWFWMD/PSI)

SUMMARY OF INPUT PARAMETERS

POND NAME / NUMBER : East Knapp Parcel Pond 9-15-97

AVERAGE WETTED POND LENGTH ==========>	780.000 ft
AVERAGE WETTED POND WIDTH ==========>	156.000 ft
AVERAGE ELEVATION OF BOTTOM OF AQUIFER ==========>	95.000 ft
AVERAGE ELEVATION OF DESIGN GROUNDWATER TABLE ===>	100.000 ft
AVERAGE ELEVATION OF POND BOTTOM ==========>	130.000 ft
AVERAGE HORIZONTAL HYDRAULIC CONDUCTIVITY =======>	40.000 ft/d
AVERAGE EFFECTIVE STORAGE COEFF. OF SOIL ========>	0.200
AVERAGE STORAGE COEFFICIENT OF POND AREA ========>	1.000
POLLUTION ABATEMENT VOLUME TO BE TREATED ========>	15.365 ac-ft
TIME INCREMENTS AFTER STORM EVENT ==========>	12.00 hours
No. OF TIME INCREMENTS AFTER STORM EVENT ========>	6.00
NUMBER OF GROUNDWATER CONTROL FEATURES ==========>	0.00

SUMMARY OF POLLUTION ABATEMENT MODEL RESULTS

POND NAME / No.: East Knapp Parcel Pond 9-15-97

CUMULATIVE TIME (hrs.)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)
0.000	135.501	12.799 *	
			10.4513
12.000	131.790	8.103	
			5.7554
24.000	129.747	4.863	
			3.9714
36.000	128.337	3.537	
			3.1031
48.000	127.235	2.857	
			2.6101
60.000	126.308	2.434	
			2.2580
72.000	125.507		

← Pond Bottom @ EL 130.0
Total Drawdown in less than 24 hrs

* This value (with associated time) is an equivalent instantaneous infiltration rate to be used with a stormwater routing model (such as ADICPR or others). Just before this time, the infiltration is zero (prior to runoff reaching the pond).

V. Environmental

An environmental assessment of the site was performed by Modica & Associates, and we have included a copy of their findings along with this report. Based on their visits to the site there are no wetlands located on the site. They did find evidence of Gopher Tortoises during their site investigation. Before any construction on the site commences any Gopher Tortoises will be relocated to suitable habitat.

VI. Storm Sewer System

A stormwater collection system consisting of inlets, concrete storm sewer piping, and discharge structures into the proposed retention pond is depicted on the attached Construction Plans. That stormwater collection system was designed using the Hydraflow computer program (FDOT Zone 7, 10-Year Frequency) with basin determinations for that purpose. Results of that analysis were used to determine pipe sizes, slopes, etc., as shown on the attached Engineering Plans. The input and output data from the Hydraflow analysis is attached as pages 62-119.

Line 1 Q = 108.53 Size = 92 x 92 (Cir) Nv = 0.013 Len = 1.0 JLC = 1.00

POND / Outfall

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	130.00	60	135.00	135.18	31.89	3.40	6.19	N/A
Upstrm	130.00	60	134.98	135.16	31.71	3.42	7.32	8.33

Drainage area (ac)	= 0.00	Slope of invert (%)	= 0.000
Runoff coefficient (C)	= 0.00	Slope energy grade line (%)	= -2.196
Time of conc. (min)	= 31.86	Critical depth (in)	= 31
Inlet Time (min)	= 0.00	Natural ground elev. (ft)	= 146.00
Intensity @ 10 yr (in/hr)	= 4.66	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 23.31	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 108.53	Full-flow capacity (cfs)	= 0.00
Q Catchment (cfs)	= 0.00		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.00	Cross slope (ft/ft)	= 0.00
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 0.00

Line 2 Q = 12.58 Size = 18 x 18 (Cir) Nv = 0.013 Len = 180.0 JLC = 0.50

S-19 TO S-20 / Downstream line = 1

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	130.00	18	135.16	135.94	1.77	7.12	0.00	14.50
Upstrm	140.00	16	141.35	142.23	1.68	7.50	0.90	8.70

Drainage area (ac)	= 0.41	Slope of invert (%)	= 5.556
Runoff coefficient (C)	= 0.61	Slope energy grade line (%)	= 3.489
Time of conc. (min)	= 14.41	Critical depth (in)	= 16
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 150.20
Intensity @ 10 yr (in/hr)	= 6.51	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 1.93	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 12.58	Full-flow capacity (cfs)	= 24.75
Q Catchment (cfs)	= 1.81		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.81	Cross slope (ft/ft)	= 0.04
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 2.86

Line 3 Q = 50.00 Size = 36 x 36 (Cir) Nv = 0.013 Len = 201.0 JLC = 0.50

S-22 TO 2-23 / Downstream line = 1

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	130.00	36	135.16	135.94	7.07	7.08	0.00	13.00
Upstrm	138.50	27	140.75	141.95	5.70	8.78	2.59	3.50

Drainage area (ac)	= 1.03	Slope of invert (%)	= 4.229
Runoff coefficient (C)	= 0.45	Slope energy grade line (%)	= 2.993
Time of conc. (min)	= 30.74	Critical depth (in)	= 27
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 145.00
Intensity @ 10 yr (in/hr)	= 4.74	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 10.55	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 50.00	Full-flow capacity (cfs)	= 137.15
Q Catchment (cfs)	= 3.35		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.35	Cross slope (ft/ft)	= 0.04
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 4.33

Line 4 Q = 48.17 Size = 36 x 36 (Cir) Nv = 0.013 Len = 82.0 JLC = 0.50

S-23 TO S-24 / Downstream line = 3

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	139.00	28	141.35	142.37	5.94	8.10	2.66	3.00
Upstrm	144.00	27	146.21	147.37	5.59	8.62	2.64	3.00

Drainage area (ac)	= 0.00	Slope of invert (%)	= 6.098
Runoff coefficient (C)	= 0.00	Slope energy grade line (%)	= 6.091
Time of conc. (min)	= 30.28	Critical depth (in)	= 27
Inlet Time (min)	= 0.00	Natural ground elev. (ft)	= 150.00
Intensity @ 10 yr (in/hr)	= 4.78	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 10.08	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 48.17	Full-flow capacity (cfs)	= 164.69
Q Catchment (cfs)	= 0.00		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.00	Cross slope (ft/ft)	= 0.00
Q Bypassed to 3 (cfs)	= 0.00	Width of Flow (ft)	= 0.00

Line 5 Q = 46.45 Size = 36 x 36 (Cir) Nv = 0.013 Len = 80.0 JLC = 0.50

S-24 TO S-26 / Downstream line = 4

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	144.50	27	146.79	147.79	5.79	8.03	2.62	2.50
Upstrm	146.00	26	148.17	149.29	5.48	8.48	2.68	3.50

Drainage area (ac)	= 0.00	Slope of invert (%)	= 1.875
Runoff coefficient (C)	= 0.00	Slope energy grade line (%)	= 1.873
Time of conc. (min)	= 29.84	Critical depth (in)	= 26
Inlet Time (min)	= 0.00	Natural ground elev. (ft)	= 152.50
Intensity @ 10 yr (in/hr)	= 4.81	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 9.65	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 46.45	Full-flow capacity (cfs)	= 91.32
Q Catchment (cfs)	= 0.00		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.00	Cross slope (ft/ft)	= 0.00
Q Bypassed to 4 (cfs)	= 0.00	Width of Flow (ft)	= 0.00

Line 6 Q = 46.86 Size = 36 x 36 (Cir) Nv = 0.013 Len = 94.0 JLC = 0.50

S-26 TO S-27 / Downstream line = 5

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	146.50	27	148.73	149.80	5.63	8.32	2.59	3.00
Upstrm	150.50	26	152.68	153.81	5.51	8.51	2.67	3.50

Drainage area (ac)	= 0.00	Slope of invert (%)	= 4.255
Runoff coefficient (C)	= 0.00	Slope energy grade line (%)	= 4.258
Time of conc. (min)	= 29.32	Critical depth (in)	= 26
Inlet Time (min)	= 0.00	Natural ground elev. (ft)	= 157.00
Intensity @ 10 yr (in/hr)	= 4.86	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 9.65	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 46.86	Full-flow capacity (cfs)	= 137.58
Q Catchment (cfs)	= 0.00		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.00	Cross slope (ft/ft)	= 0.00
Q Bypassed to 5 (cfs)	= 0.00	Width of Flow (ft)	= 0.00

Line 7 Q = 11.01 Size = 18 x 18 (Cir) Nv = 0.013 Len = 39.0 JLC = 0.50

S-20 TO S-21 / Downstream line = 2

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	140.30	18	141.79	142.39	1.77	6.24	1.49	8.40
Upstrm	146.50	15	147.77	148.51	1.59	6.92	1.09	2.20

Drainage area (ac)	= 1.32	Slope of invert (%)	= 15.897
Runoff coefficient (C)	= 0.49	Slope energy grade line (%)	= 15.684
Time of conc. (min)	= 14.19	Critical depth (in)	= 15
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 150.20
Intensity @ 10 yr (in/hr)	= 6.54	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 1.68	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 11.01	Full-flow capacity (cfs)	= 41.87
Q Catchment (cfs)	= 4.68		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.68	Cross slope (ft/ft)	= 0.04
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 5.41

Line 8 Q = 3.97 Size = 18 x 18 (Cir) Nv = 0.013 Len = 160.0 JLC = 0.50

S-20 TO S-21B / Downstream line = 7

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	146.60	18	148.14	148.22	1.77	2.25	0.00	2.10
Upstrm	147.40	12	148.36	148.53	1.19	3.33	1.44	2.52

Drainage area (ac)	= 1.24	Slope of invert (%)	= 0.500
Runoff coefficient (C)	= 0.48	Slope energy grade line (%)	= 0.198
Time of conc. (min)	= 13.30	Critical depth (in)	= 9
Inlet Time (min)	= 13.30	Natural ground elev. (ft)	= 151.42
Intensity @ 10 yr (in/hr)	= 6.68	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.60	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.97	Full-flow capacity (cfs)	= 7.43
Q Catchment (cfs)	= 3.97		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.97	Cross slope (ft/ft)	= 0.02
Q Bypassed to 7 (cfs)	= 0.00	Width of Flow (ft)	= 12.44

Line 9 **Q = 3.11** **Size = 18 x 18 (Cir)** **Nv = 0.013** **Len = 75.0** **JLC = 0.50**

S-21 TO S-21A / Downstream line = 7

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	146.60	18	148.14	148.19	1.77	1.76	0.00	2.10
Upstrm	147.00	14	148.19	148.26	1.50	2.07	1.21	2.22

Drainage area (ac)	= 0.98	Slope of invert (%)	= 0.533
Runoff coefficient (C)	= 0.45	Slope energy grade line (%)	= 0.095
Time of conc. (min)	= 11.00	Critical depth (in)	= 8
Inlet Time (min)	= 11.00	Natural ground elev. (ft)	= 150.72
Intensity @ 10 yr (in/hr)	= 7.06	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.44	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.11	Full-flow capacity (cfs)	= 7.67
Q Catchment (cfs)	= 3.11		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.11	Cross slope (ft/ft)	= 0.02
Q Bypassed to 8 (cfs)	= 0.00	Width of Flow (ft)	= 10.56

Line 10 **Q = 57.70** **Size = 48 x 48 (Cir)** **Nv = 0.013** **Len = 200.0** **JLC = 0.50**

S-1 TO S-2 / Downstream line = 1

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	130.00	48	135.16	135.49	12.56	4.59	0.00	12.00
Upstrm	148.00	27	150.25	151.23	7.26	7.94	3.97	2.40

Drainage area (ac)	= 0.34	Slope of invert (%)	= 9.000
Runoff coefficient (C)	= 0.61	Slope energy grade line (%)	= 7.870
Time of conc. (min)	= 24.11	Critical depth (in)	= 27
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 154.40
Intensity @ 10 yr (in/hr)	= 5.33	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 10.83	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 57.70	Full-flow capacity (cfs)	= 430.94
Q Catchment (cfs)	= 1.50		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.50	Cross slope (ft/ft)	= 0.04
Q Bypassed to 2 (cfs)	= 0.00	Width of Flow (ft)	= 3.37

Line 11 Q = 56.88 Size = 48 x 48 (Cir) Nv = 0.013 Len = 48.0 JLC = 0.50

S-2 TO S-3 / Downstream line = 10

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	148.50	27	150.74	151.70	7.22	7.87	2.99	1.90
Upstrm	149.40	27	151.63	152.60	7.20	7.90	3.97	1.63

Drainage area (ac)	= 1.16	Slope of invert (%)	= 1.875
Runoff coefficient (C)	= 0.39	Slope energy grade line (%)	= 1.876
Time of conc. (min)	= 23.84	Critical depth (in)	= 27
Inlet Time (min)	= 13.80	Natural ground elev. (ft)	= 155.03
Intensity @ 10 yr (in/hr)	= 5.35	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 10.63	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 56.88	Full-flow capacity (cfs)	= 196.70
Q Catchment (cfs)	= 2.98		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.98	Cross slope (ft/ft)	= 0.04
Q Bypassed to 8 (cfs)	= 0.00	Width of Flow (ft)	= 5.34

Line 12 Q = 56.04 Size = 42 x 42 (Cir) Nv = 0.013 Len = 271.0 JLC = 0.50

S-3 TO S-4 / Downstream line = 11

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	149.50	31	152.11	152.94	7.71	7.27	3.02	2.03
Upstrm	153.00	28	155.29	156.39	6.68	8.39	3.33	2.34

Drainage area (ac)	= 0.51	Slope of invert (%)	= 1.292
Runoff coefficient (C)	= 0.57	Slope energy grade line (%)	= 1.273
Time of conc. (min)	= 22.34	Critical depth (in)	= 28
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 158.84
Intensity @ 10 yr (in/hr)	= 5.51	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 10.17	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 56.04	Full-flow capacity (cfs)	= 114.34
Q Catchment (cfs)	= 2.10		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.10	Cross slope (ft/ft)	= 0.04
Q Bypassed to 11 (cfs)	= 0.00	Width of Flow (ft)	= 4.22

Line 13 Q = 54.90 Size = 36 x 36 (Cir) Nv = 0.013 Len = 78.0 JLC = 0.50

S-4 TO S-5 / Downstream line = 12

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	153.80	22	155.60	157.98	4.44	12.36	2.94	2.04
Upstrm	155.00	22	156.80	159.18	4.44	12.36	2.94	2.50

Drainage area (ac)	= 1.44	Slope of invert (%)	= 1.538
Runoff coefficient (C)	= 0.46	Slope energy grade line (%)	= 1.538
Time of conc. (min)	= 21.91	Critical depth (in)	= 28
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 160.50
Intensity @ 10 yr (in/hr)	= 5.55	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 9.88	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 54.90	Full-flow capacity (cfs)	= 82.72
Q Catchment (cfs)	= 4.79		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.79	Cross slope (ft/ft)	= 0.04
Q Bypassed to 12 (cfs)	= 0.00	Width of Flow (ft)	= 5.50

Line 14 Q = 3.85 Size = 18 x 18 (Cir) Nv = 0.013 Len = 65.0 JLC = 0.50

S-5 TO S-5A / Downstream line = 13

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	155.00	18	157.99	158.06	1.77	2.18	0.00	4.00
Upstrm	158.00	9	158.75	159.04	0.88	4.37	1.50	3.10

Drainage area (ac)	= 0.00	Slope of invert (%)	= 4.615
Runoff coefficient (C)	= 0.00	Slope energy grade line (%)	= 1.507
Time of conc. (min)	= 10.83	Critical depth (in)	= 9
Inlet Time (min)	= 0.00	Natural ground elev. (ft)	= 162.60
Intensity @ 10 yr (in/hr)	= 7.09	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.54	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.85	Full-flow capacity (cfs)	= 22.56
Q Catchment (cfs)	= 0.00		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.00	Cross slope (ft/ft)	= 0.00
Q Bypassed to 13 (cfs)	= 0.00	Width of Flow (ft)	= 0.00

Line 15 Q = 3.93 Size = 18 x 18 (Cir) Nv = 0.013 Len = 150.0 JLC = 0.50

S-5A TO S-5B / Downstream line = 14

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	158.10	10	158.90	159.16	0.95	4.12	1.09	3.00
Upstrm	161.40	9	162.16	162.46	0.89	4.40	1.50	2.50

Drainage area (ac)	= 1.18	Slope of invert (%)	= 2.200
Runoff coefficient (C)	= 0.46	Slope energy grade line (%)	= 2.198
Time of conc. (min)	= 10.00	Critical depth (in)	= 9
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 165.40
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.54	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.93	Full-flow capacity (cfs)	= 15.58
Q Catchment (cfs)	= 3.93		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.93	Cross slope (ft/ft)	= 0.04
Q Bypassed to 13 (cfs)	= 0.00	Width of Flow (ft)	= 6.42

Line 16 Q = 48.63 Size = 36 x 36 (Cir) Nv = 0.013 Len = 81.0 JLC = 0.50

S-5 TO S-6 / Downstream line = 13

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	155.50	30	157.99	158.92	6.27	7.75	2.73	2.00
Upstrm	156.80	27	159.02	160.19	5.61	8.66	2.63	2.62

Drainage area (ac)	= 1.67	Slope of invert (%)	= 1.605
Runoff coefficient (C)	= 0.46	Slope energy grade line (%)	= 1.560
Time of conc. (min)	= 21.46	Critical depth (in)	= 27
Inlet Time (min)	= 14.10	Natural ground elev. (ft)	= 162.42
Intensity @ 10 yr (in/hr)	= 5.60	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 8.68	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 48.63	Full-flow capacity (cfs)	= 84.49
Q Catchment (cfs)	= 5.03		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 5.03	Cross slope (ft/ft)	= 0.04
Q Bypassed to 10 (cfs)	= 0.00	Width of Flow (ft)	= 7.58

Line 17 Q = 45.33 Size = 36 x 36 (Cir) Nv = 0.013 Len = 203.0 JLC = 0.50

S-6 TO S-7 / Downstream line = 16

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	157.00	31	159.60	160.36	6.52	6.95	2.80	2.42
Upstrm	163.00	26	165.15	166.24	5.41	8.38	2.71	2.30

Drainage area (ac)	= 0.83	Slope of invert (%)	= 2.956
Runoff coefficient (C)	= 0.61	Slope energy grade line (%)	= 2.897
Time of conc. (min)	= 20.33	Critical depth (in)	= 26
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 168.30
Intensity @ 10 yr (in/hr)	= 5.73	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 7.91	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 45.33	Full-flow capacity (cfs)	= 114.66
Q Catchment (cfs)	= 3.66		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.66	Cross slope (ft/ft)	= 0.04
Q Bypassed to 12 (cfs)	= 0.00	Width of Flow (ft)	= 6.13

Line 18 Q = 42.82 Size = 36 x 36 (Cir) Nv = 0.013 Len = 81.0 JLC = 0.50

S-7 TO S-8 / Downstream line = 17

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	163.50	26	165.69	166.62	5.53	7.74	2.56	1.80
Upstrm	165.40	25	167.49	168.52	5.24	8.17	2.76	2.00

Drainage area (ac)	= 1.39	Slope of invert (%)	= 2.346
Runoff coefficient (C)	= 0.46	Slope energy grade line (%)	= 2.344
Time of conc. (min)	= 19.88	Critical depth (in)	= 25
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 170.40
Intensity @ 10 yr (in/hr)	= 5.78	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 7.40	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 42.82	Full-flow capacity (cfs)	= 102.15
Q Catchment (cfs)	= 4.63		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.63	Cross slope (ft/ft)	= 0.04
Q Bypassed to 17 (cfs)	= 0.00	Width of Flow (ft)	= 5.37

Line 19 Q = 4.38 Size = 18 x 18 (Cir) Nv = 0.013 Len = 235.0 JLC = 0.50

S-8 TO S-8A / Downstream line = 18

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	166.00	18	168.00	168.10	1.77	2.48	0.00	2.90
Upstrm	172.50	10	173.30	173.62	0.96	4.58	1.50	2.33

Drainage area (ac)	= 1.21	Slope of invert (%)	= 2.766
Runoff coefficient (C)	= 0.50	Slope energy grade line (%)	= 2.352
Time of conc. (min)	= 10.00	Critical depth (in)	= 10
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 176.33
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.61	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 4.38	Full-flow capacity (cfs)	= 17.46
Q Catchment (cfs)	= 4.38		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.38	Cross slope (ft/ft)	= 0.04
Q Bypassed to 18 (cfs)	= 0.00	Width of Flow (ft)	= 6.90

Line 20 Q = 36.29 Size = 30 x 30 (Cir) Nv = 0.013 Len = 164.0 JLC = 0.50

S-8 TO S-9 / Downstream line = 18

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	165.50	30	168.00	168.85	4.91	7.39	0.00	2.40
Upstrm	168.00	24	170.01	171.15	4.24	8.57	1.98	2.44

Drainage area (ac)	= 0.72	Slope of invert (%)	= 1.524
Runoff coefficient (C)	= 0.59	Slope energy grade line (%)	= 1.403
Time of conc. (min)	= 18.97	Critical depth (in)	= 24
Inlet Time (min)	= 13.50	Natural ground elev. (ft)	= 172.94
Intensity @ 10 yr (in/hr)	= 5.89	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 6.16	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 36.29	Full-flow capacity (cfs)	= 50.64
Q Catchment (cfs)	= 2.82		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.82	Cross slope (ft/ft)	= 0.04
Q Bypassed to 16 (cfs)	= 0.00	Width of Flow (ft)	= 5.14

Line 21 Q = 34.16 Size = 36 x 36 (Cir) Nv = 0.013 Len = 94.0 JLC = 0.50

S-9 TO S-10 / Downstream line = 20

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	168.50	25	170.58	171.24	5.24	6.52	2.50	1.44
Upstrm	170.50	22	172.36	173.21	4.61	7.41	2.91	2.83

Drainage area (ac)	= 0.44	Slope of invert (%)	= 2.128
Runoff coefficient (C)	= 0.55	Slope energy grade line (%)	= 2.097
Time of conc. (min)	= 18.44	Critical depth (in)	= 22
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 176.33
Intensity @ 10 yr (in/hr)	= 5.96	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 5.73	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 34.16	Full-flow capacity (cfs)	= 97.28
Q Catchment (cfs)	= 1.75		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.75	Cross slope (ft/ft)	= 0.04
Q Bypassed to 17 (cfs)	= 0.00	Width of Flow (ft)	= 3.74

Line 22 Q = 32.85 Size = 30 x 30 (Cir) Nv = 0.013 Len = 36.0 JLC = 0.50

S-10 TO S-11 / Downstream line = 21

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	171.00	20	172.65	174.06	3.45	9.53	2.37	2.83
Upstrm	171.40	20	173.05	174.46	3.45	9.53	2.37	1.98

Drainage area (ac)	= 1.44	Slope of invert (%)	= 1.111
Runoff coefficient (C)	= 0.47	Slope energy grade line (%)	= 1.111
Time of conc. (min)	= 18.24	Critical depth (in)	= 23
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 175.88
Intensity @ 10 yr (in/hr)	= 5.98	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 5.49	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 32.85	Full-flow capacity (cfs)	= 43.23
Q Catchment (cfs)	= 4.90		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.90	Cross slope (ft/ft)	= 0.04
Q Bypassed to 17 (cfs)	= 0.00	Width of Flow (ft)	= 5.57

Line 23 **Q = 2.70** **Size = 18 x 18 (Cir)** **Nv = 0.013** **Len = 310.0** **JLC = 0.50**

S-11 T0 S-11A / Downstream line = 22

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	171.88	18	173.76	173.80	1.77	1.53	0.00	2.50
Upstrm	184.50	8	185.13	185.36	0.70	3.86	1.48	2.70

Drainage area (ac)	= 0.76	Slope of invert (%)	= 4.071
Runoff coefficient (C)	= 0.49	Slope energy grade line (%)	= 3.730
Time of conc. (min)	= 10.00	Critical depth (in)	= 8
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 188.70
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.37	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 2.70	Full-flow capacity (cfs)	= 21.19
Q Catchment (cfs)	= 2.70		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.70	Cross slope (ft/ft)	= 0.04
Q Bypassed to 22 (cfs)	= 0.00	Width of Flow (ft)	= 4.99

Line 24 **Q = 27.16** **Size = 30 x 30 (Cir)** **Nv = 0.013** **Len = 183.0** **JLC = 0.50**

S-11 TO S-12 / Downstream line = 22

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	171.50	27	173.76	174.29	4.67	5.82	2.38	1.88
Upstrm	174.00	21	175.74	176.60	3.65	7.44	2.30	1.78

Drainage area (ac)	= 0.72	Slope of invert (%)	= 1.366
Runoff coefficient (C)	= 0.51	Slope energy grade line (%)	= 1.265
Time of conc. (min)	= 17.23	Critical depth (in)	= 21
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 178.28
Intensity @ 10 yr (in/hr)	= 6.11	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 4.44	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 27.16	Full-flow capacity (cfs)	= 47.94
Q Catchment (cfs)	= 2.66		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.66	Cross slope (ft/ft)	= 0.04
Q Bypassed to 20 (cfs)	= 0.00	Width of Flow (ft)	= 4.94

Line 25 **Q = 25.16** **Size = 24 x 24 (Cir)** **Nv = 0.013** **Len = 81.0** **JLC = 0.50**

S-12 TO S-13 / Downstream line = 24

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	174.20	24	176.17	177.17	3.13	8.03	1.99	2.08
Upstrm	176.50	22	178.30	179.41	2.98	8.44	1.20	3.00

Drainage area (ac)	= 0.72	Slope of invert (%)	= 2.840
Runoff coefficient (C)	= 0.50	Slope energy grade line (%)	= 2.760
Time of conc. (min)	= 16.78	Critical depth (in)	= 22
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 181.50
Intensity @ 10 yr (in/hr)	= 6.17	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 4.08	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 25.16	Full-flow capacity (cfs)	= 38.11
Q Catchment (cfs)	= 2.61		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.61	Cross slope (ft/ft)	= 0.04
Q Bypassed to 17 (cfs)	= 0.00	Width of Flow (ft)	= 4.87

Line 26 **Q = 23.04** **Size = 24 x 24 (Cir)** **Nv = 0.013** **Len = 38.0** **JLC = 0.50**

S-13 TO S-16 / Downstream line = 25

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	177.00	22	178.85	179.75	3.04	7.58	1.93	2.50
Upstrm	177.50	20	179.20	180.22	2.85	8.10	1.43	2.00

Drainage area (ac)	= 0.34	Slope of invert (%)	= 1.316
Runoff coefficient (C)	= 0.53	Slope energy grade line (%)	= 1.239
Time of conc. (min)	= 16.57	Critical depth (in)	= 20
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 181.50
Intensity @ 10 yr (in/hr)	= 6.20	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 3.72	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 23.04	Full-flow capacity (cfs)	= 25.94
Q Catchment (cfs)	= 1.30		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.30	Cross slope (ft/ft)	= 0.04
Q Bypassed to 17 (cfs)	= 0.00	Width of Flow (ft)	= 2.30

Line 27 **Q = 10.37** **Size = 24 x 24 (Cir)** **Nv = 0.013** **Len = 101.0** **JLC = 0.50**

S-16 TO S-17 / Downstream line = 26

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	178.00	21	179.71	179.91	2.86	3.63	1.85	1.50
Upstrm	180.50	14	181.64	182.13	1.85	5.60	1.98	1.86

Drainage area (ac)	= 0.43	Slope of invert (%)	= 2.475
Runoff coefficient (C)	= 0.60	Slope energy grade line (%)	= 2.193
Time of conc. (min)	= 16.01	Critical depth (in)	= 14
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 184.36
Intensity @ 10 yr (in/hr)	= 6.28	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 1.65	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 10.37	Full-flow capacity (cfs)	= 35.58
Q Catchment (cfs)	= 1.87		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.87	Cross slope (ft/ft)	= 0.04
Q Bypassed to 17 (cfs)	= 0.00	Width of Flow (ft)	= 3.90

Line 28 **Q = 4.33** **Size = 18 x 18 (Cir)** **Nv = 0.013** **Len = 44.0** **JLC = 0.50**

S-17 TO S-17A / Downstream line = 27

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	181.28	10	182.07	182.40	0.95	4.56	1.09	1.58
Upstrm	181.50	10	182.35	182.62	1.03	4.21	1.49	2.34

Drainage area (ac)	= 1.33	Slope of invert (%)	= 0.500
Runoff coefficient (C)	= 0.45	Slope energy grade line (%)	= 0.512
Time of conc. (min)	= 10.00	Critical depth (in)	= 10
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 185.34
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.60	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 4.33	Full-flow capacity (cfs)	= 7.43
Q Catchment (cfs)	= 4.33		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.33	Cross slope (ft/ft)	= 0.04
Q Bypassed to 24 (cfs)	= 0.00	Width of Flow (ft)	= 6.85

Line 29 Q = 5.11 Size = 18 x 18 (Cir) Nv = 0.013 Len = 181.0 JLC = 0.50

S-17 TO S-18 / Downstream line = 27

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	180.80	13	181.88	182.10	1.37	3.74	1.28	2.06
Upstrm	188.50	10	189.36	189.73	1.05	4.86	1.48	2.26

Drainage area (ac)	= 1.73	Slope of invert (%)	= 4.254
Runoff coefficient (C)	= 0.46	Slope energy grade line (%)	= 4.214
Time of conc. (min)	= 15.00	Critical depth (in)	= 10
Inlet Time (min)	= 15.00	Natural ground elev. (ft)	= 192.26
Intensity @ 10 yr (in/hr)	= 6.42	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.80	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 5.11	Full-flow capacity (cfs)	= 21.66
Q Catchment (cfs)	= 5.11		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 5.11	Cross slope (ft/ft)	= 0.04
Q Bypassed to 24 (cfs)	= 0.00	Width of Flow (ft)	= 7.65

Line 30 Q = 12.85 Size = 18 x 18 (Cir) Nv = 0.013 Len = 160.0 JLC = 0.50

S-14 TO S-14A / Downstream line = 26

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	178.00	18	179.71	180.53	1.77	7.27	0.00	2.00
Upstrm	182.00	16	183.37	184.26	1.69	7.58	0.84	4.10

Drainage area (ac)	= 1.30	Slope of invert (%)	= 2.500
Runoff coefficient (C)	= 0.49	Slope energy grade line (%)	= 2.335
Time of conc. (min)	= 12.39	Critical depth (in)	= 16
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 187.60
Intensity @ 10 yr (in/hr)	= 6.82	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 1.88	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 12.85	Full-flow capacity (cfs)	= 16.60
Q Catchment (cfs)	= 4.61		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.61	Cross slope (ft/ft)	= 0.04
Q Bypassed to 26 (cfs)	= 0.00	Width of Flow (ft)	= 7.14

Line 31 Q = 8.77 Size = 18 x 18 (Cir) Nv = 0.013 Len = 225.0 JLC = 0.50

S-14A TO S-15 / Downstream line = 30

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	183.00	9	183.73	185.35	0.86	10.19	1.50	3.10
Upstrm	190.00	9	190.73	192.35	0.86	10.19	1.50	3.20

Drainage area (ac)	= 1.36	Slope of invert (%)	= 3.111
Runoff coefficient (C)	= 0.42	Slope energy grade line (%)	= 3.111
Time of conc. (min)	= 11.14	Critical depth (in)	= 14
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 194.70
Intensity @ 10 yr (in/hr)	= 7.03	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 1.25	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 8.77	Full-flow capacity (cfs)	= 18.52
Q Catchment (cfs)	= 4.13		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.13	Cross slope (ft/ft)	= 0.04
Q Bypassed to 17 (cfs)	= 0.00	Width of Flow (ft)	= 6.64

Line 32 Q = 3.58 Size = 18 x 18 (Cir) Nv = 0.013 Len = 205.0 JLC = 0.50

S-15 TO S-15A / Downstream line = 31

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	190.50	12	191.54	191.66	1.31	2.74	1.25	2.70
Upstrm	197.00	9	197.72	198.00	0.84	4.26	1.50	2.15

Drainage area (ac)	= 0.90	Slope of invert (%)	= 3.171
Runoff coefficient (C)	= 0.55	Slope energy grade line (%)	= 3.096
Time of conc. (min)	= 10.00	Critical depth (in)	= 9
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 200.65
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.50	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.58	Full-flow capacity (cfs)	= 18.70
Q Catchment (cfs)	= 3.58		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.58	Cross slope (ft/ft)	= 0.04
Q Bypassed to 31 (cfs)	= 0.00	Width of Flow (ft)	= 6.03

Line 33 Q = 1.30 Size = 18 x 18 (Cir) Nv = 0.013 Len = 28.0 JLC = 0.50

S-15 TO S-16 / Downstream line = 31

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	191.00	6	191.54	191.62	0.57	2.27	0.90	2.20
Upstrm	191.20	5	191.64	191.78	0.43	3.06	1.36	2.00

Drainage area (ac)	= 0.34	Slope of invert (%)	= 0.714
Runoff coefficient (C)	= 0.53	Slope energy grade line (%)	= 0.572
Time of conc. (min)	= 10.00	Critical depth (in)	= 5
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 194.70
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.18	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 1.30	Full-flow capacity (cfs)	= 8.88
Q Catchment (cfs)	= 1.30		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.30	Cross slope (ft/ft)	= 0.04
Q Bypassed to 17 (cfs)	= 0.00	Width of Flow (ft)	= 3.07

Line 34 Q = 3.13 Size = 18 x 18 (Cir) Nv = 0.013 Len = 27.0 JLC = 0.50

S-24 TO S-25 / Downstream line = 4

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	145.00	18	146.79	146.84	1.77	1.77	0.00	3.50
Upstrm	146.00	8	146.68	146.93	0.78	4.00	1.49	2.37

Drainage area (ac)	= 0.94	Slope of invert (%)	= 3.704
Runoff coefficient (C)	= 0.46	Slope energy grade line (%)	= 0.346
Time of conc. (min)	= 10.00	Critical depth (in)	= 8
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 149.87
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.43	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.13	Full-flow capacity (cfs)	= 20.21
Q Catchment (cfs)	= 3.13		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.13	Cross slope (ft/ft)	= 0.04
Q Bypassed to 3 (cfs)	= 0.00	Width of Flow (ft)	= 5.51

Line 35 **Q = 47.28** **Size = 36 x 36 (Cir)** **Nv = 0.013** **Len = 94.0** **JLC = 0.50**

S-27 TO S-28 / Downstream line = 6

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	151.00	27	153.24	154.32	5.67	8.34	2.59	3.00
Upstrm	154.50	26	156.69	157.83	5.53	8.55	2.66	2.66

Drainage area (ac)	= 0.63	Slope of invert (%)	= 3.723
Runoff coefficient (C)	= 0.56	Slope energy grade line (%)	= 3.726
Time of conc. (min)	= 28.79	Critical depth (in)	= 26
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 160.16
Intensity @ 10 yr (in/hr)	= 4.90	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 9.65	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 47.28	Full-flow capacity (cfs)	= 128.69
Q Catchment (cfs)	= 2.55		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.55	Cross slope (ft/ft)	= 0.04
Q Bypassed to 9 (cfs)	= 0.00	Width of Flow (ft)	= 4.81

Line 36 **Q = 3.55** **Size = 18 x 18 (Cir)** **Nv = 0.013** **Len = 28.0** **JLC = 0.50**

S-28 TO S-29 / Downstream line = 35

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	156.00	15	157.26	157.34	1.58	2.24	1.37	2.66
Upstrm	156.50	9	157.22	157.50	0.84	4.24	1.50	2.16

Drainage area (ac)	= 1.00	Slope of invert (%)	= 1.786
Runoff coefficient (C)	= 0.49	Slope energy grade line (%)	= 0.577
Time of conc. (min)	= 10.00	Critical depth (in)	= 9
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 160.16
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.49	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.55	Full-flow capacity (cfs)	= 14.03
Q Catchment (cfs)	= 3.55		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.55	Cross slope (ft/ft)	= 0.04
Q Bypassed to 34 (cfs)	= 0.00	Width of Flow (ft)	= 5.99

Line 37 **Q = 43.48** **Size = 34 x 53 (Ell)** **Nv = 0.013** **Len = 81.0** **JLC = 0.50**

S-28 TO S-30 / Downstream line = 35

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	155.36	10	156.21	160.74	2.55	17.08	0.00	1.97
Upstrm	158.10	0	158.95	163.48	2.55	17.08	0.00	2.07

Drainage area (ac)	= 0.98	Slope of invert (%)	= 3.383
Runoff coefficient (C)	= 0.46	Slope energy grade line (%)	= 3.383
Time of conc. (min)	= 28.34	Critical depth (in)	= 24
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 163.00
Intensity @ 10 yr (in/hr)	= 4.94	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 8.81	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 43.48	Full-flow capacity (cfs)	= 211.67
Q Catchment (cfs)	= 3.26		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.26	Cross slope (ft/ft)	= 0.04
Q Bypassed to 35 (cfs)	= 0.00	Width of Flow (ft)	= 4.25

Line 38 **Q = 6.65** **Size = 18 x 18 (Cir)** **Nv = 0.013** **Len = 176.0** **JLC = 0.50**

S-30 TO S-30A / Downstream line = 37

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	158.00	18	161.22	161.44	1.77	3.77	0.00	3.50
Upstrm	160.00	18	161.92	162.14	1.77	3.77	0.00	2.83

Drainage area (ac)	= 0.89	Slope of invert (%)	= 1.136
Runoff coefficient (C)	= 0.48	Slope energy grade line (%)	= 0.402
Time of conc. (min)	= 10.92	Critical depth (in)	= 12
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 164.33
Intensity @ 10 yr (in/hr)	= 7.07	Upstream surcharge (ft)	= 0.42
Cumulative C x A	= 0.94	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 6.65	Full-flow capacity (cfs)	= 11.19
Q Catchment (cfs)	= 3.09		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.09	Cross slope (ft/ft)	= 0.04
Q Bypassed to 37 (cfs)	= 0.00	Width of Flow (ft)	= 5.47

Line 39 Q = 3.72 Size = 18 x 18 (Cir) Nv = 0.013 Len = 165.0 JLC = 0.50

S-30A TO S-30B / Downstream line = 38

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	160.33	18	162.03	162.10	1.77	2.10	0.00	2.50
Upstrm	161.65	9	162.39	162.67	0.87	4.26	1.50	2.50

Drainage area (ac)	= 1.07	Slope of invert (%)	= 0.800
Runoff coefficient (C)	= 0.48	Slope energy grade line (%)	= 0.347
Time of conc. (min)	= 10.00	Critical depth (in)	= 9
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 165.65
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.51	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.72	Full-flow capacity (cfs)	= 9.39
Q Catchment (cfs)	= 3.72		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.72	Cross slope (ft/ft)	= 0.04
Q Bypassed to 38 (cfs)	= 0.00	Width of Flow (ft)	= 6.18

Line 40 Q = 37.42 Size = 36 x 36 (Cir) Nv = 0.013 Len = 226.0 JLC = 0.50

S-30 TO S-31 / Downstream line = 37

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	158.20	36	161.22	161.65	7.07	5.30	0.00	1.80
Upstrm	168.50	23	170.45	171.37	4.86	7.70	2.86	5.02

Drainage area (ac)	= 0.26	Slope of invert (%)	= 4.558
Runoff coefficient (C)	= 0.49	Slope energy grade line (%)	= 4.300
Time of conc. (min)	= 27.09	Critical depth (in)	= 23
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 176.52
Intensity @ 10 yr (in/hr)	= 5.05	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 7.42	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 37.42	Full-flow capacity (cfs)	= 142.38
Q Catchment (cfs)	= 0.92		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.92	Cross slope (ft/ft)	= 0.04
Q Bypassed to 36 (cfs)	= 0.00	Width of Flow (ft)	= 2.43

Line 41 Q = 12.35 Size = 24 x 24 (Cir) Nv = 0.013 Len = 210.0 JLC = 0.50

S-31 TO S-32 / Downstream line = 40

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	169.20	21	170.91	171.20	2.86	4.32	1.85	5.32
Upstrm	170.30	15	171.55	172.10	2.07	5.96	1.93	2.40

Drainage area (ac)	= 0.43	Slope of invert (%)	= 0.524
Runoff coefficient (C)	= 0.63	Slope energy grade line (%)	= 0.431
Time of conc. (min)	= 11.25	Critical depth (in)	= 15
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 174.70
Intensity @ 10 yr (in/hr)	= 7.01	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 1.76	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 12.35	Full-flow capacity (cfs)	= 16.37
Q Catchment (cfs)	= 1.96		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.96	Cross slope (ft/ft)	= 0.04
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 3.02

Line 42 Q = 10.52 Size = 14 x 23 (Ell) Nv = 0.013 Len = 51.0 JLC = 0.50

S-32 TO S-33 / Downstream line = 41

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	171.18	10	172.00	173.01	1.30	8.09	0.00	2.35
Upstrm	171.44	0	172.26	173.27	1.30	8.09	0.00	1.99

Drainage area (ac)	= 2.09	Slope of invert (%)	= 0.510
Runoff coefficient (C)	= 0.47	Slope energy grade line (%)	= 0.510
Time of conc. (min)	= 10.97	Critical depth (in)	= 14
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 174.60
Intensity @ 10 yr (in/hr)	= 7.06	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 1.49	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 10.52	Full-flow capacity (cfs)	= 8.40
Q Catchment (cfs)	= 7.11		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 7.11	Cross slope (ft/ft)	= 0.04
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 7.16

Line 43 Q = 3.67 Size = 18 x 18 (Cir) Nv = 0.013 Len = 174.0 JLC = 0.50

S-33 TO S-33A / Downstream line = 42

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	171.50	15	172.76	172.85	1.59	2.31	1.38	1.60
Upstrm	173.40	9	174.13	174.42	0.86	4.29	1.50	2.50

Drainage area (ac)	= 1.08	Slope of invert (%)	= 1.092
Runoff coefficient (C)	= 0.47	Slope energy grade line (%)	= 0.902
Time of conc. (min)	= 10.00	Critical depth (in)	= 9
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 177.40
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.51	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.67	Full-flow capacity (cfs)	= 10.97
Q Catchment (cfs)	= 3.67		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.67	Cross slope (ft/ft)	= 0.04
Q Bypassed to 42 (cfs)	= 0.00	Width of Flow (ft)	= 6.14

Line 44 Q = 28.15 Size = 36 x 36 (Cir) Nv = 0.013 Len = 92.0 JLC = 0.50

S-31 TO S-34 / Downstream line = 40

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	171.00	11	171.96	175.23	1.94	14.51	2.80	2.52
Upstrm	174.80	11	175.76	179.03	1.94	14.51	2.80	2.40

Drainage area (ac)	= 0.99	Slope of invert (%)	= 4.130
Runoff coefficient (C)	= 0.53	Slope energy grade line (%)	= 4.130
Time of conc. (min)	= 26.58	Critical depth (in)	= 20
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 180.20
Intensity @ 10 yr (in/hr)	= 5.09	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 5.53	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 28.15	Full-flow capacity (cfs)	= 135.54
Q Catchment (cfs)	= 3.80		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.80	Cross slope (ft/ft)	= 0.04
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 4.70

Line 45 Q = 25.61 Size = 36 x 36 (Cir) Nv = 0.013 Len = 54.0 JLC = 0.50

S-34 TO S-35 / Downstream line = 44

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	175.00	29	177.39	177.67	6.04	4.24	2.68	2.20
Upstrm	175.40	23	177.35	177.78	4.87	5.26	2.86	2.06

Drainage area (ac)	= 0.16	Slope of invert (%)	= 0.741
Runoff coefficient (C)	= 0.60	Slope energy grade line (%)	= 0.205
Time of conc. (min)	= 26.28	Critical depth (in)	= 19
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 180.46
Intensity @ 10 yr (in/hr)	= 5.12	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 5.00	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 25.61	Full-flow capacity (cfs)	= 57.40
Q Catchment (cfs)	= 0.69		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.69	Cross slope (ft/ft)	= 0.04
Q Bypassed to 42 (cfs)	= 0.00	Width of Flow (ft)	= 2.01

Line 46 Q = 25.74 Size = 30 x 30 (Cir) Nv = 0.013 Len = 240.0 JLC = 0.50

S-35 TO S-36 / Downstream line = 45

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	175.90	12	176.88	180.14	1.78	14.50	2.44	2.06
Upstrm	185.00	12	185.98	189.24	1.78	14.50	2.44	6.12

Drainage area (ac)	= 1.58	Slope of invert (%)	= 3.792
Runoff coefficient (C)	= 0.50	Slope energy grade line (%)	= 3.792
Time of conc. (min)	= 24.94	Critical depth (in)	= 20
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 193.62
Intensity @ 10 yr (in/hr)	= 5.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 4.91	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 25.74	Full-flow capacity (cfs)	= 79.86
Q Catchment (cfs)	= 5.72		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 5.72	Cross slope (ft/ft)	= 0.04
Q Bypassed to 44 (cfs)	= 0.00	Width of Flow (ft)	= 8.25

Line 47 Q = 7.30 Size = 18 x 18 (Cir) Nv = 0.013 Len = 240.0 JLC = 0.50

S-36 TO S-36A / Downstream line = 46

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	185.00	18	187.61	187.87	1.77	4.13	0.00	7.12
Upstrm	186.10	18	188.77	189.03	1.77	4.13	0.00	4.80

Drainage area (ac)	= 0.00	Slope of invert (%)	= 0.458
Runoff coefficient (C)	= 0.00	Slope energy grade line (%)	= 0.483
Time of conc. (min)	= 10.95	Critical depth (in)	= 12
Inlet Time (min)	= 0.00	Natural ground elev. (ft)	= 192.40
Intensity @ 10 yr (in/hr)	= 7.07	Upstream surcharge (ft)	= 1.17
Cumulative C x A	= 1.03	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 7.30	Full-flow capacity (cfs)	= 7.11
Q Catchment (cfs)	= 0.00		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.00	Cross slope (ft/ft)	= 0.00
Q Bypassed to 46 (cfs)	= 0.00	Width of Flow (ft)	= 0.00

Line 48 Q = 3.83 Size = 18 x 18 (Cir) Nv = 0.013 Len = 110.0 JLC = 0.50

S-36A TO S-37 / Downstream line = 47

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	185.70	18	188.90	188.97	1.77	2.17	0.00	5.20
Upstrm	187.50	18	189.00	189.07	1.77	2.17	0.07	1.99

Drainage area (ac)	= 0.22	Slope of invert (%)	= 1.636
Runoff coefficient (C)	= 0.57	Slope energy grade line (%)	= 0.091
Time of conc. (min)	= 10.34	Critical depth (in)	= 9
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 190.99
Intensity @ 10 yr (in/hr)	= 7.18	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.53	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.83	Full-flow capacity (cfs)	= 13.43
Q Catchment (cfs)	= 0.91		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 0.91	Cross slope (ft/ft)	= 0.04
Q Bypassed to 21 (cfs)	= 0.00	Width of Flow (ft)	= 2.40

Line 49 **Q = 2.95** **Size = 18 x 18 (Cir)** **Nv = 0.013** **Len = 61.0** **JLC = 0.50**

S-37 TO S-38 / Downstream line = 48

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	187.60	17	189.04	189.08	1.74	1.70	1.47	1.89
Upstrm	188.00	13	189.06	189.13	1.33	2.22	1.37	1.20

Drainage area (ac)	= 0.85	Slope of invert (%)	= 0.656
Runoff coefficient (C)	= 0.48	Slope energy grade line (%)	= 0.089
Time of conc. (min)	= 10.00	Critical depth (in)	= 8
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 190.70
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.41	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 2.95	Full-flow capacity (cfs)	= 8.50
Q Catchment (cfs)	= 2.95		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.95	Cross slope (ft/ft)	= 0.04
Q Bypassed to 23 (cfs)	= 0.00	Width of Flow (ft)	= 5.30

Line 50 **Q = 3.61** **Size = 18 x 18 (Cir)** **Nv = 0.013** **Len = 32.0** **JLC = 0.50**

S-36A TO S-36B / Downstream line = 47

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	187.40	18	188.90	188.96	1.77	2.04	1.50	3.50
Upstrm	187.60	16	188.93	189.00	1.65	2.19	0.96	2.55

Drainage area (ac)	= 1.04	Slope of invert (%)	= 0.625
Runoff coefficient (C)	= 0.48	Slope energy grade line (%)	= 0.115
Time of conc. (min)	= 10.00	Critical depth (in)	= 9
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 191.65
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.50	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 3.61	Full-flow capacity (cfs)	= 8.30
Q Catchment (cfs)	= 3.61		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 3.61	Cross slope (ft/ft)	= 0.04
Q Bypassed to 49 (cfs)	= 0.00	Width of Flow (ft)	= 6.07

Line 51 Q = 16.43 Size = 30 x 30 (Cir) Nv = 0.013 Len = 152.0 JLC = 0.50

S-36 TO S-39 / Downstream line = 46

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	189.00	10	189.83	191.92	1.42	11.61	2.35	2.12
Upstrm	194.00	10	194.83	196.92	1.42	11.61	2.35	4.81

Drainage area (ac)	= 0.71	Slope of invert (%)	= 3.289
Runoff coefficient (C)	= 0.52	Slope energy grade line (%)	= 3.289
Time of conc. (min)	= 24.10	Critical depth (in)	= 16
Inlet Time (min)	= 12.90	Natural ground elev. (ft)	= 201.31
Intensity @ 10 yr (in/hr)	= 5.33	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 3.08	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 16.43	Full-flow capacity (cfs)	= 74.38
Q Catchment (cfs)	= 2.49		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.49	Cross slope (ft/ft)	= 0.04
Q Bypassed to 50 (cfs)	= 0.00	Width of Flow (ft)	= 4.73

Line 52 Q = 14.70 Size = 30 x 30 (Cir) Nv = 0.013 Len = 156.0 JLC = 0.50

S-39 TO S-40 / Downstream line = 51

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	194.50	16	195.87	196.31	2.76	5.33	1.85	4.31
Upstrm	197.00	15	198.28	198.80	2.53	5.81	2.50	4.50

Drainage area (ac)	= 0.28	Slope of invert (%)	= 1.603
Runoff coefficient (C)	= 0.50	Slope energy grade line (%)	= 1.597
Time of conc. (min)	= 23.23	Critical depth (in)	= 15
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 204.00
Intensity @ 10 yr (in/hr)	= 5.41	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 2.72	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 14.70	Full-flow capacity (cfs)	= 51.92
Q Catchment (cfs)	= 1.01		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.01	Cross slope (ft/ft)	= 0.04
Q Bypassed to 51 (cfs)	= 0.00	Width of Flow (ft)	= 1.94

Line 53 Q = 14.17 Size = 30 x 30 (Cir) Nv = 0.013 Len = 147.0 JLC = 0.50

S-40 TO S-41 / Downstream line = 52

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	197.26	15	198.54	199.03	2.54	5.58	1.79	4.24
Upstrm	198.00	15	199.26	199.77	2.47	5.73	2.50	6.09

Drainage area (ac)	= 0.43	Slope of invert (%)	= 0.503
Runoff coefficient (C)	= 0.54	Slope energy grade line (%)	= 0.503
Time of conc. (min)	= 22.42	Critical depth (in)	= 15
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 206.59
Intensity @ 10 yr (in/hr)	= 5.50	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 2.58	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 14.17	Full-flow capacity (cfs)	= 29.10
Q Catchment (cfs)	= 1.68	Gutter slope (ft/ft)	= 0.00
Q Carryover (cfs)	= 0.00	Cross slope (ft/ft)	= 0.04
Q Captured (cfs)	= 1.68	Width of Flow (ft)	= 3.63
Q Bypassed to 46 (cfs)	= 0.00		

Line 54 Q = 13.10 Size = 14 x 23 (Ell) Nv = 0.013 Len = 150.0 JLC = 0.50

S-41 TO S-42 / Downstream line = 53

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	199.25	13	200.30	201.27	1.66	7.88	0.00	6.17
Upstrm	200.00	0	201.05	202.02	1.66	7.88	0.00	7.63

Drainage area (ac)	= 0.38	Slope of invert (%)	= 0.500
Runoff coefficient (C)	= 0.46	Slope energy grade line (%)	= 0.500
Time of conc. (min)	= 21.58	Critical depth (in)	= 14
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 208.80
Intensity @ 10 yr (in/hr)	= 5.59	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 2.34	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 13.10	Full-flow capacity (cfs)	= 8.31
Q Catchment (cfs)	= 1.27	Gutter slope (ft/ft)	= 0.00
Q Carryover (cfs)	= 0.00	Cross slope (ft/ft)	= 0.04
Q Captured (cfs)	= 1.27	Width of Flow (ft)	= 3.00
Q Bypassed to 51 (cfs)	= 0.00		

Line 55 Q = 4.01 Size = 18 x 18 (Cir) Nv = 0.013 Len = 60.0 JLC = 0.50

S-42 TO S-43 / Downstream line = 54

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	205.00	6	205.48	206.54	0.49	8.27	1.40	2.30
Upstrm	207.00	6	207.48	208.54	0.49	8.27	1.40	2.50

Drainage area (ac)	= 1.26	Slope of invert (%)	= 3.333
Runoff coefficient (C)	= 0.44	Slope energy grade line (%)	= 3.333
Time of conc. (min)	= 10.00	Critical depth (in)	= 9
Inlet Time (min)	= 10.00	Natural ground elev. (ft)	= 211.00
Intensity @ 10 yr (in/hr)	= 7.24	Upstream surcharge (ft)	= 0.00
Cumulative C x A	= 0.55	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 4.01	Full-flow capacity (cfs)	= 19.17
Q Catchment (cfs)	= 4.01		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 4.01	Cross slope (ft/ft)	= 0.04
Q Bypassed to 54 (cfs)	= 0.00	Width of Flow (ft)	= 4.88

Line 56 Q = 9.21 Size = 18 x 18 (Cir) Nv = 0.013 Len = 190.0 JLC = 0.50

S-42 TO S-44 / Downstream line = 54

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	200.01	18	201.53	201.95	1.77	5.21	0.00	7.29
Upstrm	200.58	18	203.00	203.42	1.77	5.21	0.00	1.92

Drainage area (ac)	= 3.00	Slope of invert (%)	= 0.300
Runoff coefficient (C)	= 0.30	Slope energy grade line (%)	= 0.770
Time of conc. (min)	= 20.53	Critical depth (in)	= 14
Inlet Time (min)	= 20.00	Natural ground elev. (ft)	= 204.00
Intensity @ 10 yr (in/hr)	= 5.71	Upstream surcharge (ft)	= 0.92
Cumulative C x A	= 1.61	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 9.21	Full-flow capacity (cfs)	= 5.75
Q Catchment (cfs)	= 5.19		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 5.19	Cross slope (ft/ft)	= 0.04
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 5.80

Line 57 Q = 2.27 Size = 14 x 23 (Ell) Nv = 0.013 Len = 32.0 JLC = 0.50

S-44 TO S-45 / Downstream line = 56

	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	200.68	14	203.21	203.23	1.76	1.29	0.00	2.15
Upstrm	200.83	14	203.22	203.25	1.76	1.29	0.00	2.00

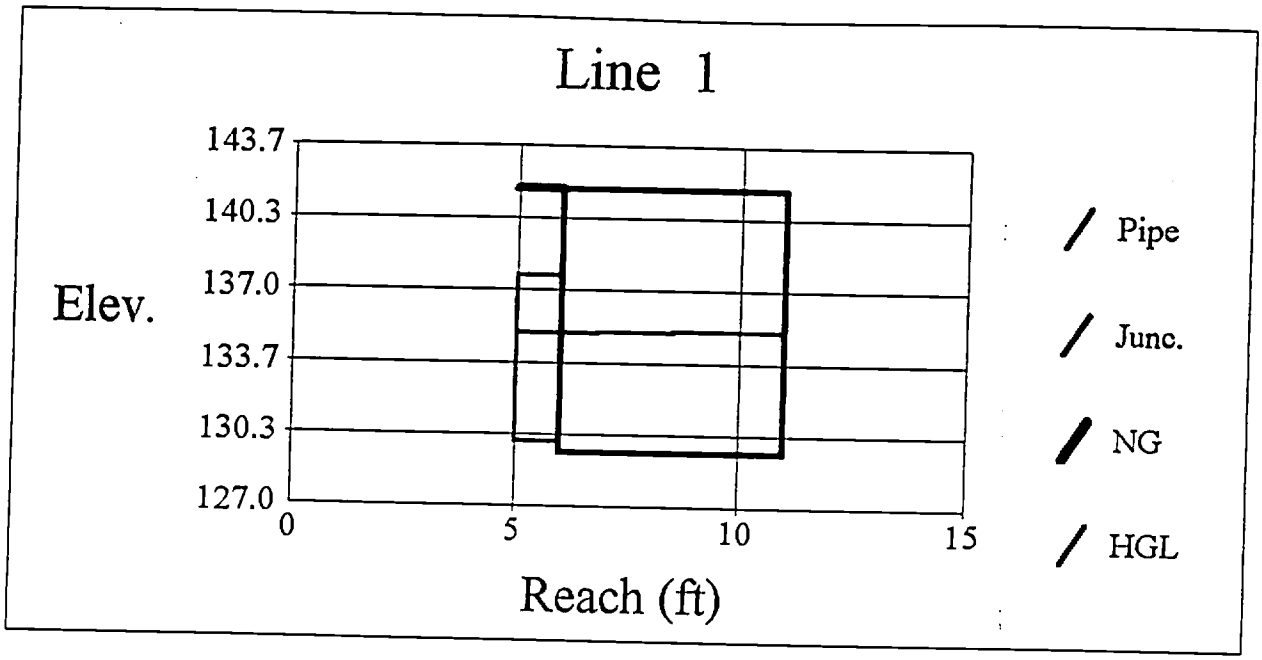
Drainage area (ac)	= 0.73	Slope of invert (%)	= 0.469
Runoff coefficient (C)	= 0.54	Slope energy grade line (%)	= 0.050
Time of conc. (min)	= 20.00	Critical depth (in)	= 7
Inlet Time (min)	= 20.00	Natural ground elev. (ft)	= 204.00
Intensity @ 10 yr (in/hr)	= 5.77	Upstream surcharge (ft)	= 1.23
Cumulative C x A	= 0.39	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 2.27	Full-flow capacity (cfs)	= 8.05
Q Catchment (cfs)	= 2.27		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 2.27	Cross slope (ft/ft)	= 0.04
Q Bypassed to 0 (cfs)	= 0.00	Width of Flow (ft)	= 3.33

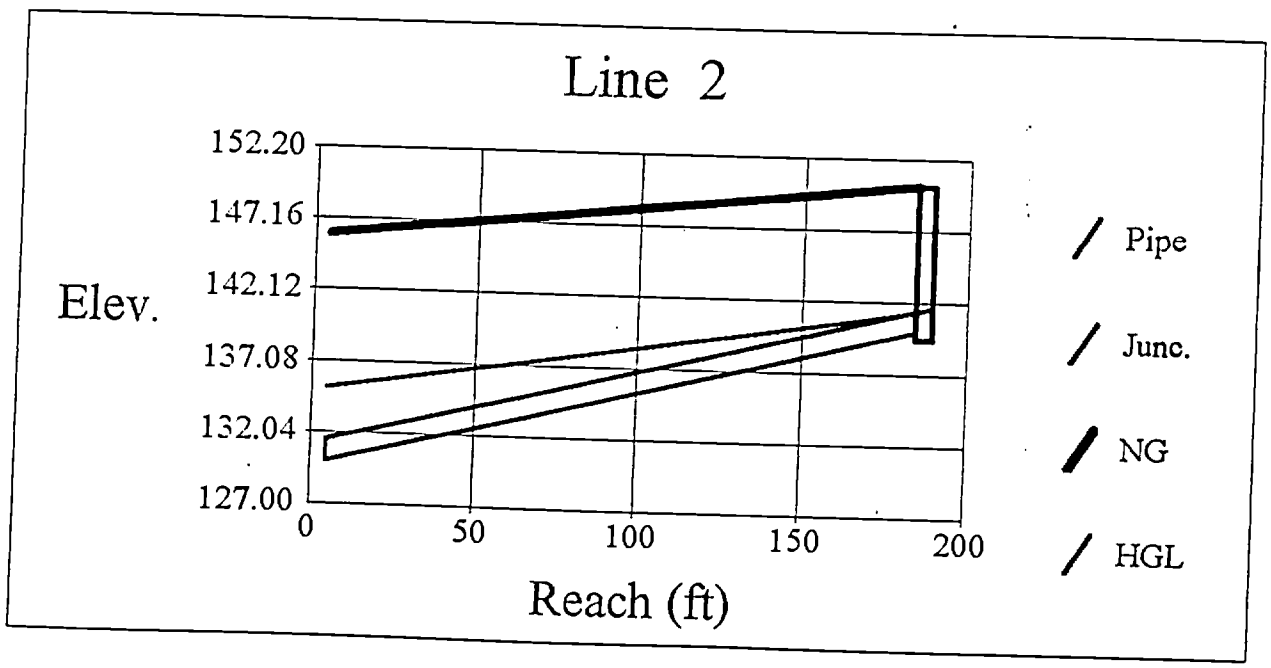
Line 58 Q = 1.84 Size = 18 x 18 (Cir) Nv = 0.013 Len = 95.0 JLC = 0.50

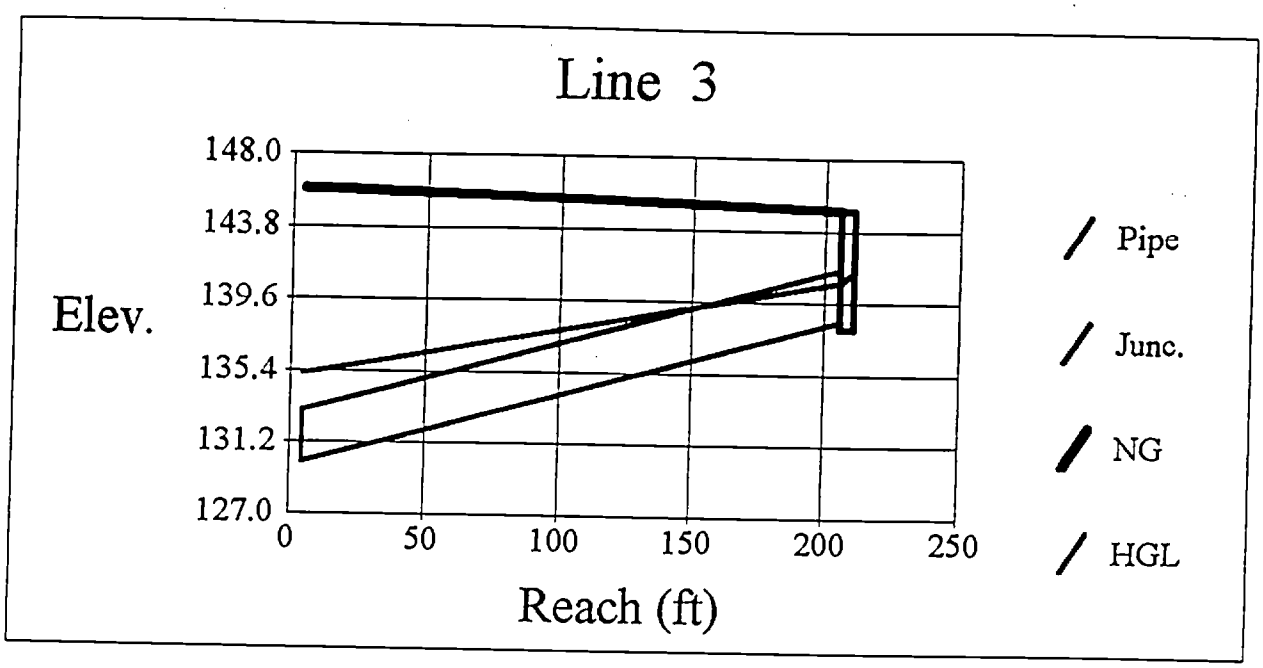
S-44 TO S-44A / Downstream line = 56

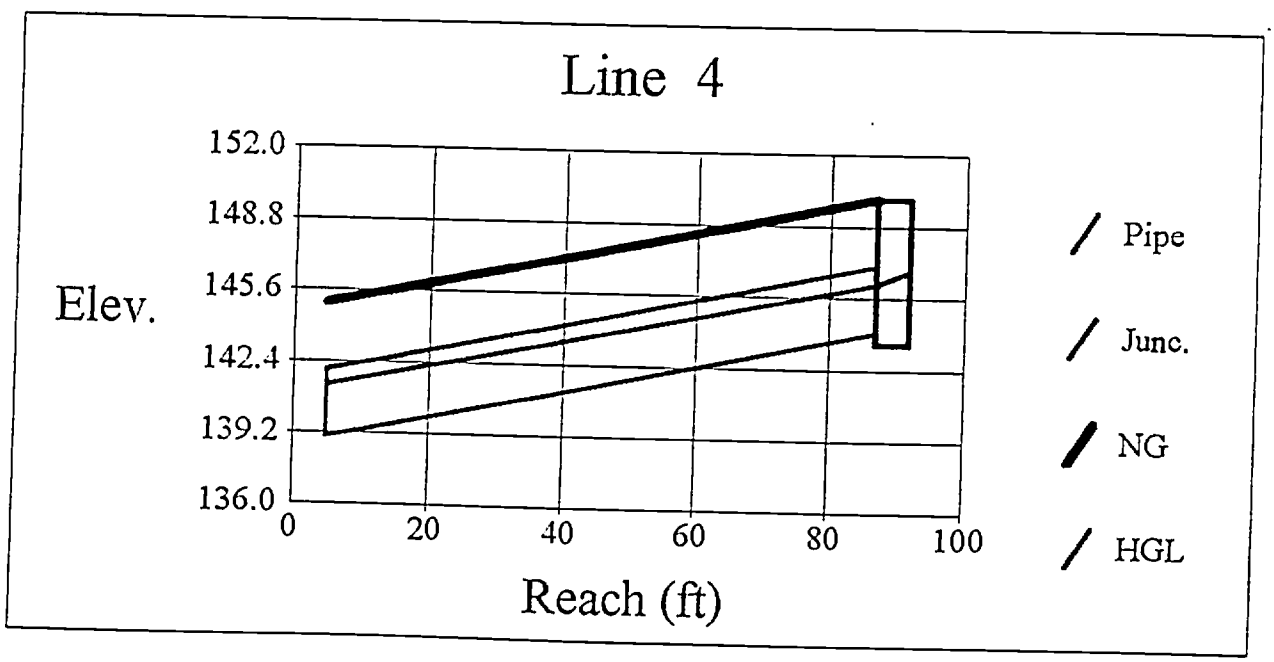
	Invert	Depth	HGL	EGL	Area	Vel	T-Wid	Cover
Dnstrm	200.68	18	203.21	203.22	1.77	1.04	0.00	1.82
Upstrm	201.50	18	203.24	203.25	1.77	1.04	0.00	1.80

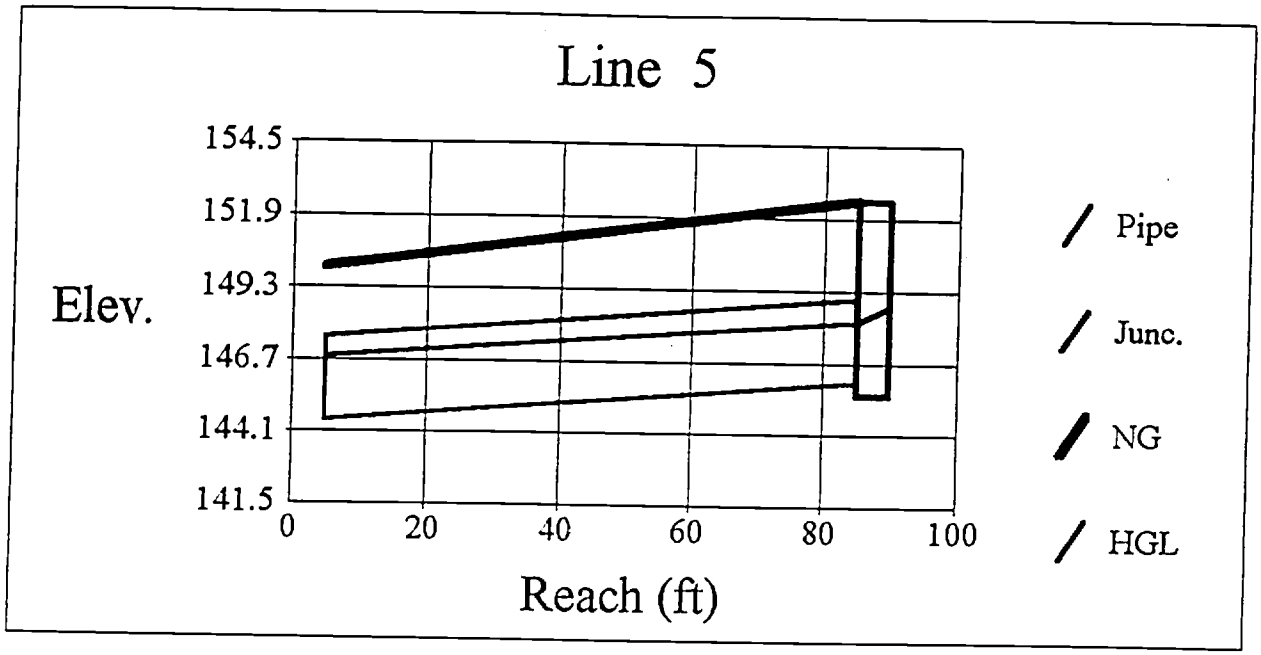
Drainage area (ac)	= 0.82	Slope of invert (%)	= 0.863
Runoff coefficient (C)	= 0.39	Slope energy grade line (%)	= 0.031
Time of conc. (min)	= 20.00	Critical depth (in)	= 6
Inlet Time (min)	= 20.00	Natural ground elev. (ft)	= 204.80
Intensity @ 10 yr (in/hr)	= 5.77	Upstream surcharge (ft)	= 0.24
Cumulative C x A	= 0.32	Additional Q (cfs)	= 0.00
Q = CA x I (cfs)	= 1.84	Full-flow capacity (cfs)	= 9.76
Q Catchment (cfs)	= 1.84		
Q Carryover (cfs)	= 0.00	Gutter slope (ft/ft)	= 0.00
Q Captured (cfs)	= 1.84	Cross slope (ft/ft)	= 0.04
Q Bypassed to 56 (cfs)	= 0.00	Width of Flow (ft)	= 2.82

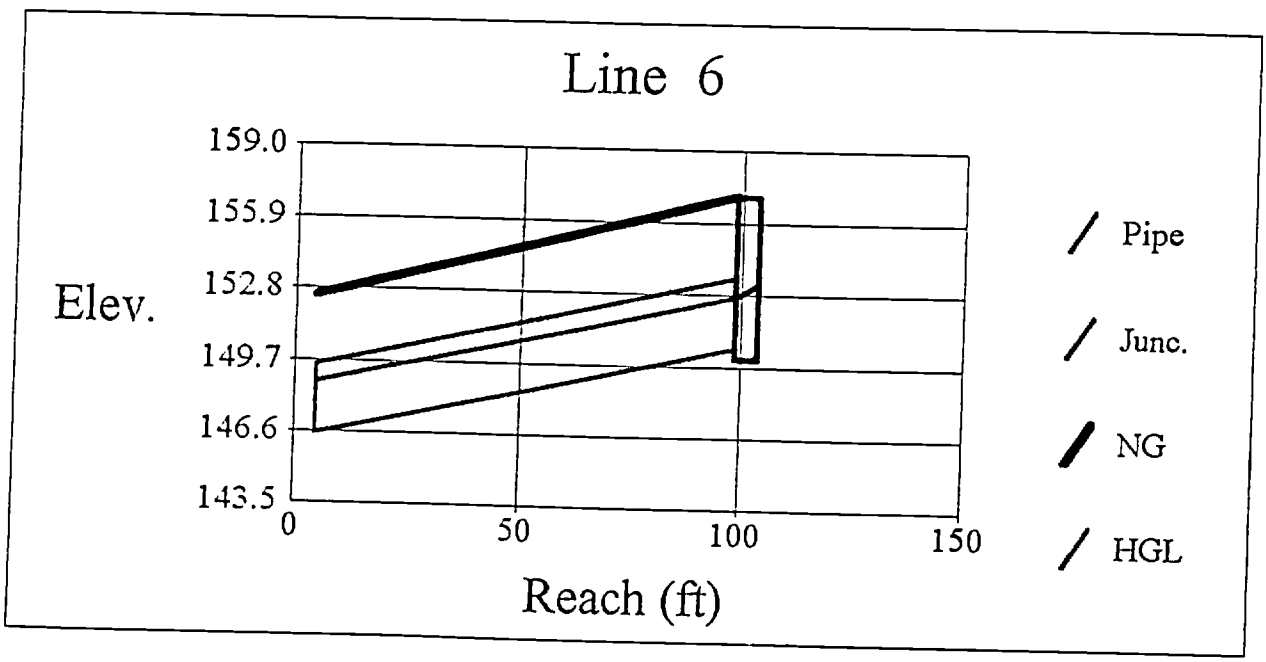

Line 1
Elev.
143.7
140.3
137.0
133.7
130.3
127.0
0
5
10
15
Reach (ft)
Pipe
Junc.
NG
HGL

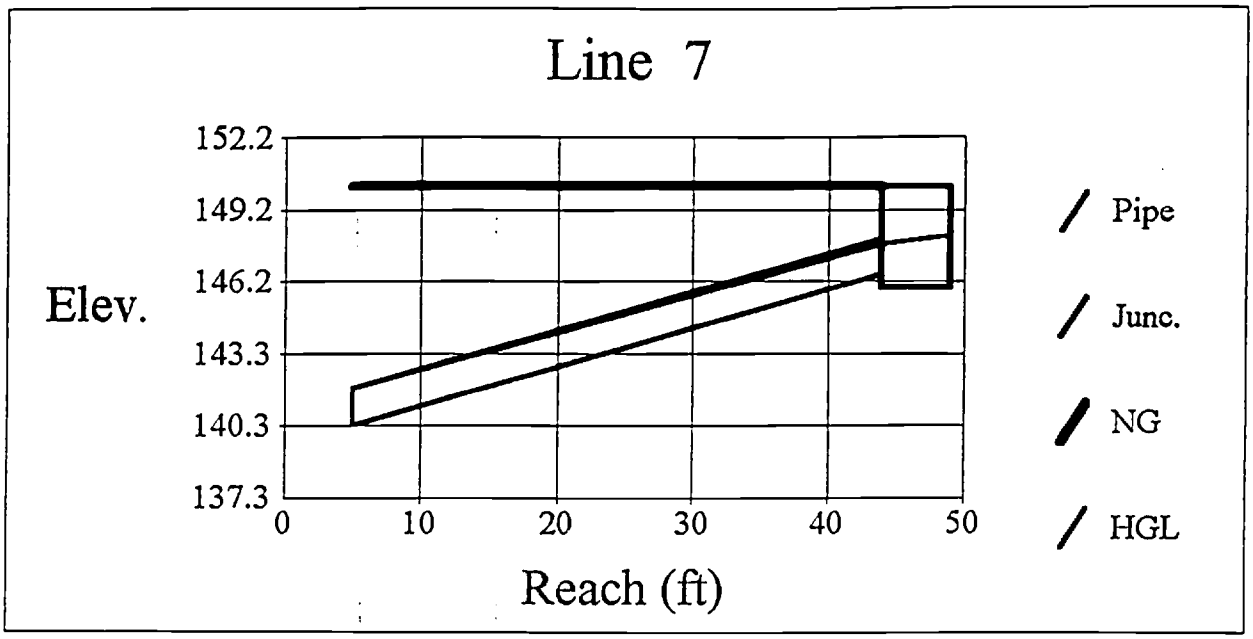

Line 2
Elev.
152.20
147.16
142.12
137.08
132.04
127.00
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

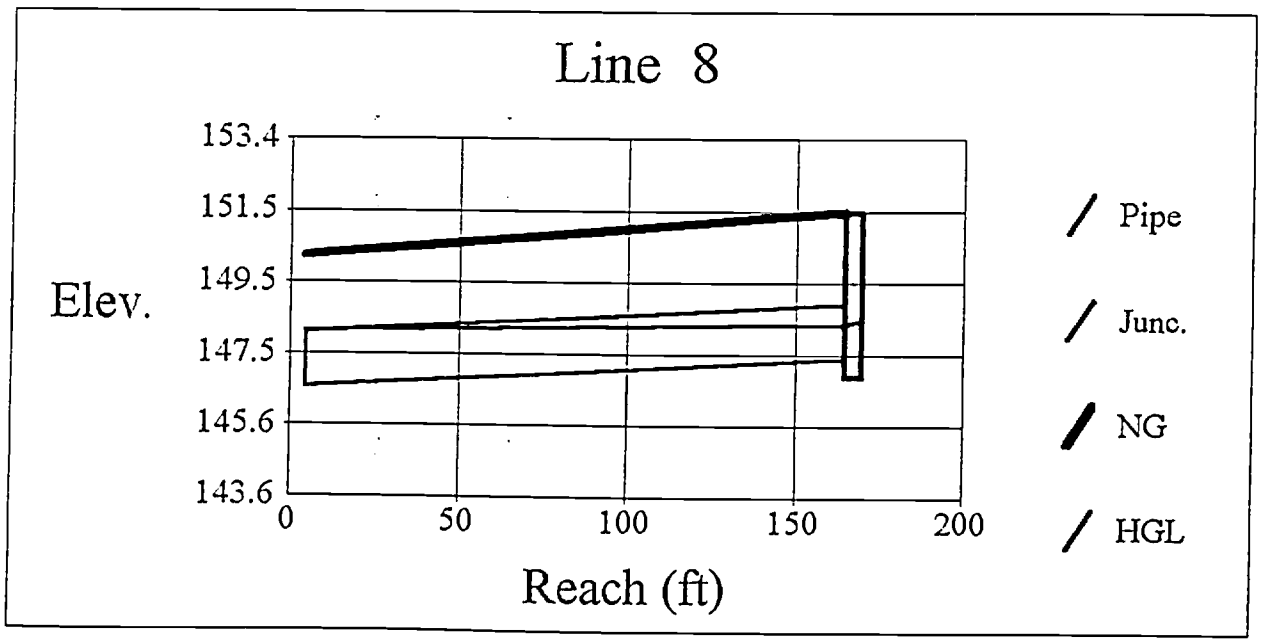

Line 3
Elev.
148.0
143.8
139.6
135.4
131.2
127.0
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

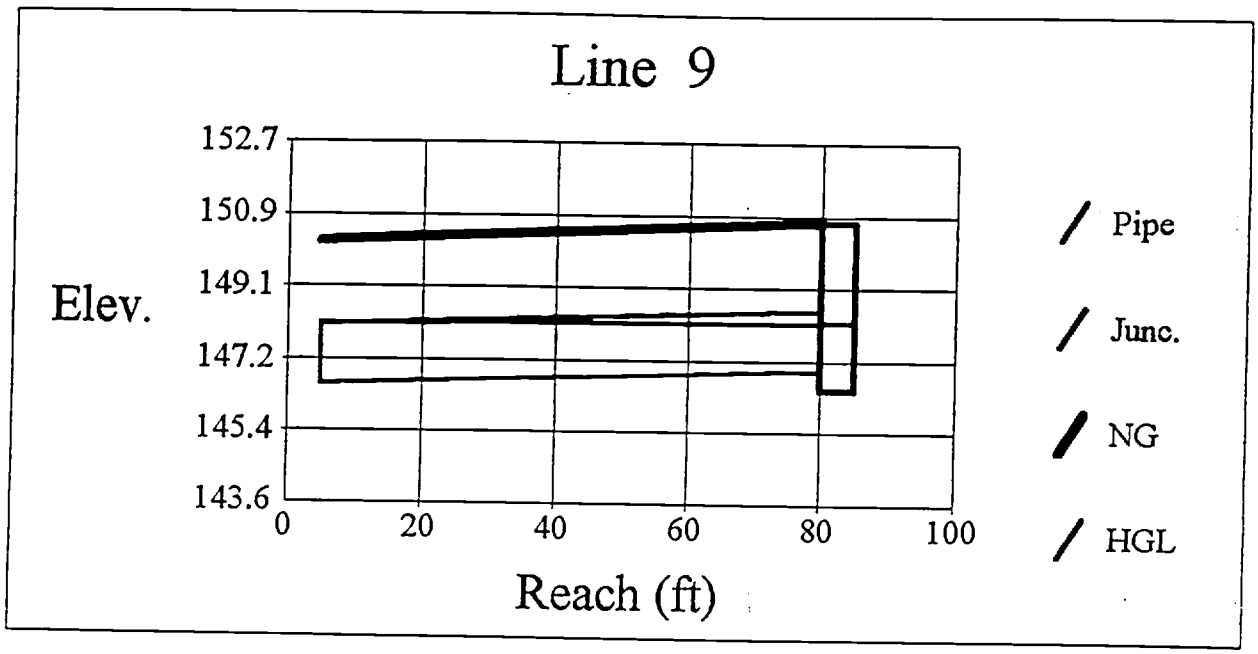

Line 4
Elev.
152.0
148.8
145.6
142.4
139.2
136.0
0
20
40
60
80
100
Reach (ft)
Pipe
Junc.
NG
HGL

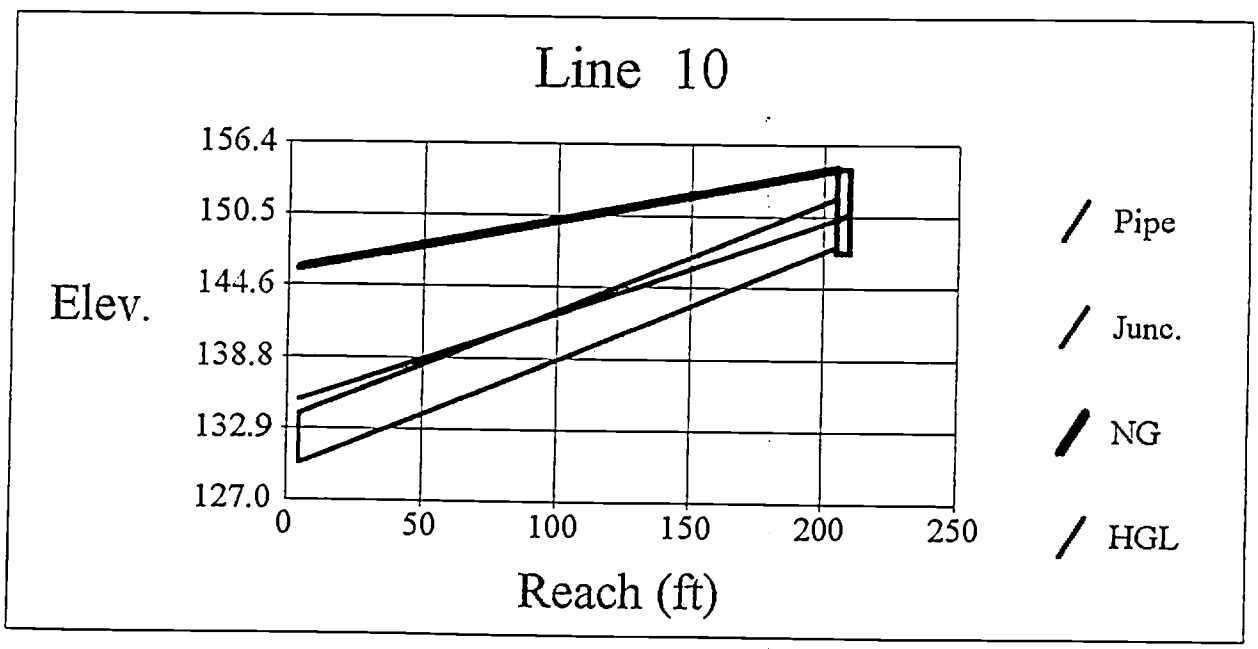

Line 5
Elev.
154.5
151.9
149.3
146.7
144.1
141.5
0
20
40
60
80
100
Reach (ft)
Pipe
Junc.
NG
HGL

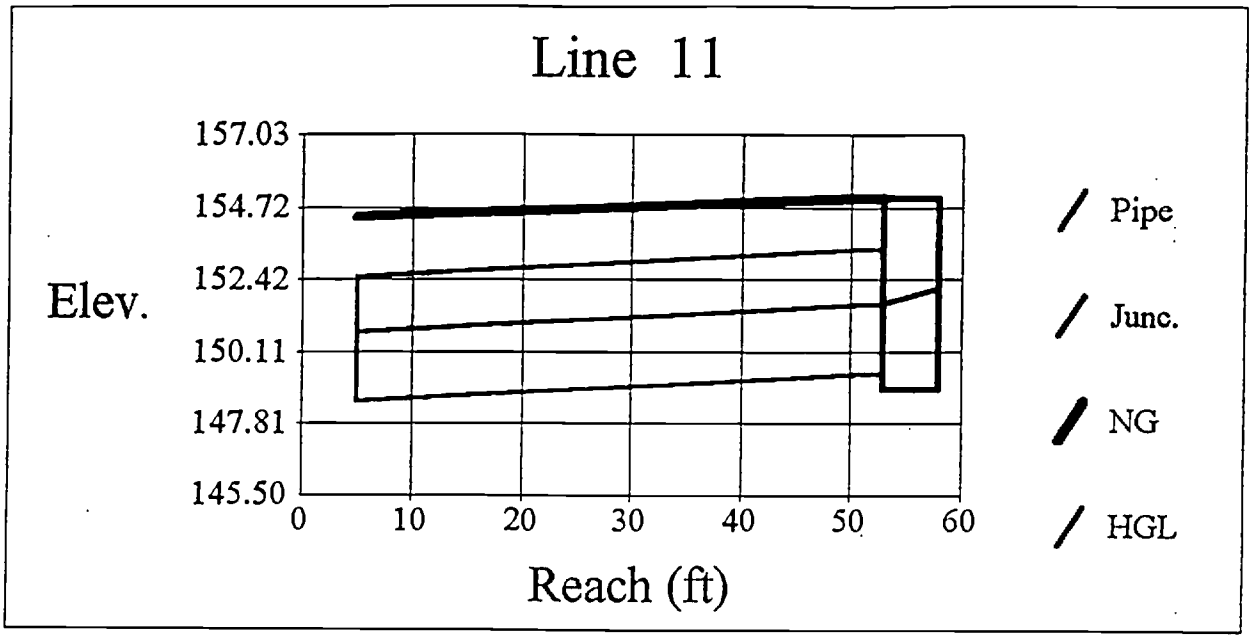

Line 6
Elev.
159.0
155.9
152.8
149.7
146.6
143.5
0
50
100
150
Reach (ft)
Pipe
Junc.
NG
HGL

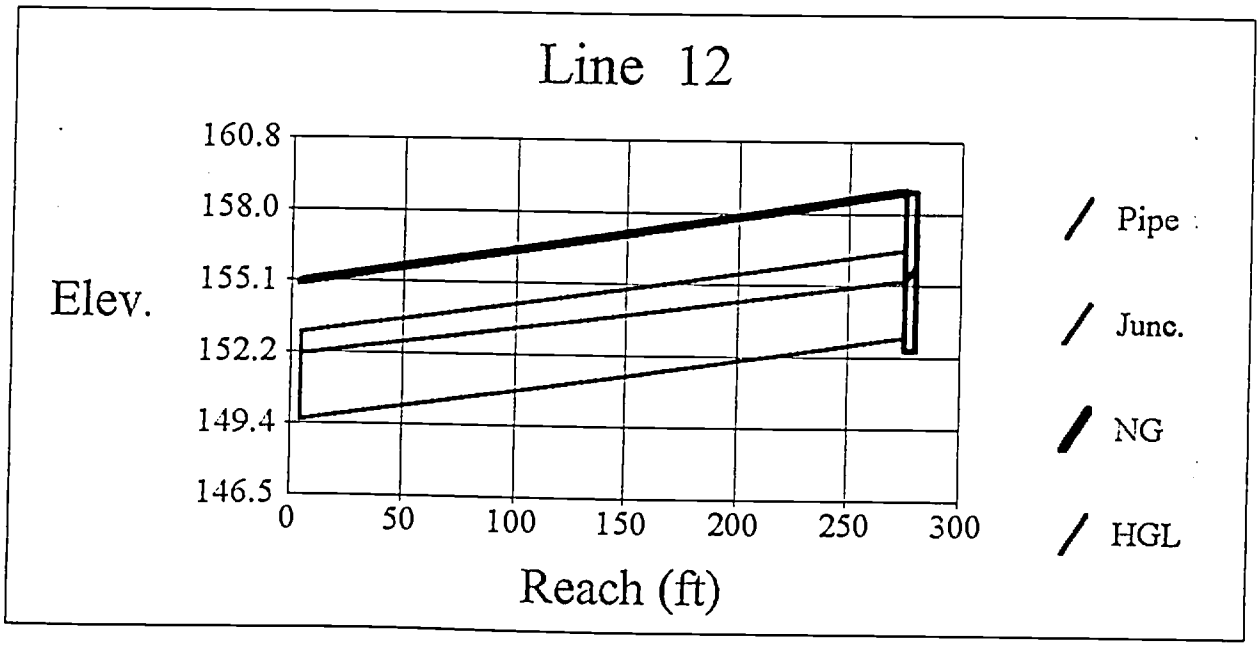

Line 7
Elev.
152.2
149.2
146.2
143.3
140.3
137.3
0
10
20
30
40
50
Reach (ft)
Pipe
Junc.
NG
HGL

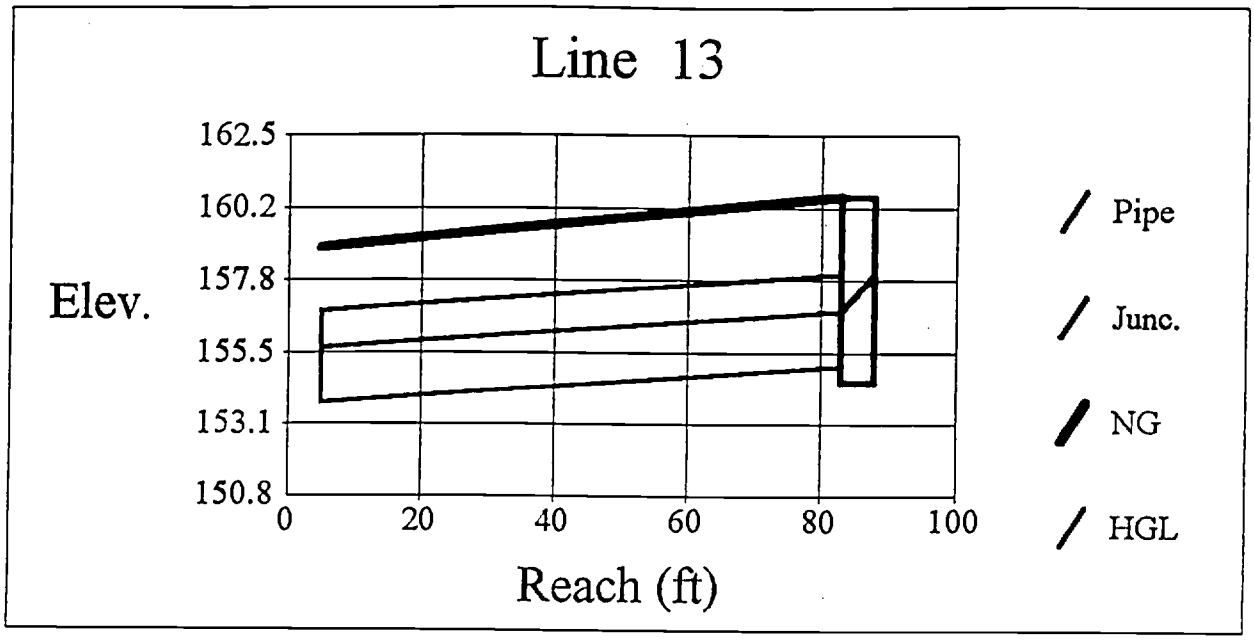

Line 8
Elev.
153.4
151.5
149.5
147.5
145.6
143.6
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

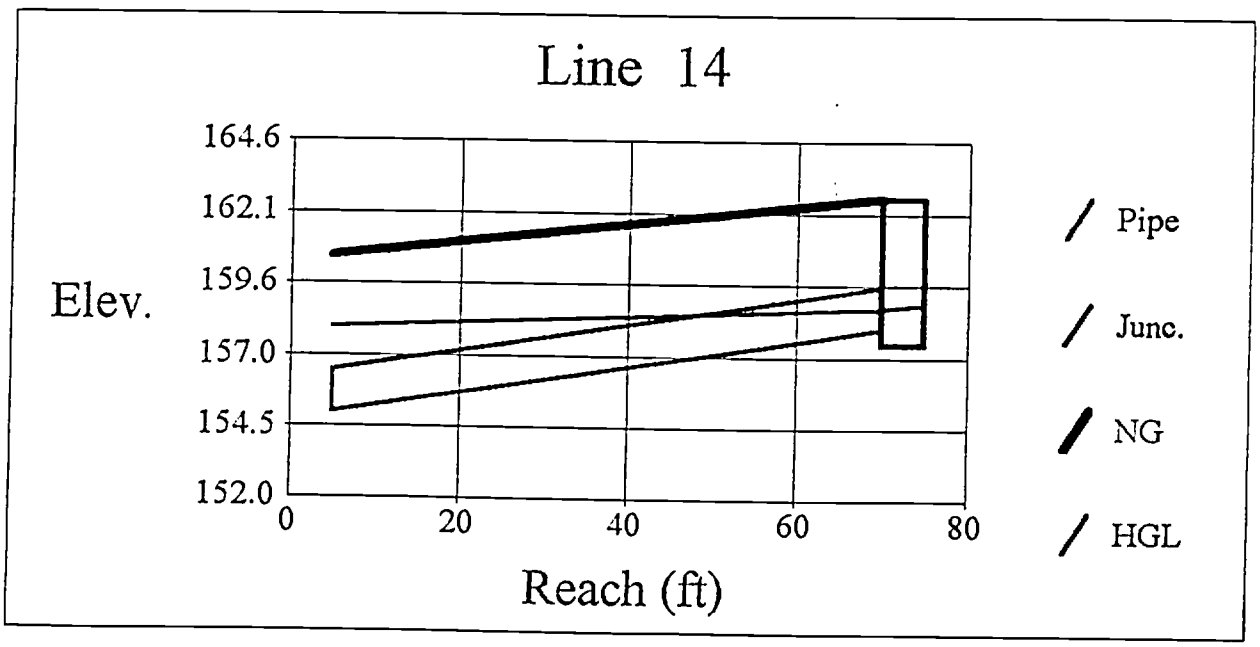

Line 9
Elev.
152.7
150.9
149.1
147.2
145.4
143.6
0
20
40
60
80
100
Reach (ft)
Pipe
Junc.
NG
HGL

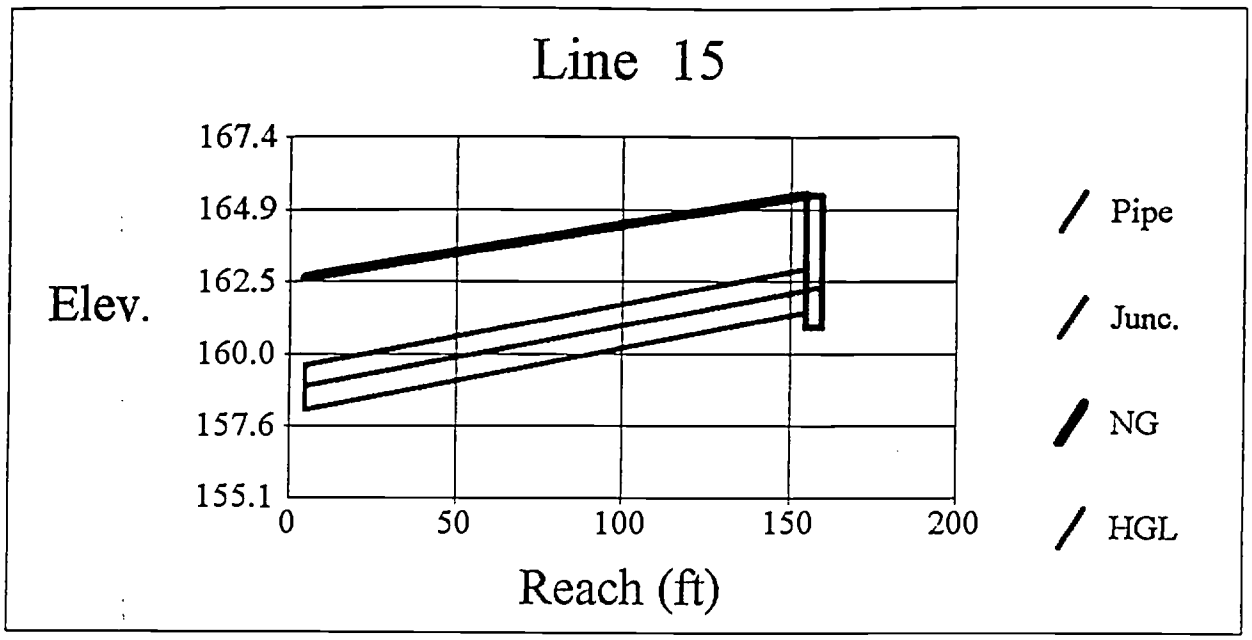

Line 10
Elev.
156.4
150.5
144.6
138.8
132.9
127.0
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

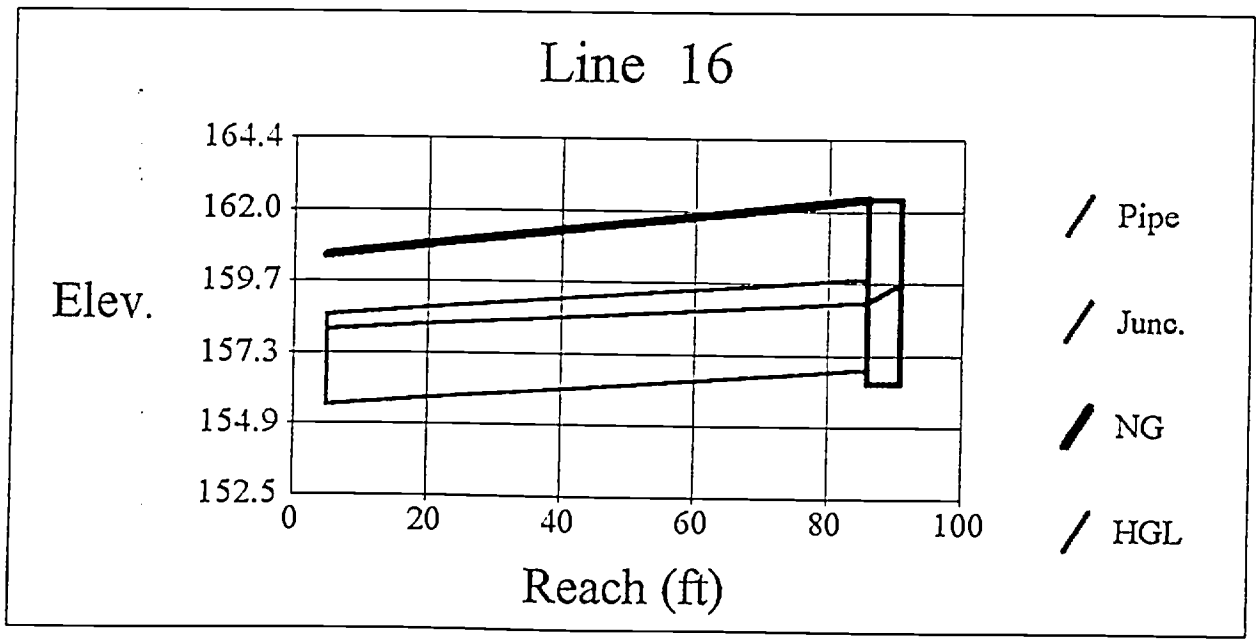

Line 11
Elev.
157.03
154.72
152.42
150.11
147.81
145.50
0
10
20
30
40
50
60
Reach (ft)
Pipe
Junc.
NG
HGL

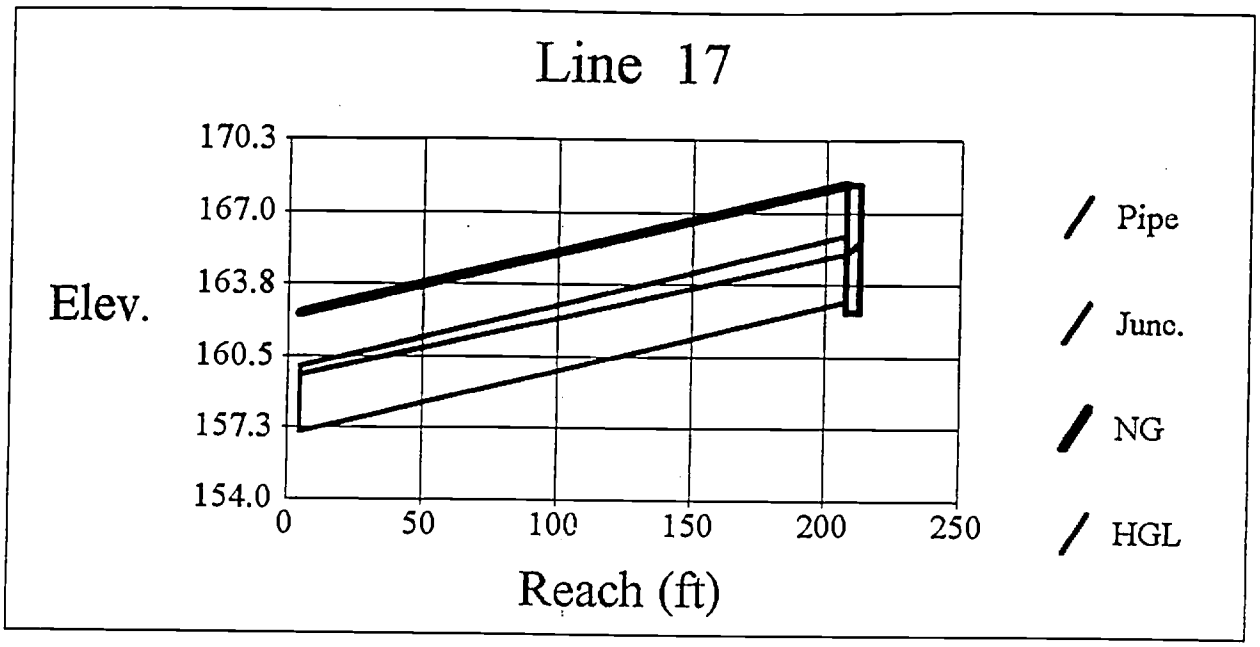

Line 12
Elev.
160.8
158.0
155.1
152.2
149.4
146.5
0
50
100
150
200
250
300
Reach (ft)
Pipe
Junc.
NG
HGL

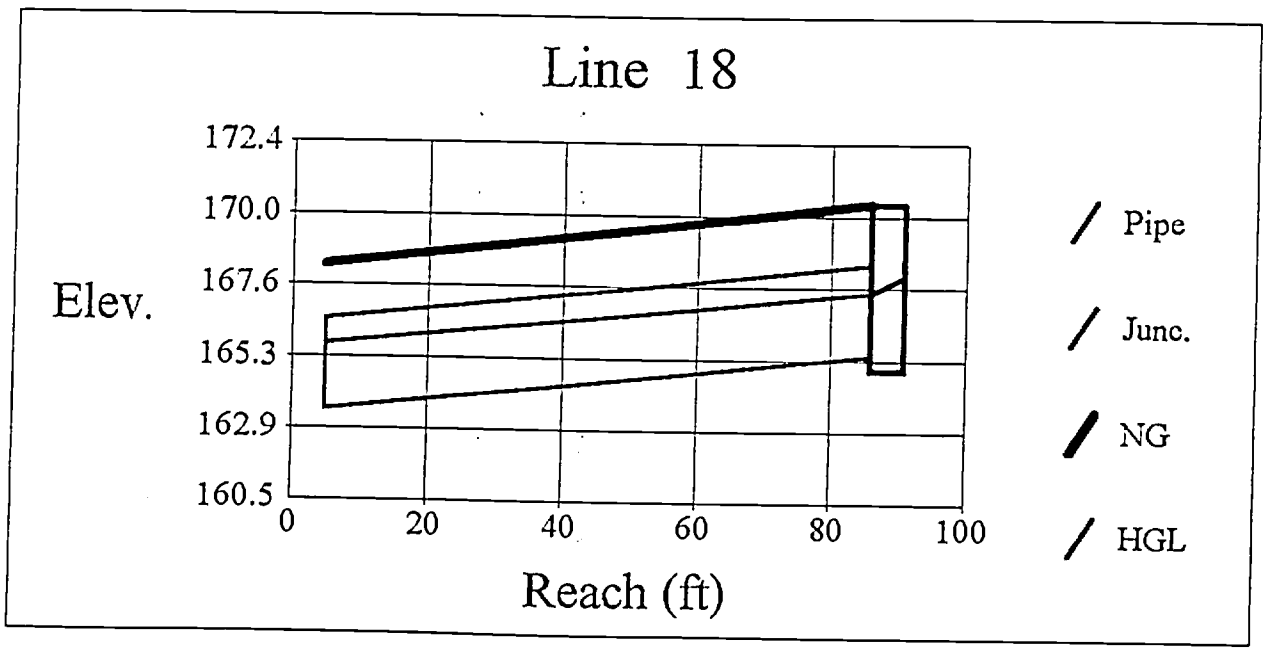

Line 13
Elev.
162.5
160.2
157.8
155.5
153.1
150.8
0
20
40
60
80
100
Reach (ft)
Pipe
Junc.
NG
HGL

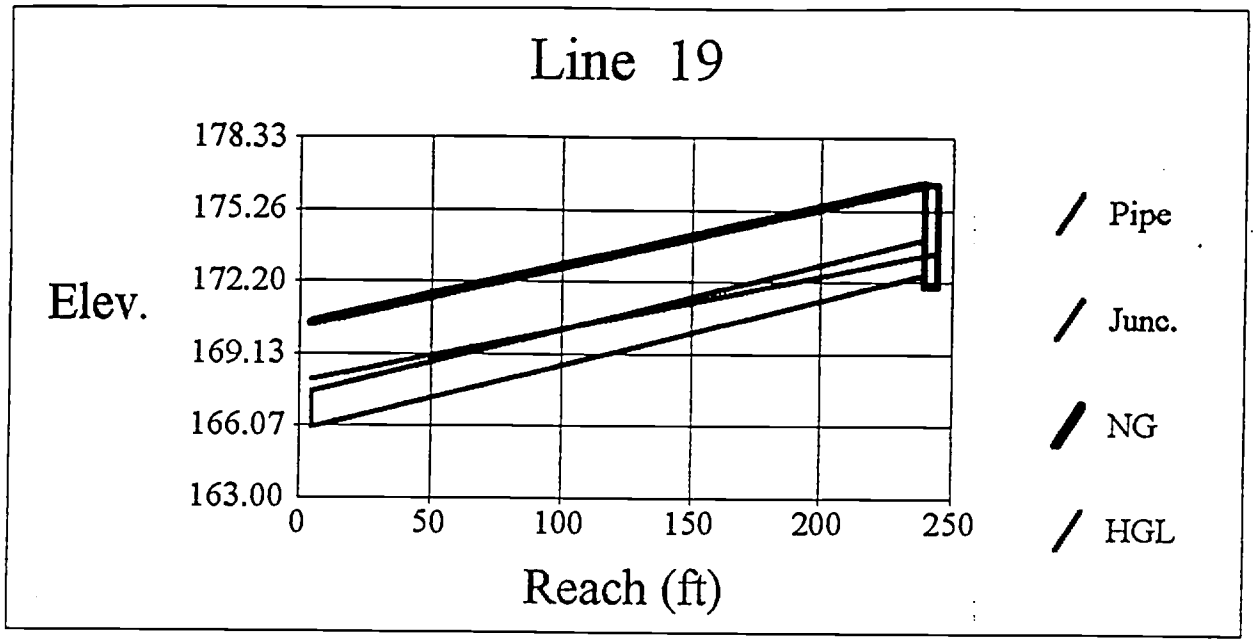

Line 14
Elev.
164.6
162.1
159.6
157.0
154.5
152.0
0
20
40
60
80
Reach (ft)
Pipe
Junc.
NG
HGL

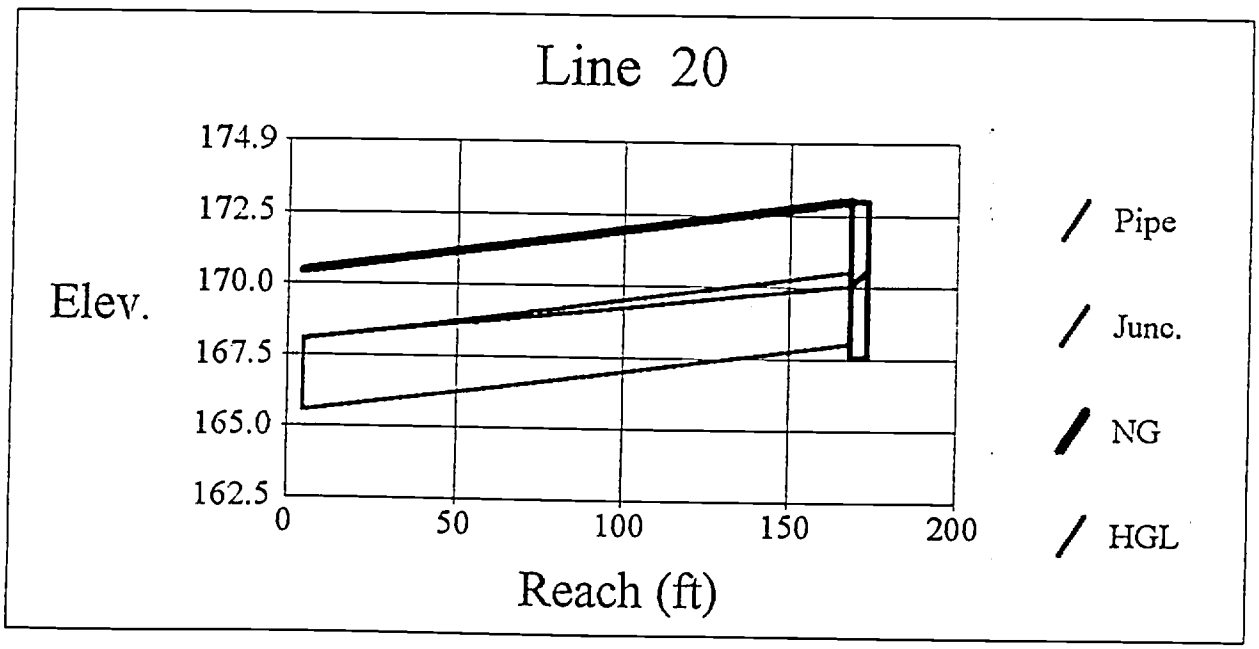

Line 15
Elev.
167.4
164.9
162.5
160.0
157.6
155.1
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

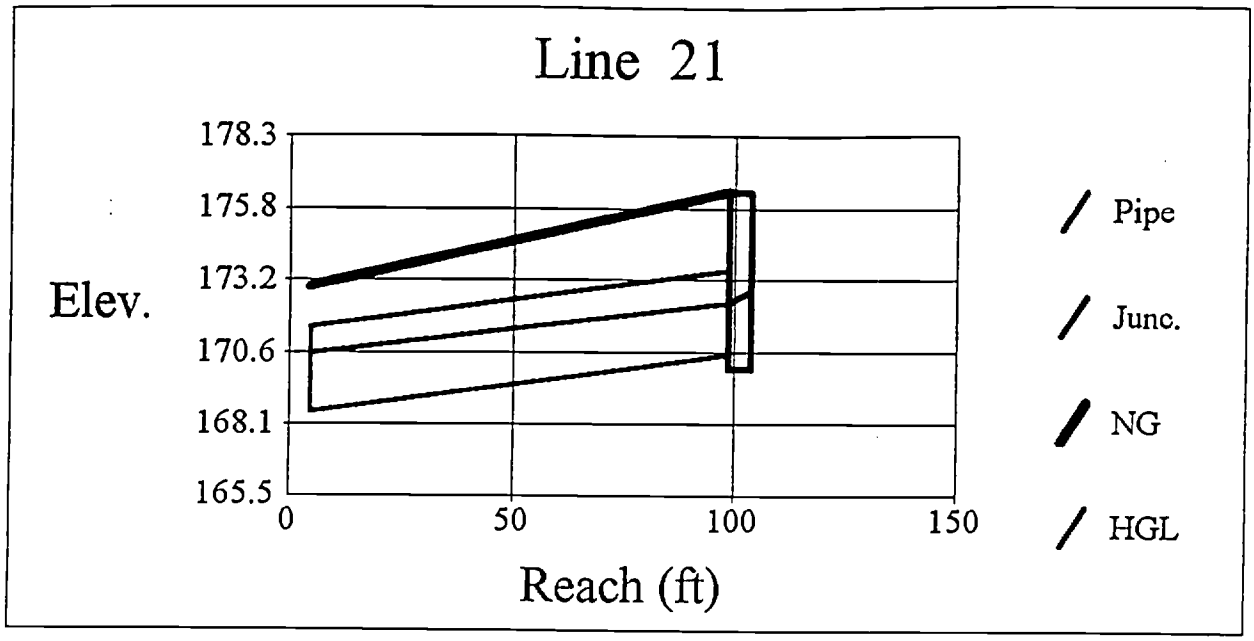

Line 16
Elev.
164.4
162.0
159.7
157.3
154.9
152.5
0
20
40
60
80
100
Reach (ft)
Pipe
Junc.
NG
HGL

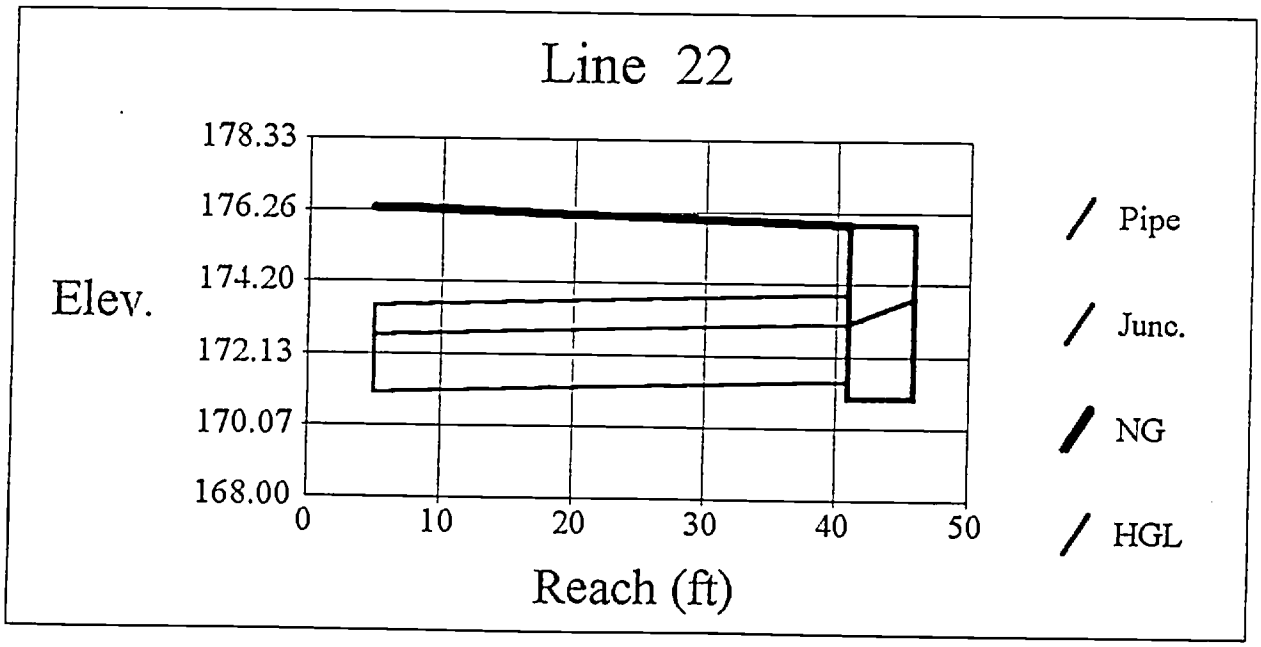

Line 17
Elev.
170.3
167.0
163.8
160.5
157.3
154.0
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

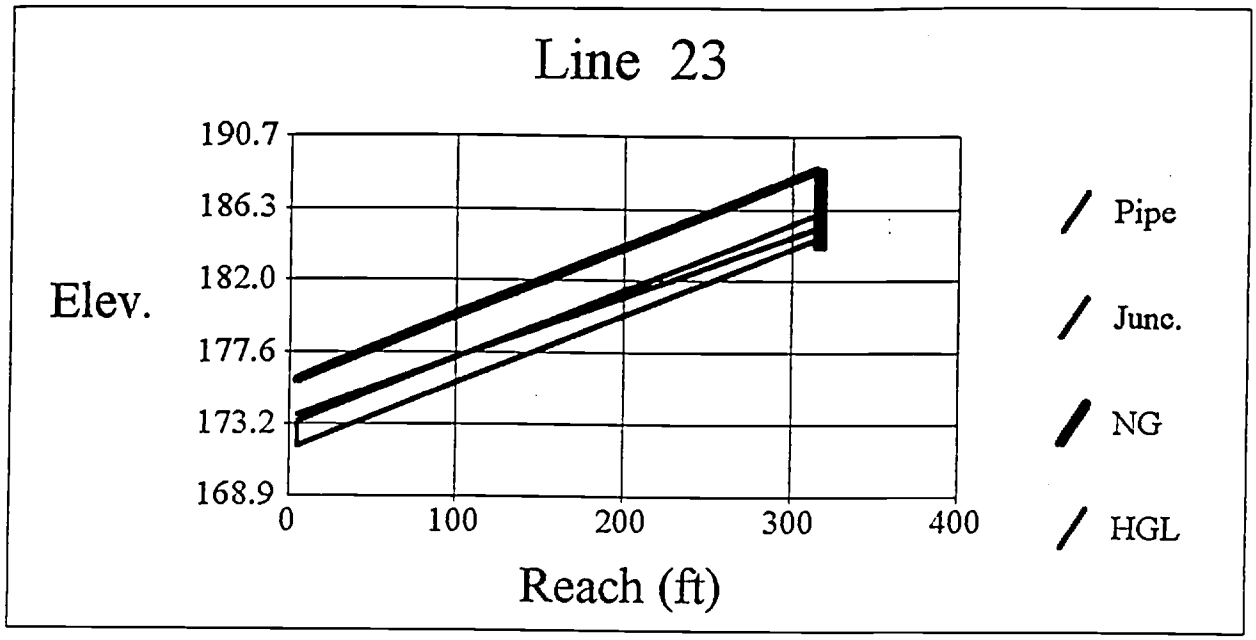

Line 18
Elev.
172.4
170.0
167.6
165.3
162.9
160.5
0
20
40
60
80
100
Reach (ft)
Pipe
Junc.
NG
HGL

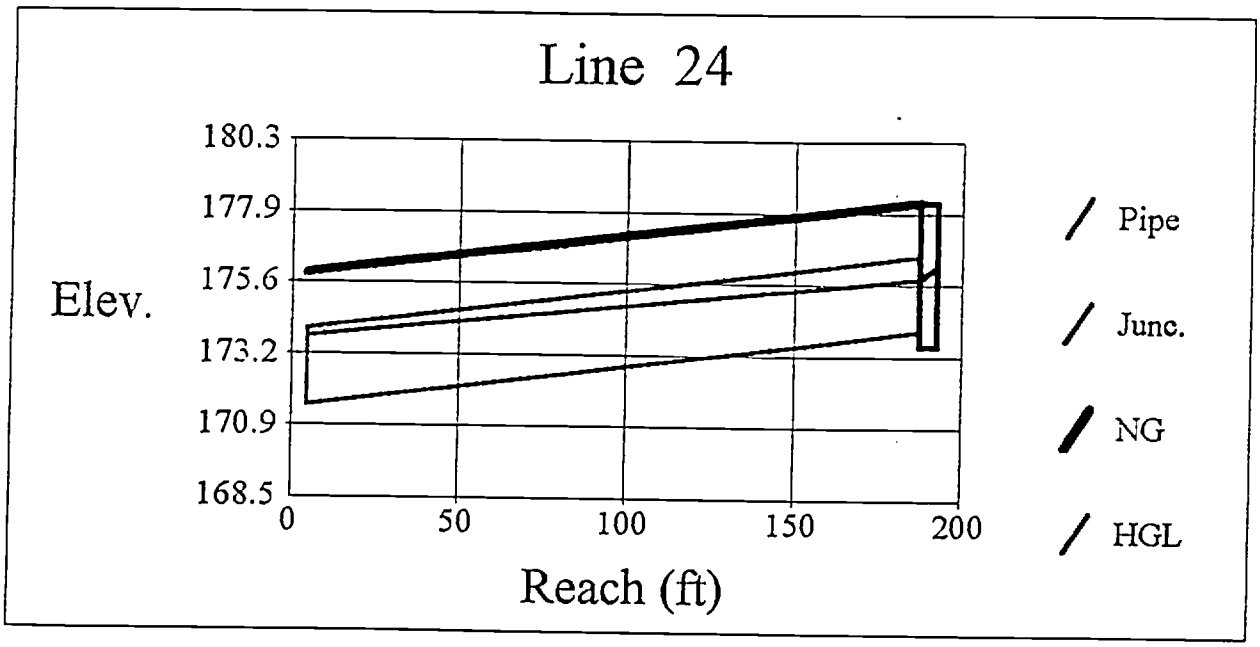

Line 19
Elev.
178.33
175.26
172.20
169.13
166.07
163.00
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

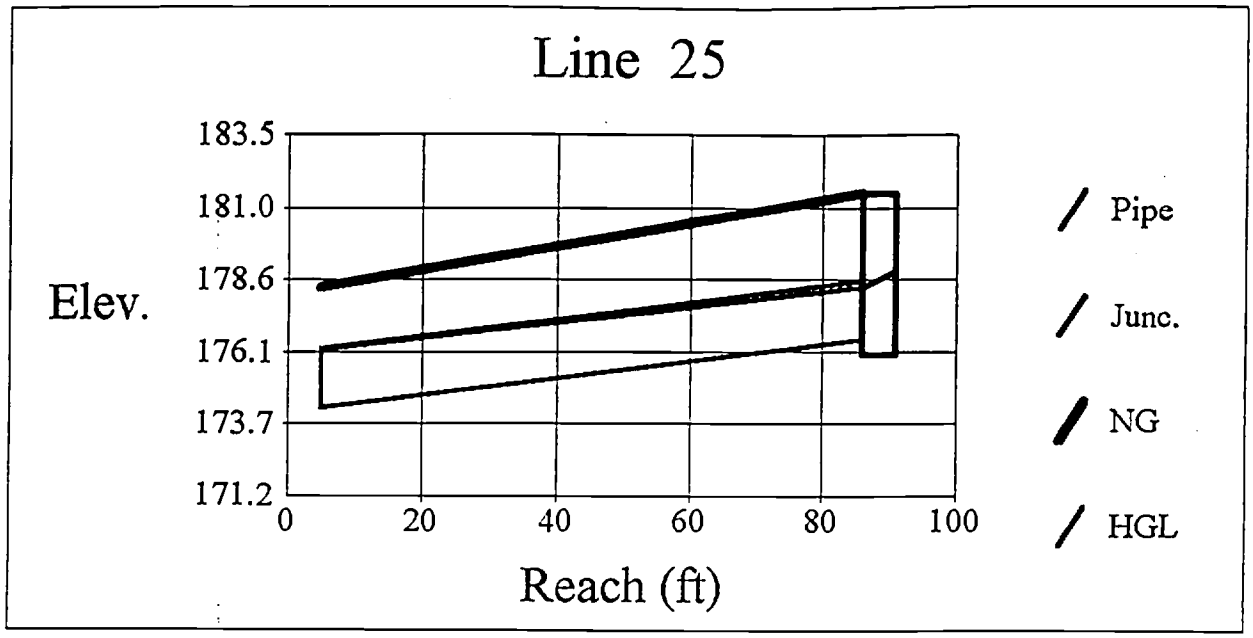

Line 20
Elev.
174.9
172.5
170.0
167.5
165.0
162.5
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

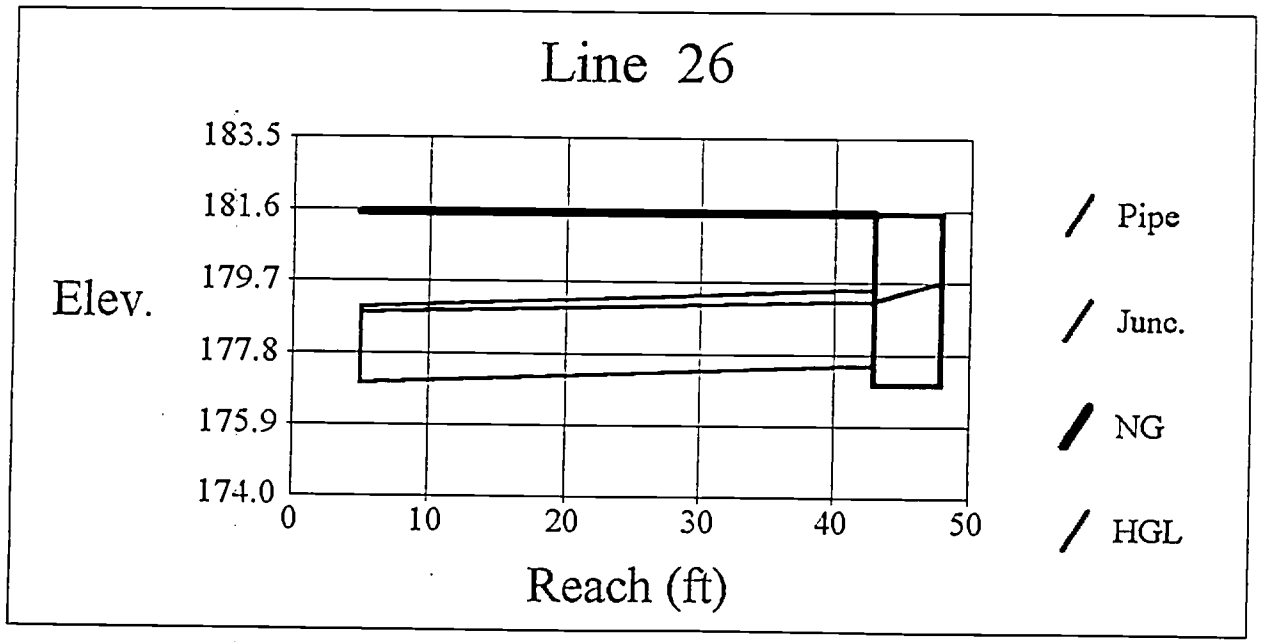

Line 21
Elev.
178.3
175.8
173.2
170.6
168.1
165.5
0
50
100
150
Reach (ft)
Pipe
Junc.
NG
HGL

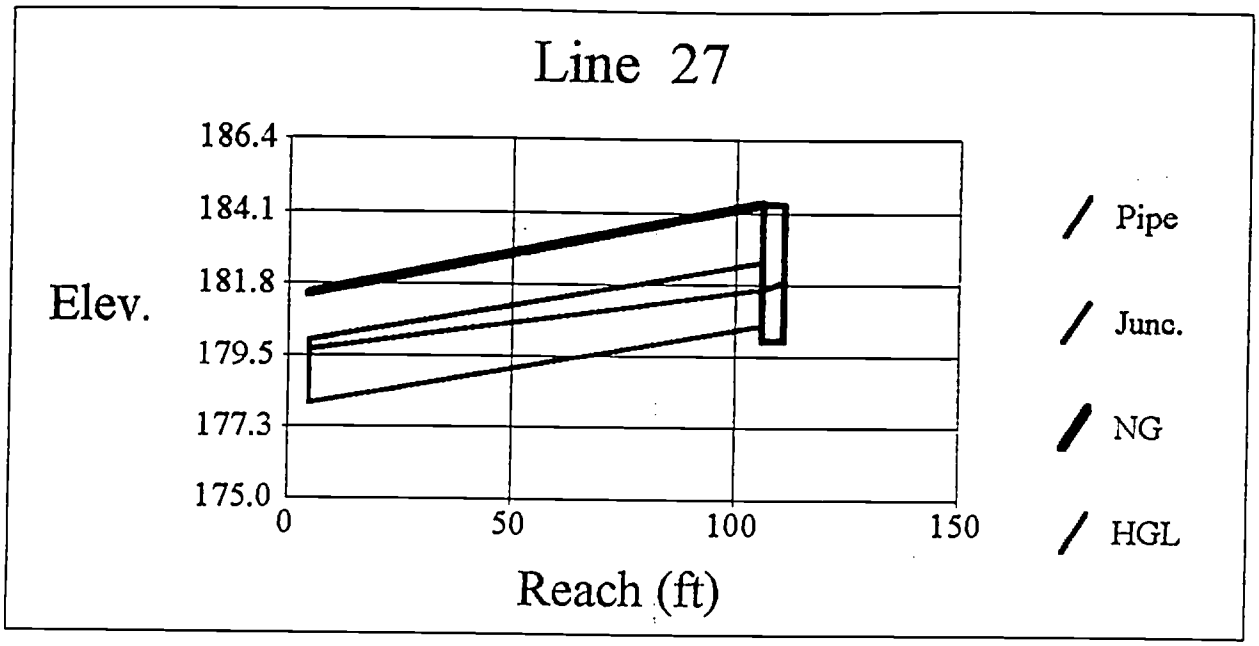

Line 22
Elev.
178.33
176.26
174.20
172.13
170.07
168.00
0
10
20
30
40
50
Reach (ft)
Pipe
Junc.
NG
HGL

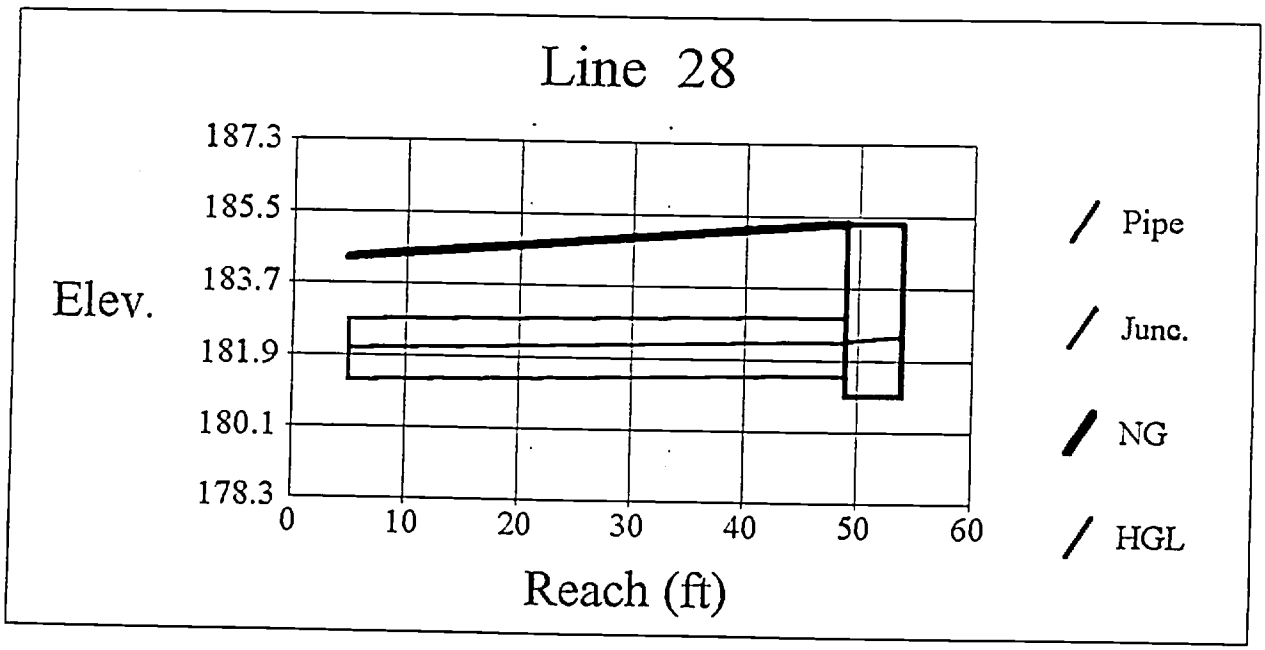

Line 23
Elev.
190.7
186.3
182.0
177.6
173.2
168.9
0
100
200
300
400
Reach (ft)
Pipe
Junc.
NG
HGL

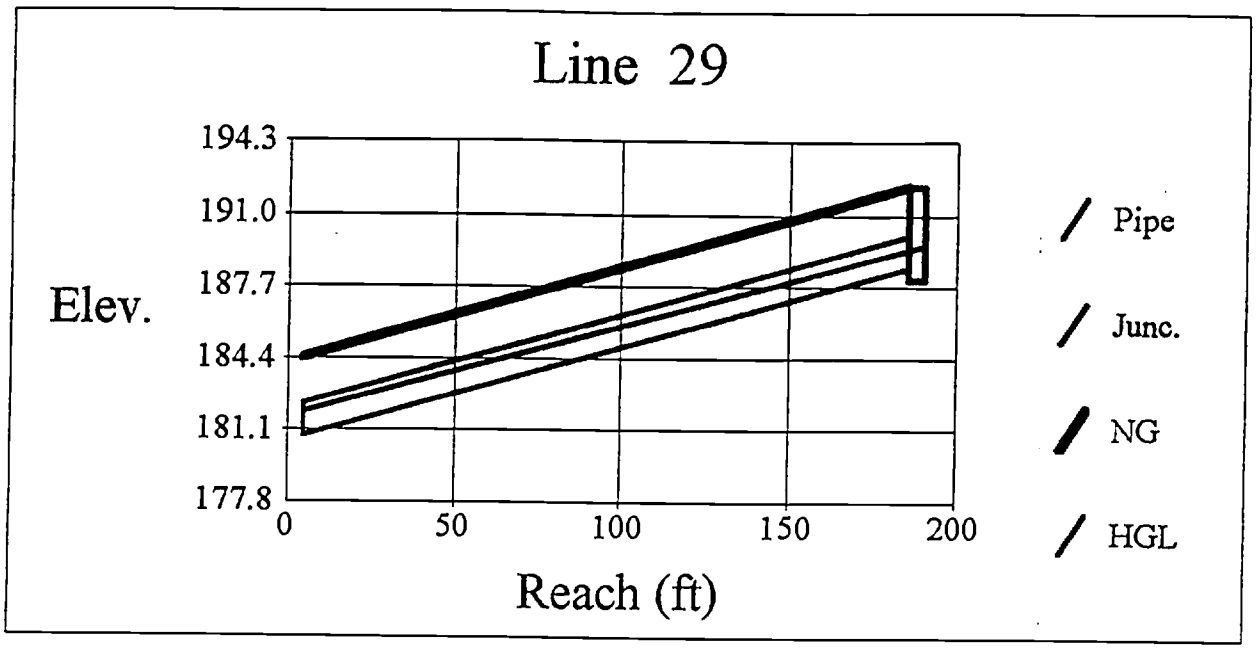

Line 24
Elev.
180.3
177.9
175.6
173.2
170.9
168.5
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

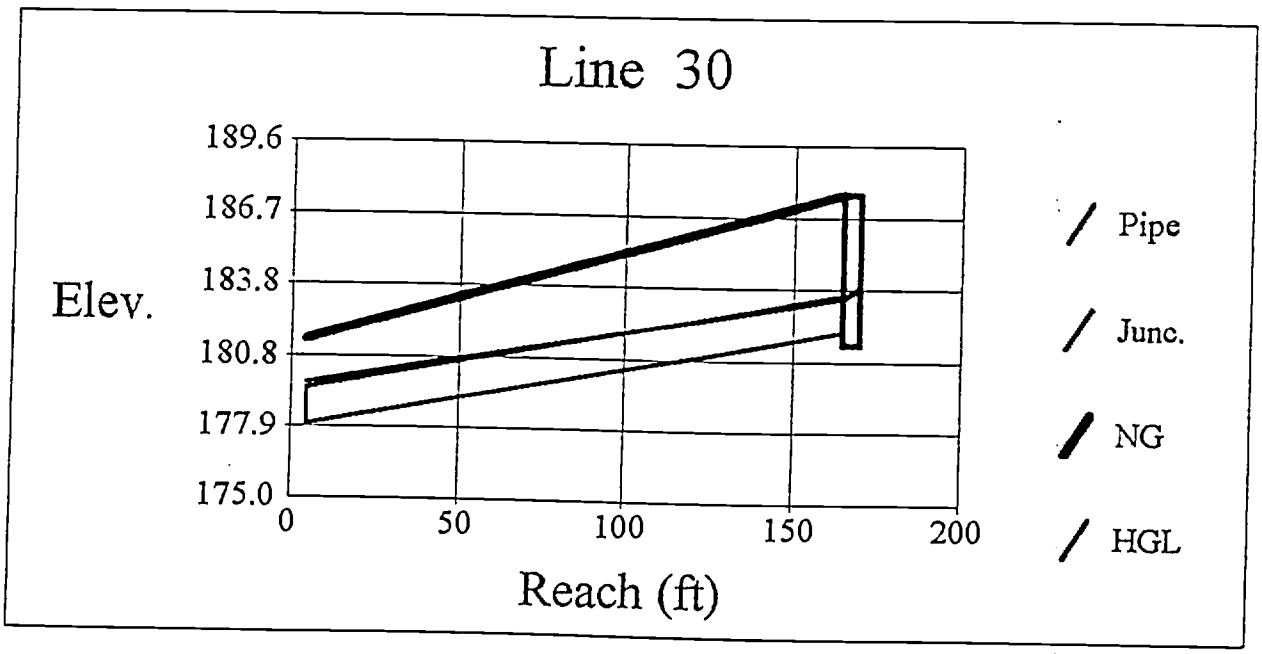

Line 25
Elev.
183.5
181.0
178.6
176.1
173.7
171.2
0
20
40
60
80
100
Reach (ft)
Pipe
Junc.
NG
HGL

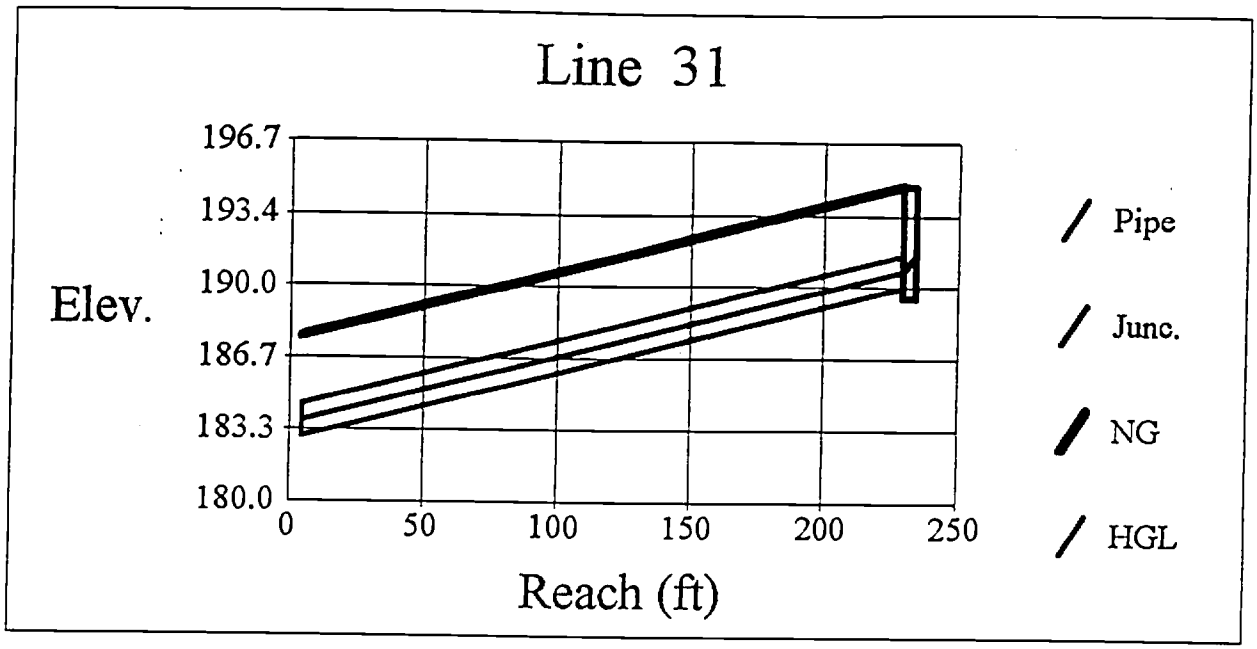

Line 26
Elev.
183.5
181.6
179.7
177.8
175.9
174.0
0
10
20
30
40
50
Reach (ft)
Pipe
Junc.
NG
HGL

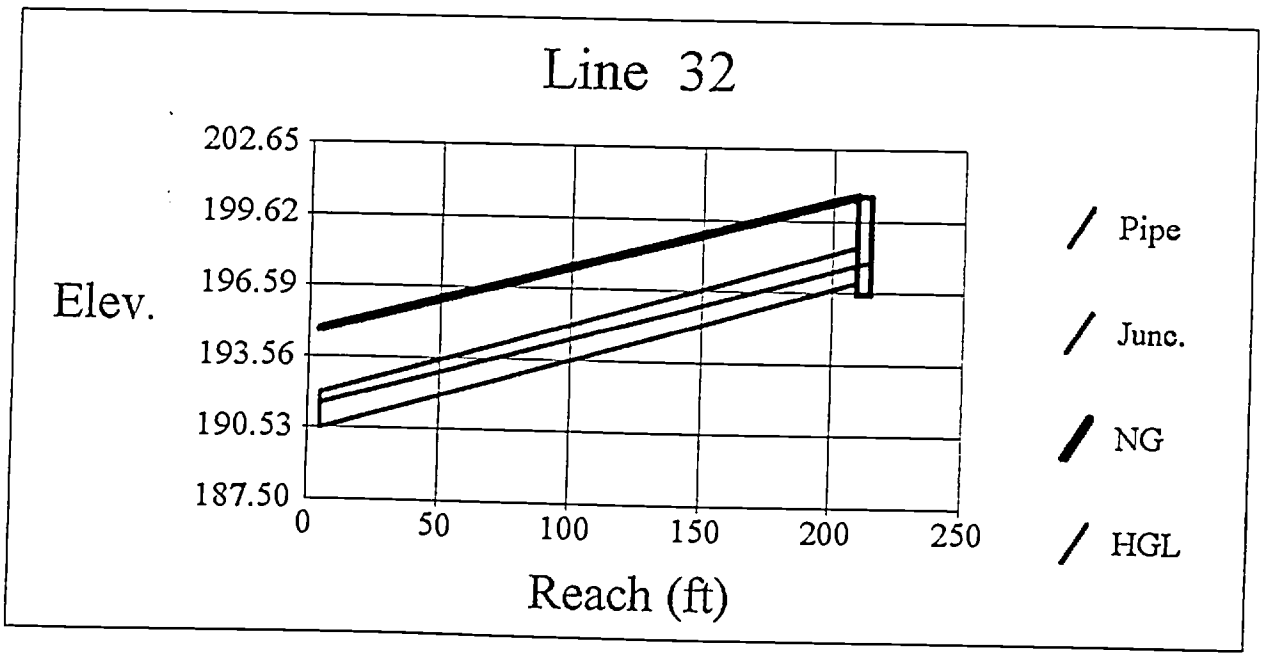

Line 27
186.4
184.1
181.8
179.5
177.3
175.0
Elev.
0
50
100
150
Reach (ft)
Pipe
Junc.
NG
HGL

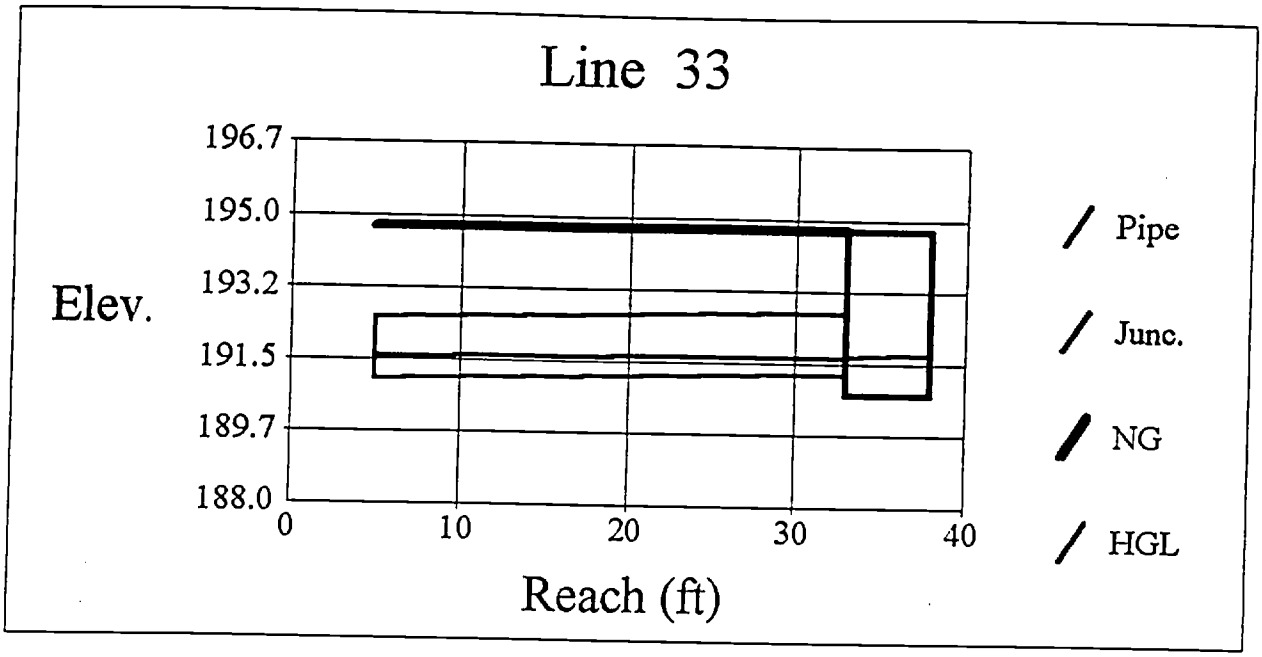

Line 28
187.3
185.5
183.7
181.9
180.1
178.3
Elev.
0
10
20
30
40
50
60
Reach (ft)
Pipe
Junc.
NG
HGL

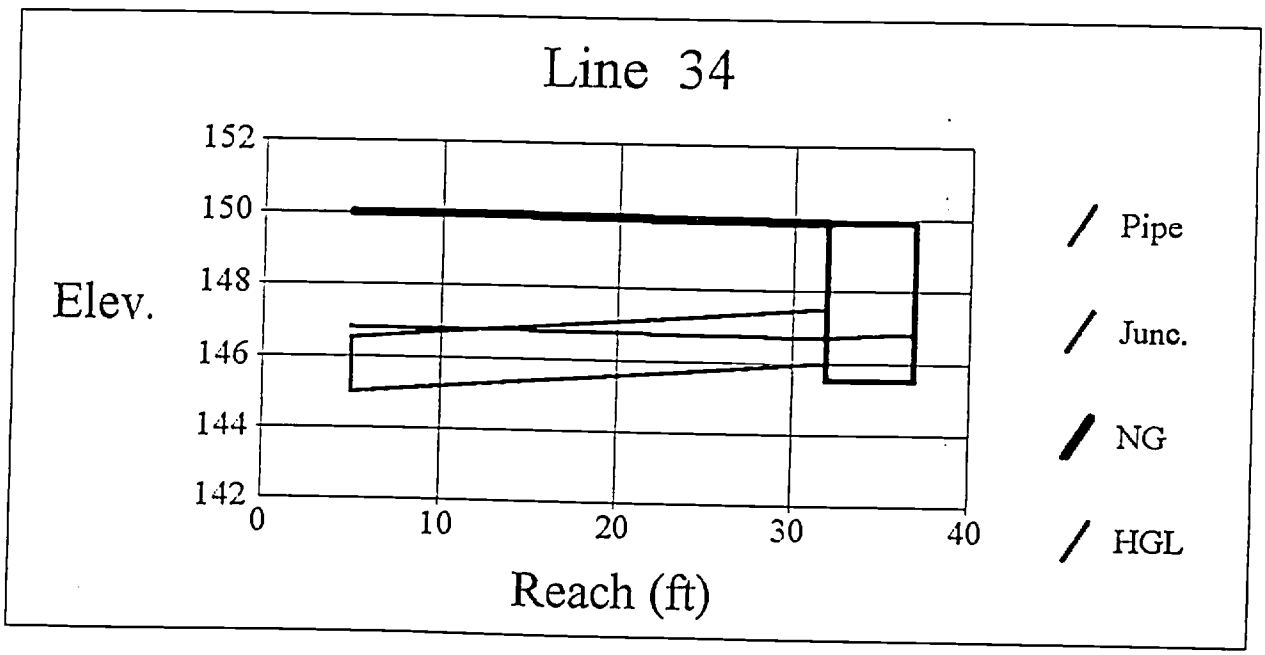

Line 29
Elev.
194.3
191.0
187.7
184.4
181.1
177.8
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

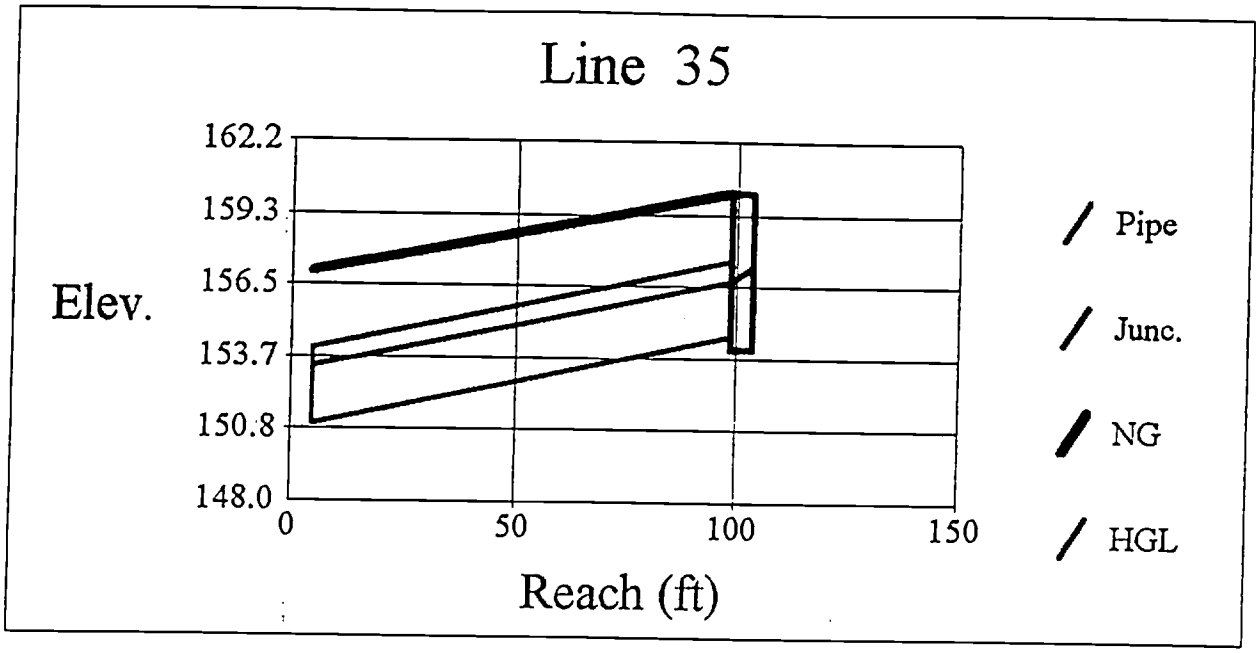

Line 30
Elev.
189.6
186.7
183.8
180.8
177.9
175.0
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

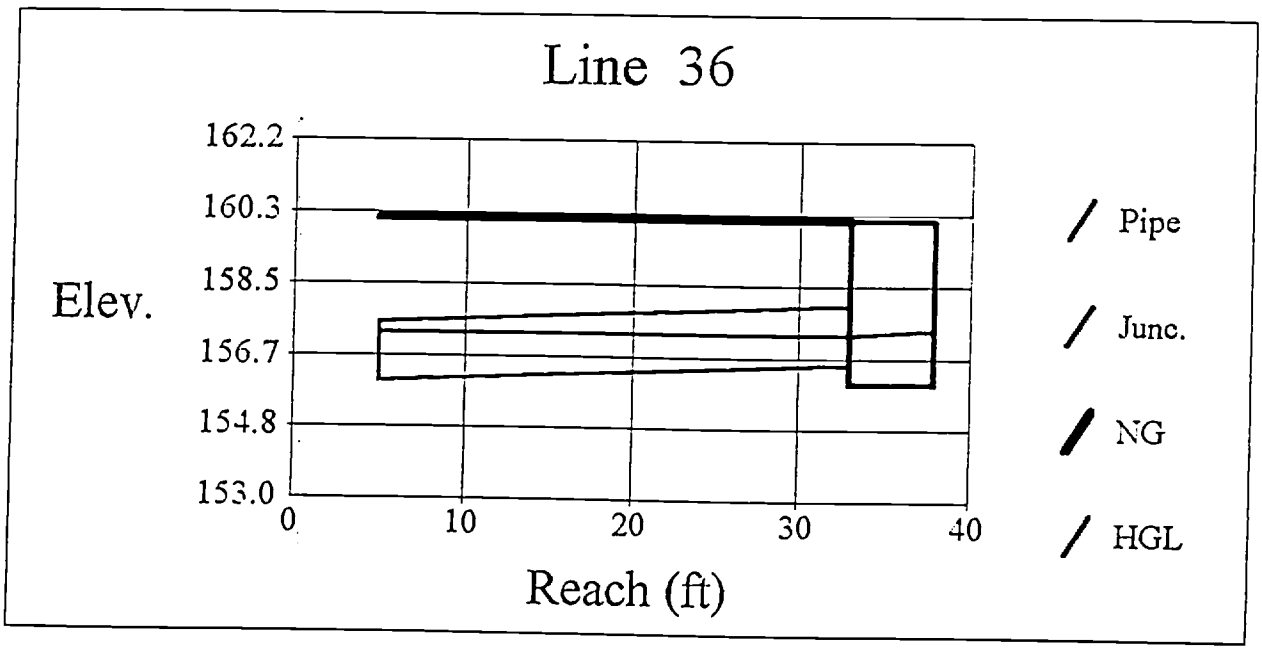

Line 31
Elev.
196.7
193.4
190.0
186.7
183.3
180.0
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

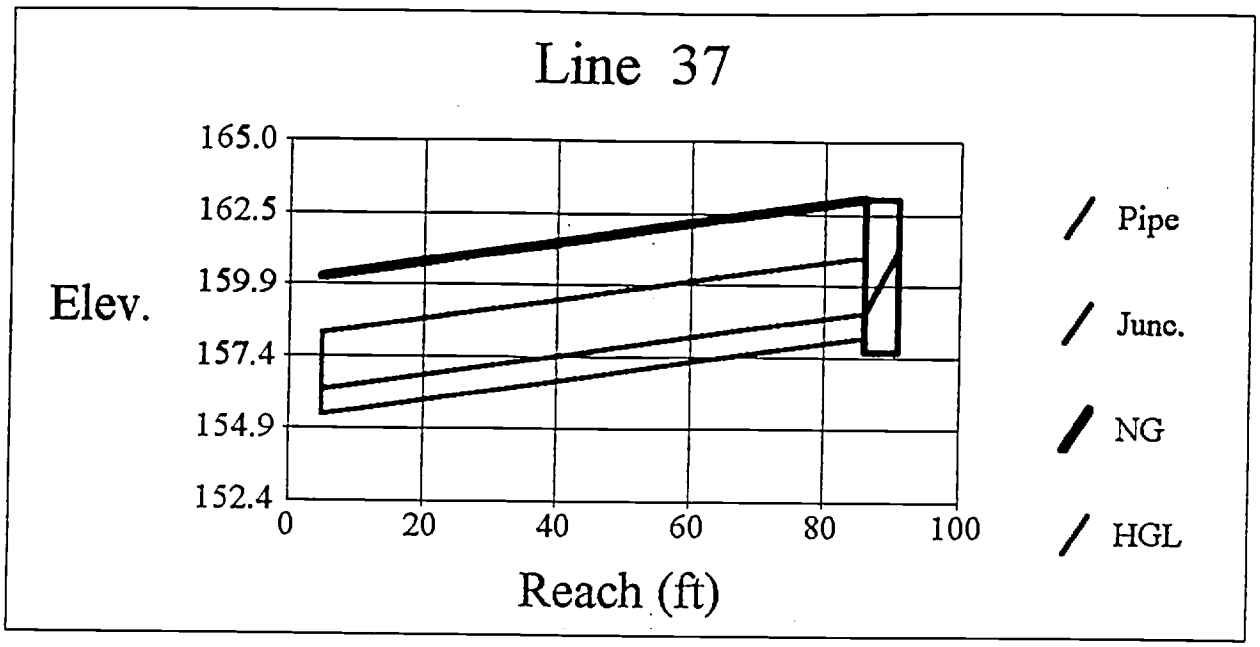

Line 32
Elev.
202.65
199.62
196.59
193.56
190.53
187.50
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

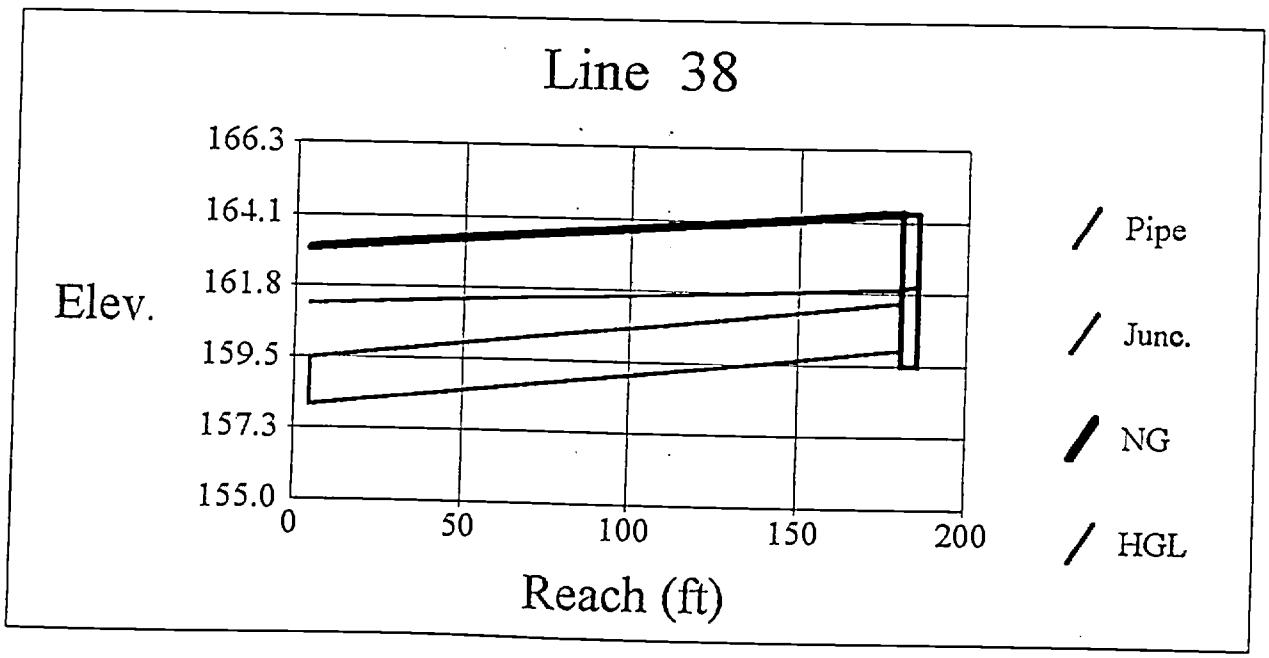

Line 33
Elev.
196.7
195.0
193.2
191.5
189.7
188.0
0
10
20
30
40
Reach (ft)
Pipe
Junc.
NG
HGL

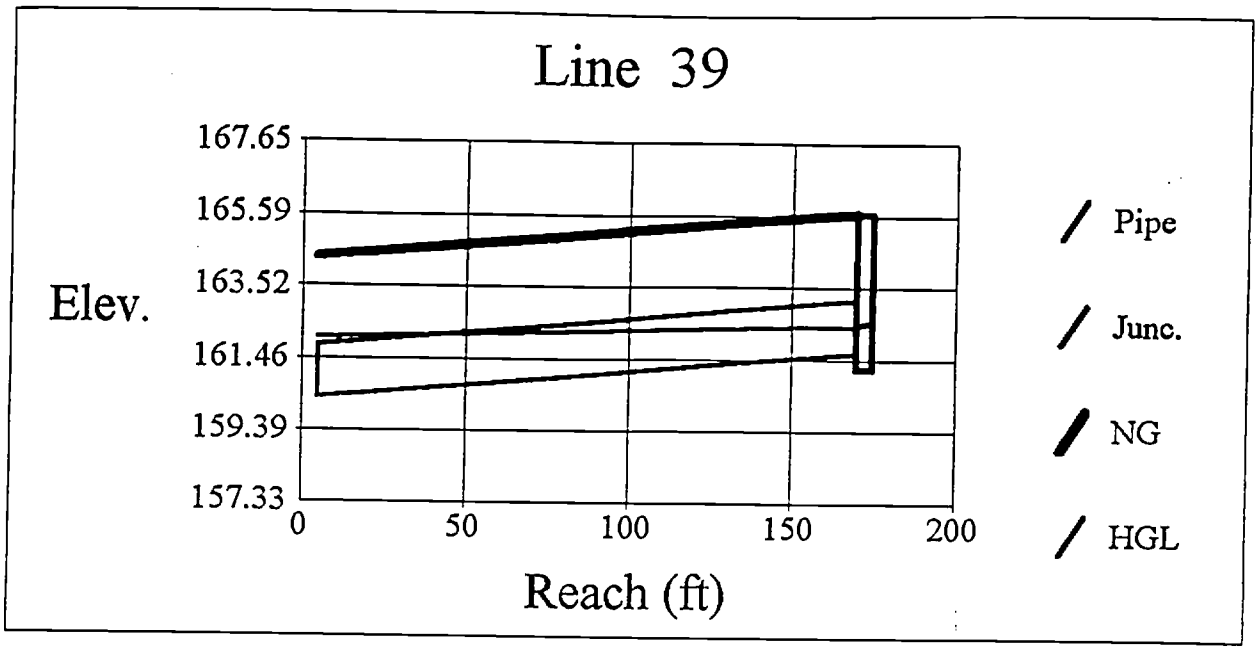

Line 34
Elev.
152
150
148
146
144
142
0
10
20
30
40
Reach (ft)
Pipe
Junc.
NG
HGL

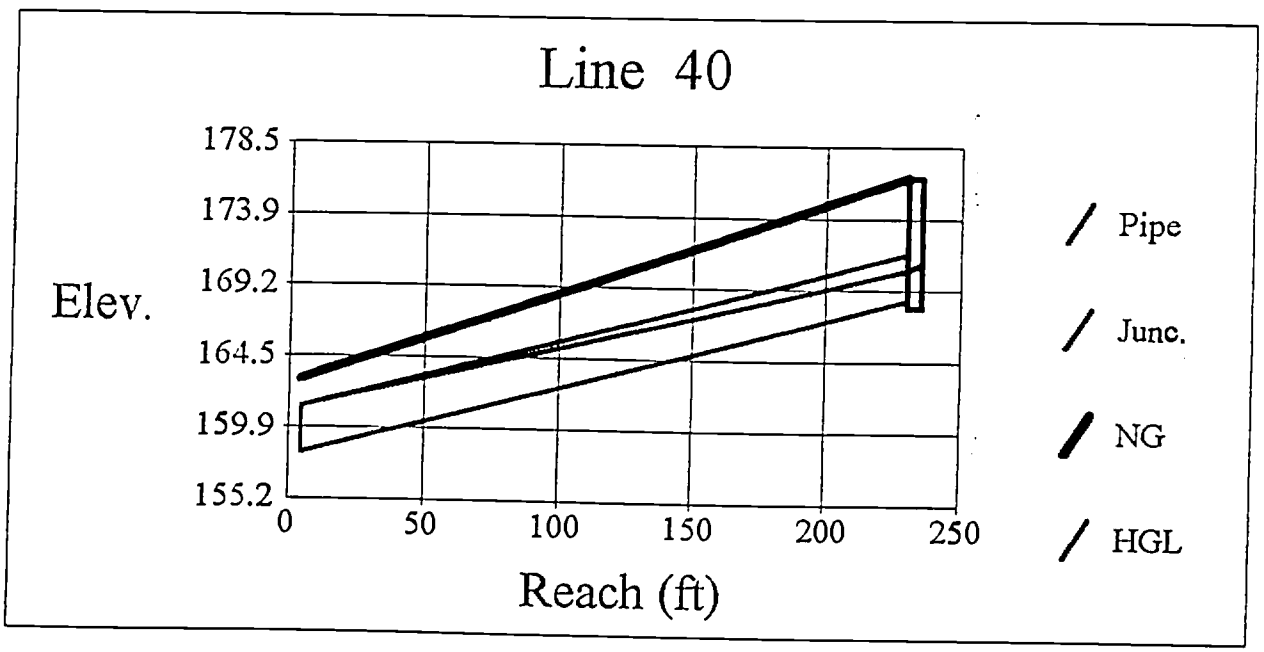

Line 35
Elev.
162.2
159.3
156.5
153.7
150.8
148.0
0
50
100
150
Reach (ft)
Pipe
Junc.
NG
HGL

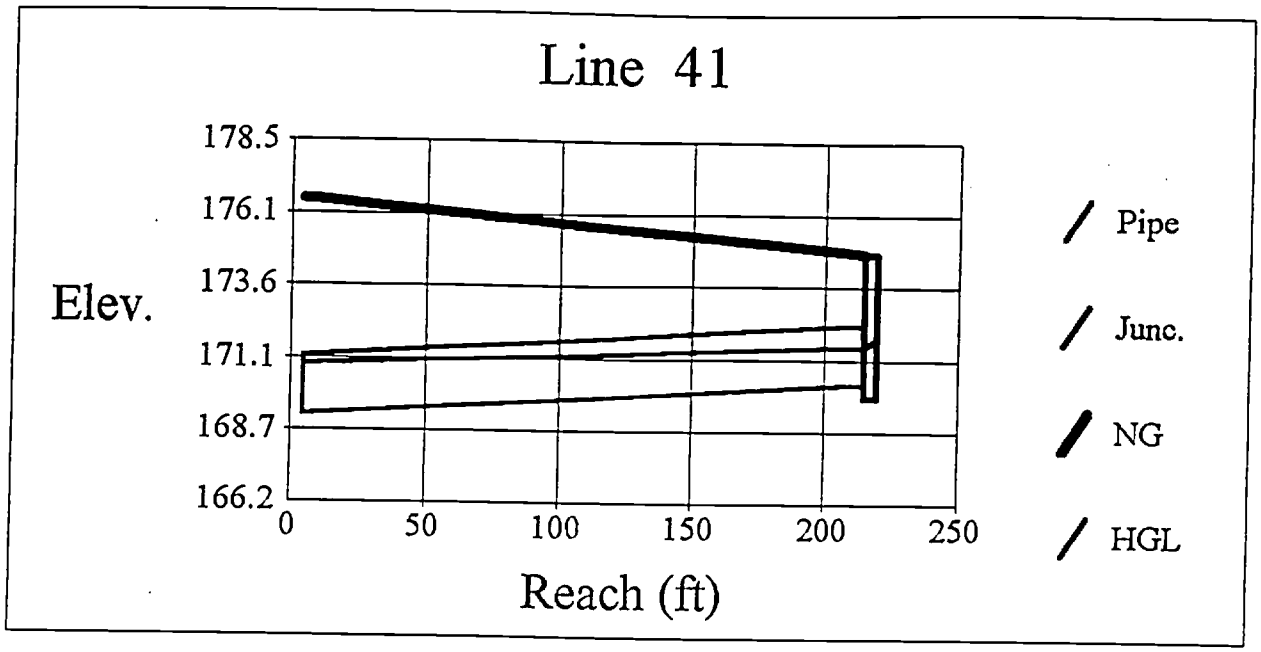

Line 36
Elev.
162.2
160.3
158.5
156.7
154.8
153.0
0
10
20
30
40
Reach (ft)
Pipe
Junc.
NG
HGL

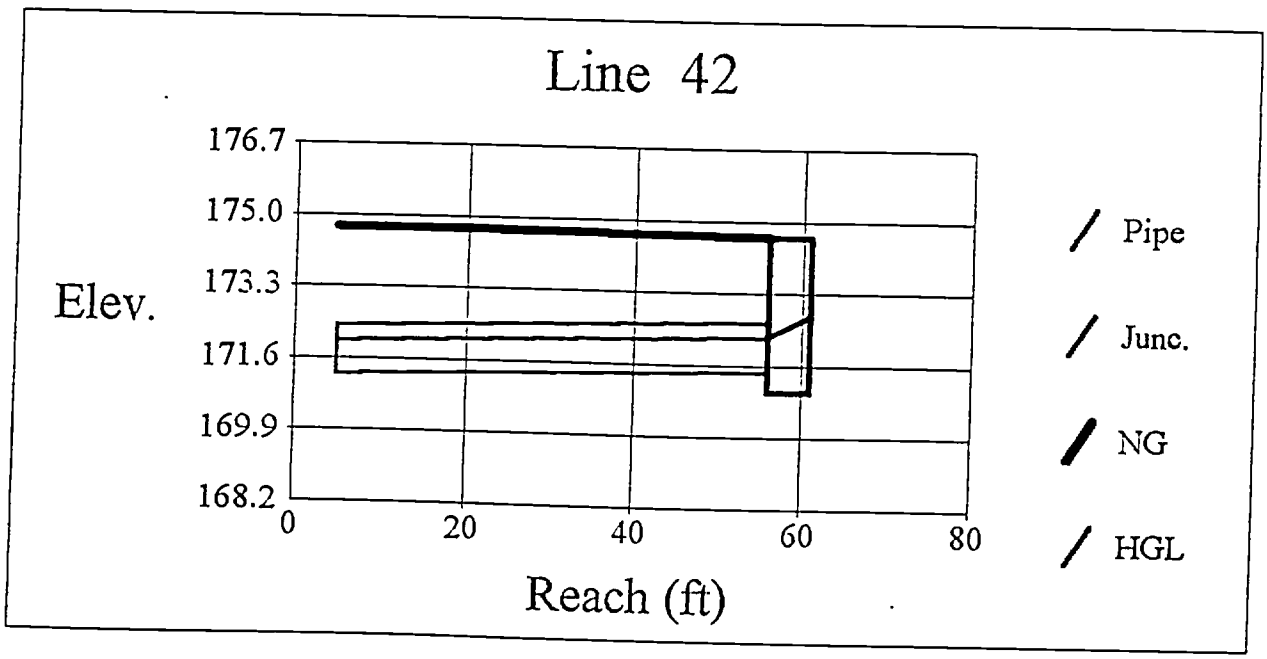

Line 37
Elev.
165.0
162.5
159.9
157.4
154.9
152.4
0
20
40
60
80
100
Reach (ft)
Pipe
Junc.
NG
HGL

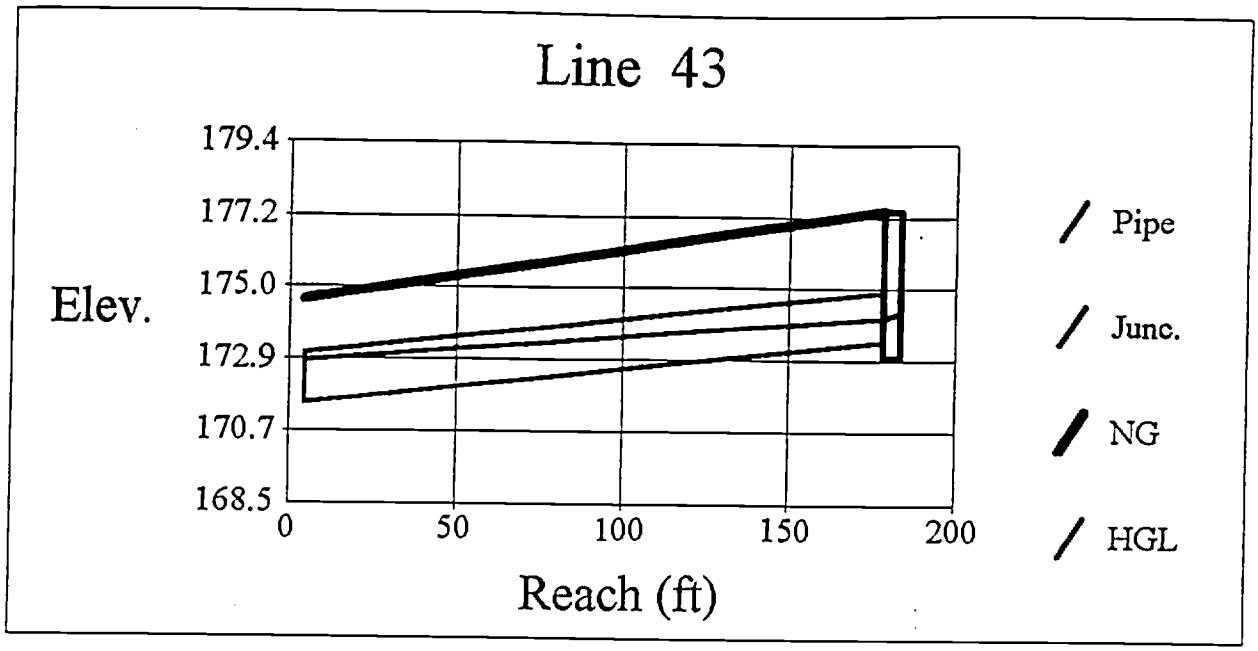

Line 38
Elev.
166.3
164.1
161.8
159.5
157.3
155.0
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

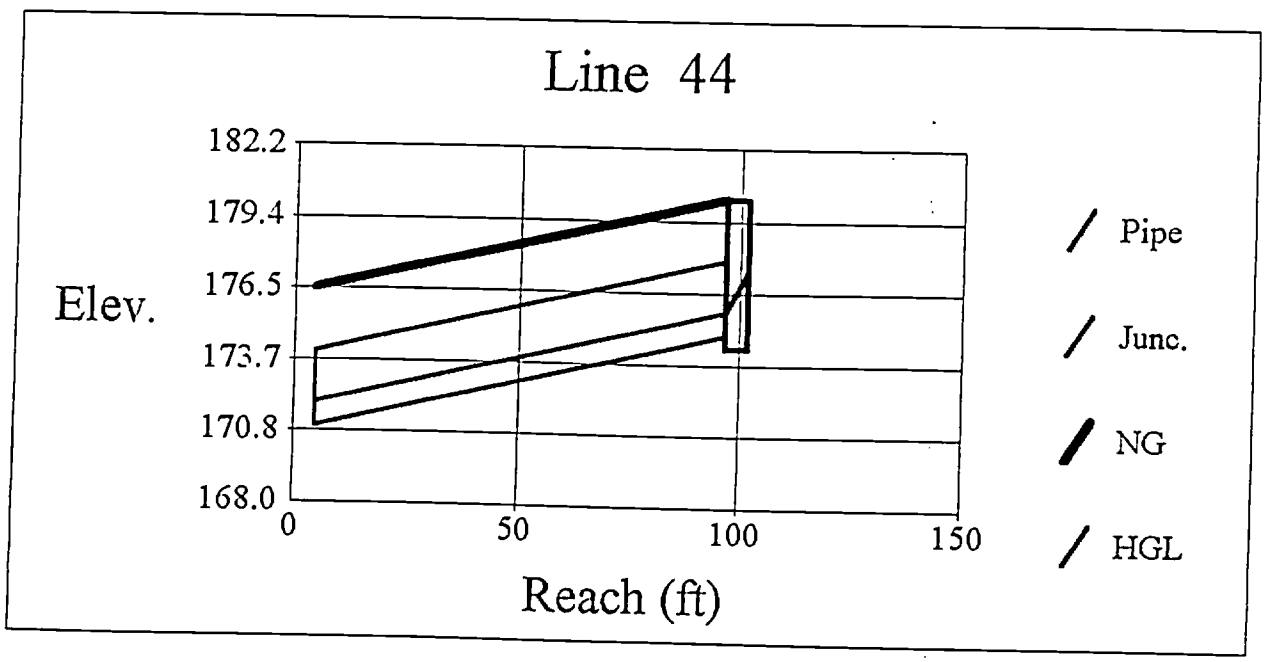

Line 39
Elev.
167.65
165.59
163.52
161.46
159.39
157.33
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

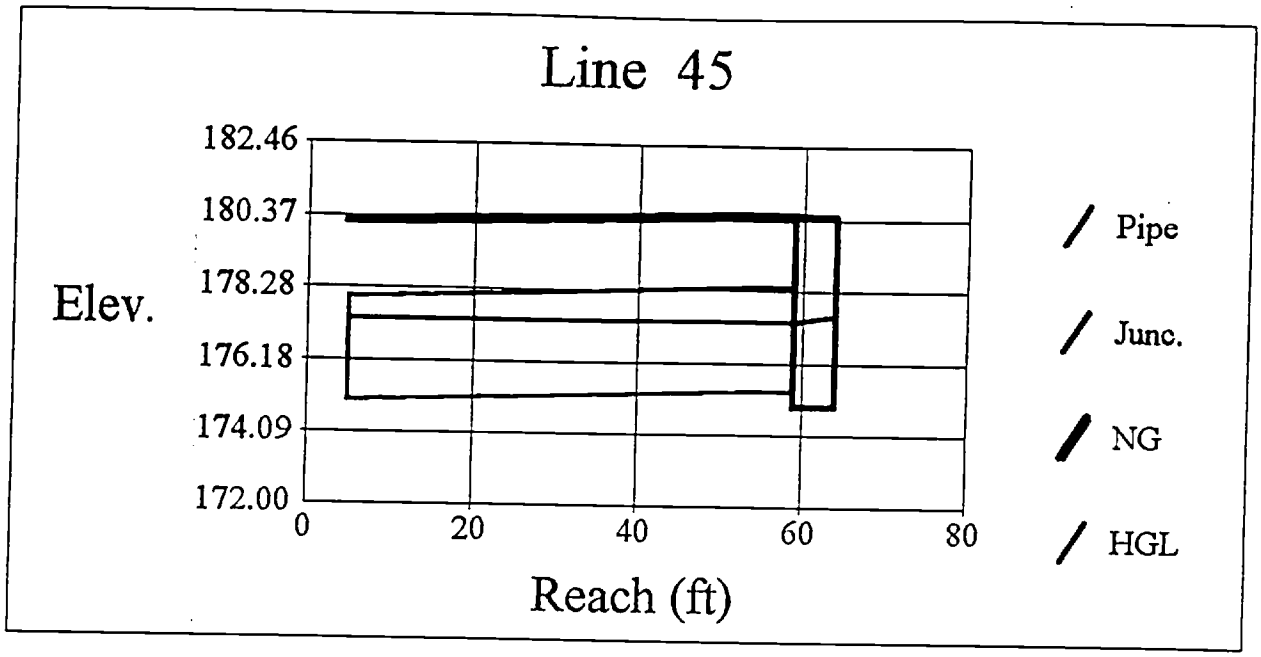

Line 40
Elev.
178.5
173.9
169.2
164.5
159.9
155.2
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

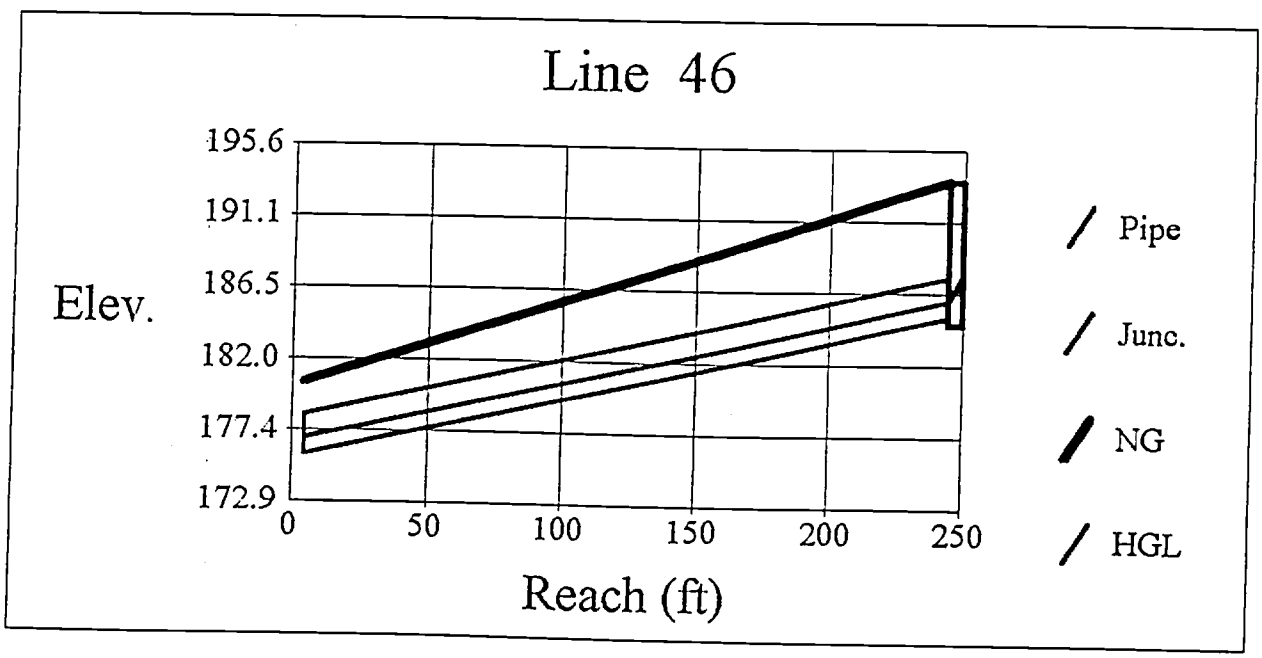

Line 41
Elev.
178.5
176.1
173.6
171.1
168.7
166.2
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

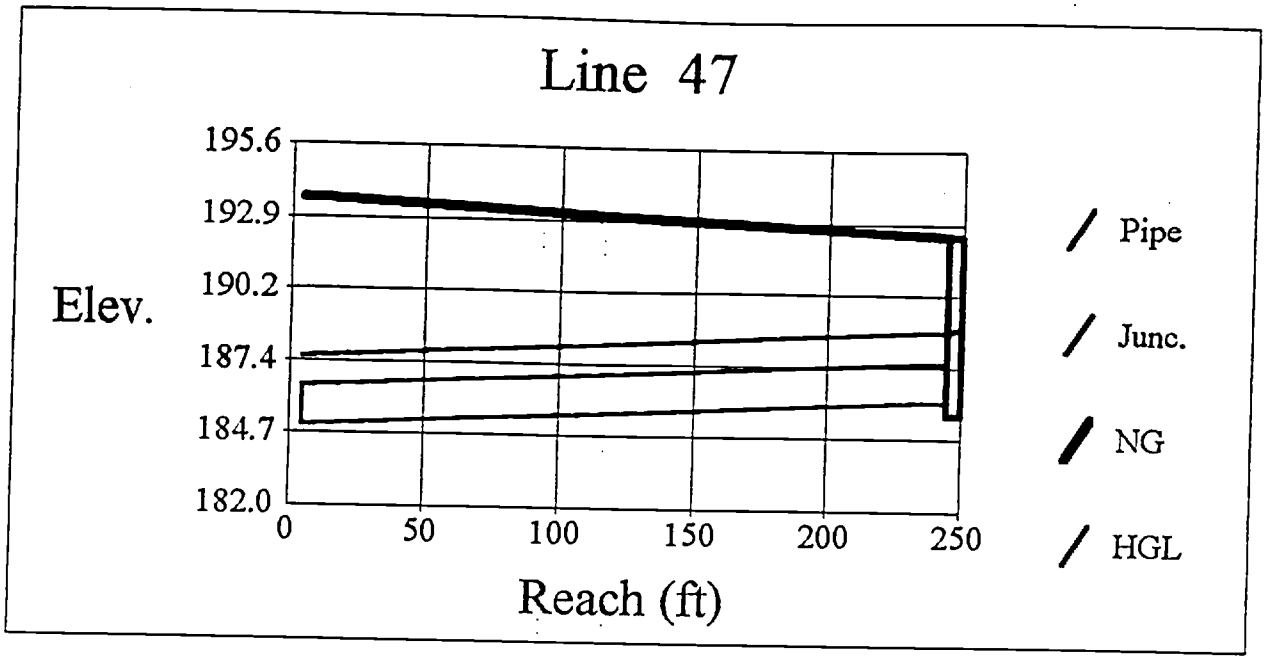

Line 42
Elev.
176.7
175.0
173.3
171.6
169.9
168.2
0
20
40
60
80
Reach (ft)
Pipe
Junc.
NG
HGL

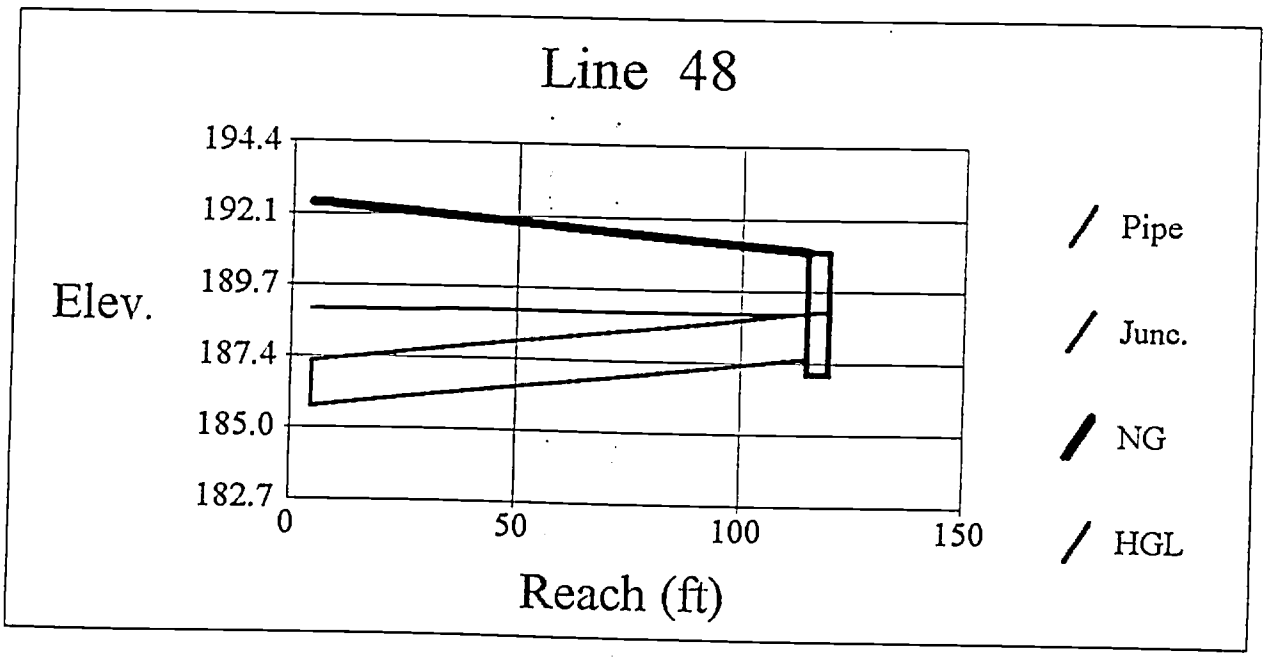

Line 43
Elev.
179.4
177.2
175.0
172.9
170.7
168.5
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

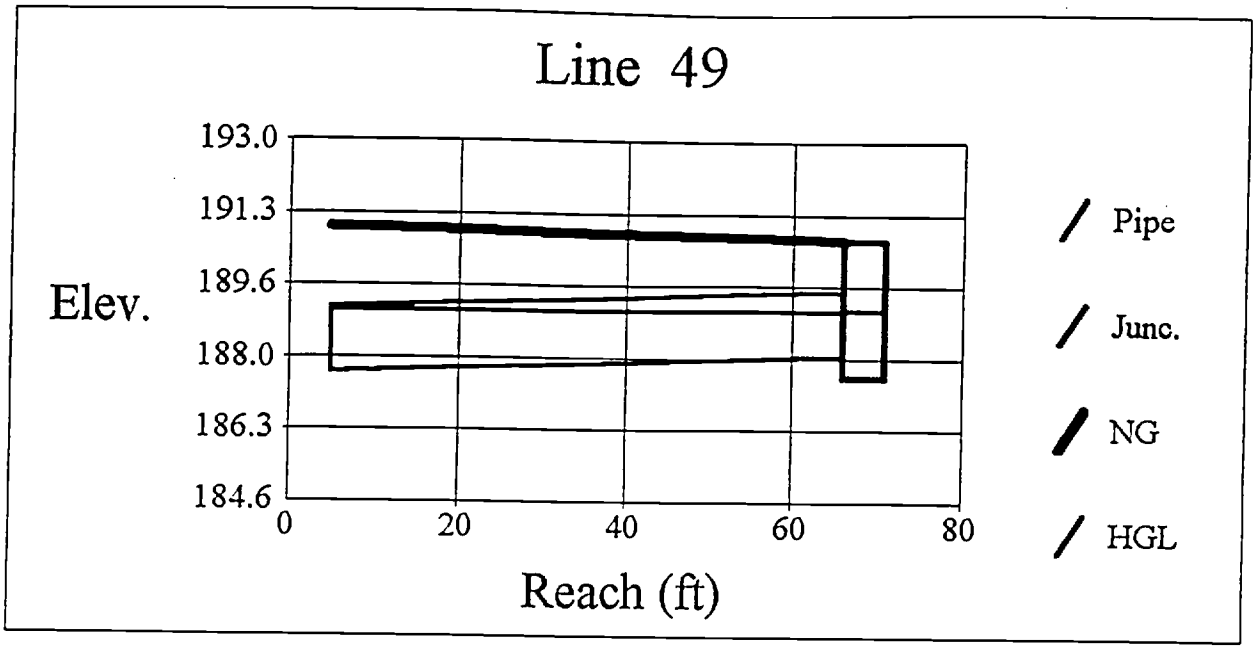

Line 44
Elev.
182.2
179.4
176.5
173.7
170.8
168.0
0
50
100
150
Reach (ft)
Pipe
Junc.
NG
HGL

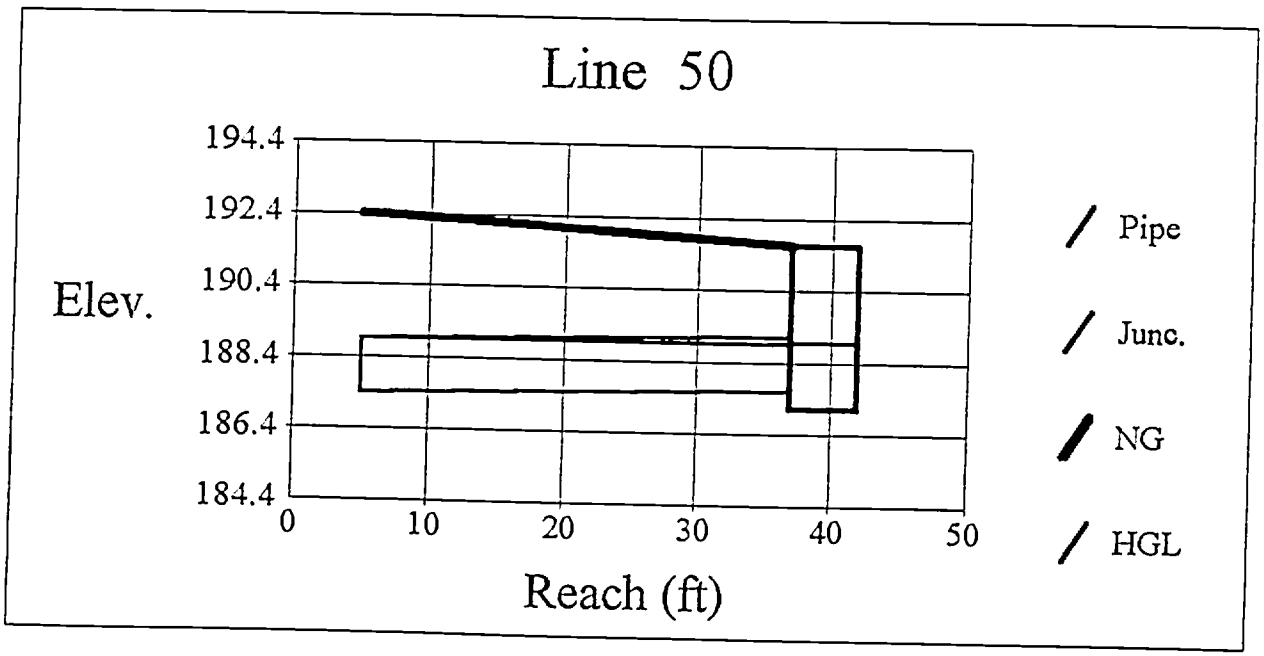

Line 45
Elev.
182.46
180.37
178.28
176.18
174.09
172.00
0
20
40
60
80
Reach (ft)
Pipe
Junc.
NG
HGL

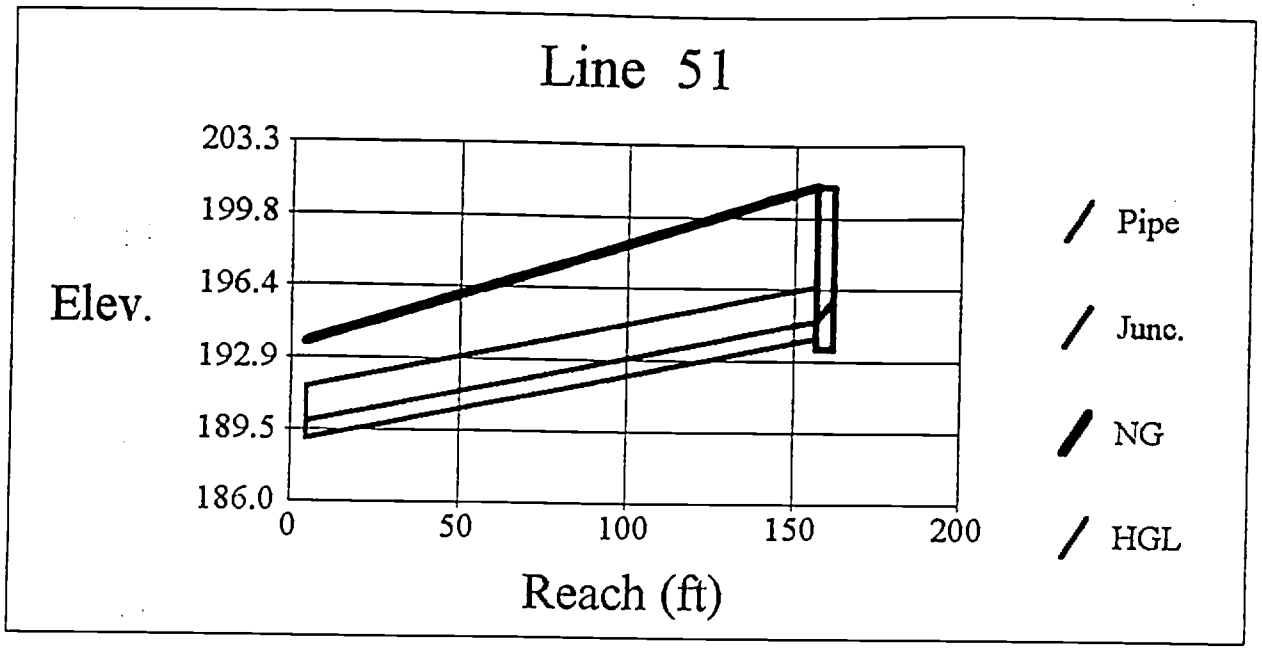

Line 46
Elev.
195.6
191.1
186.5
182.0
177.4
172.9
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

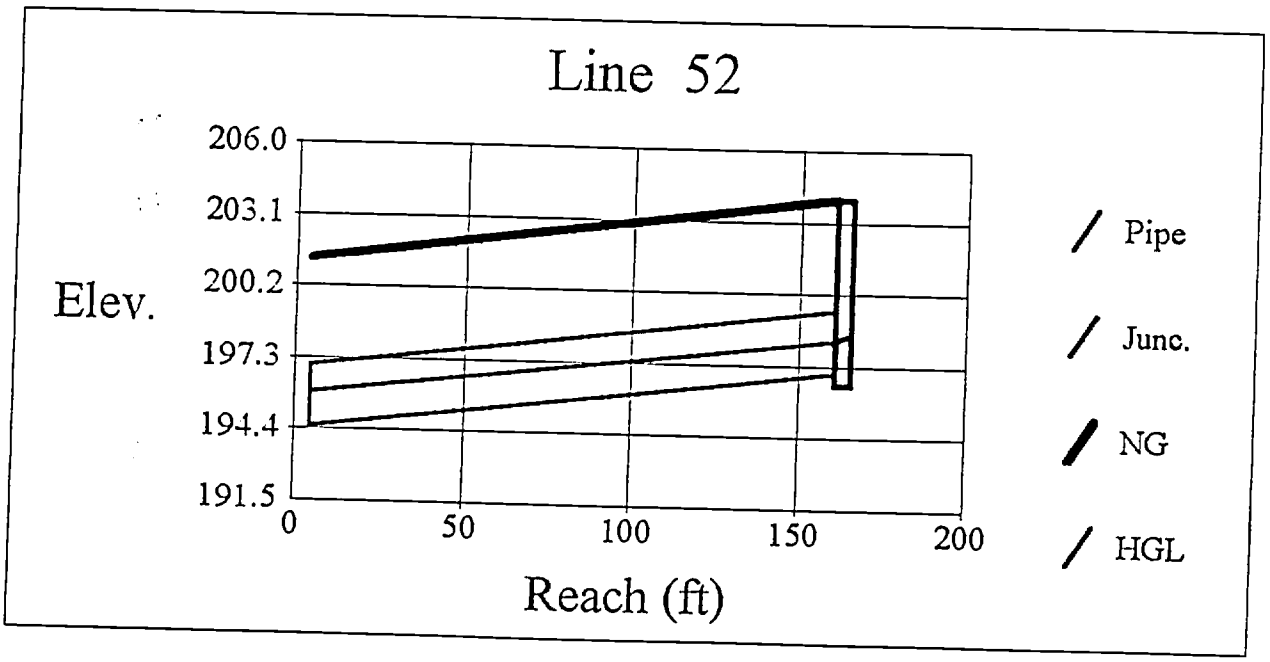

Line 47
Elev.
195.6
192.9
190.2
187.4
184.7
182.0
0
50
100
150
200
250
Reach (ft)
Pipe
Junc.
NG
HGL

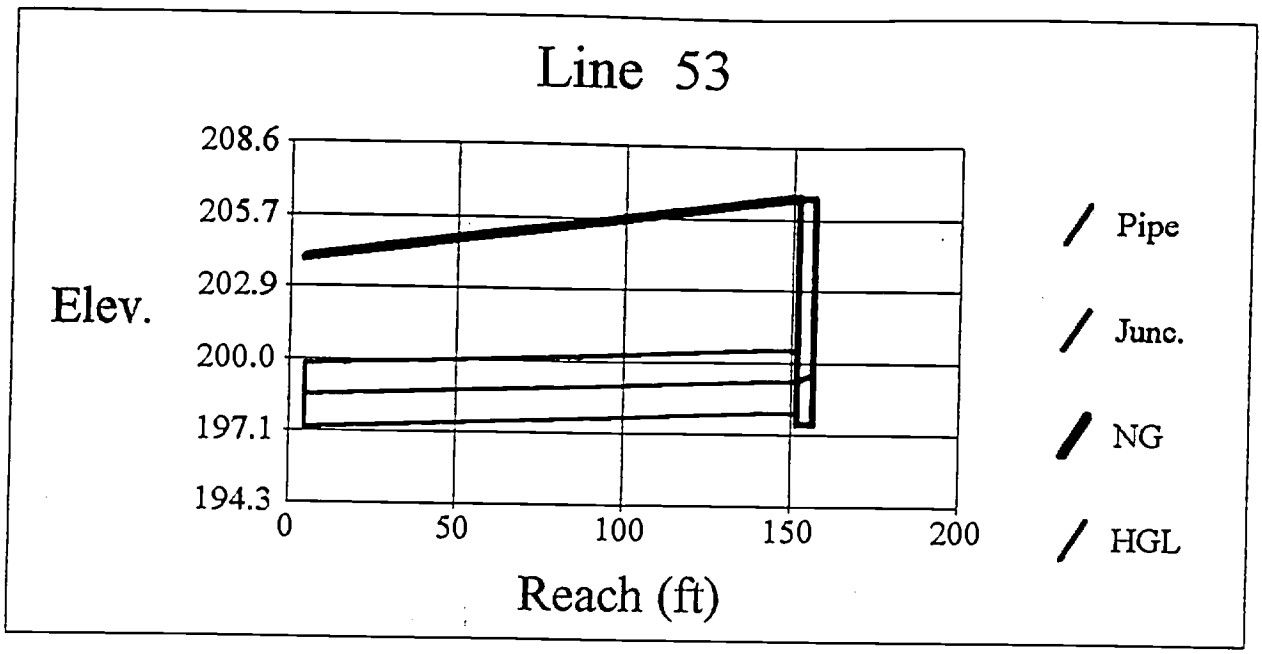

Line 48
Elev.
194.4
192.1
189.7
187.4
185.0
182.7
0
50
100
150
Reach (ft)
Pipe
Junc.
NG
HGL

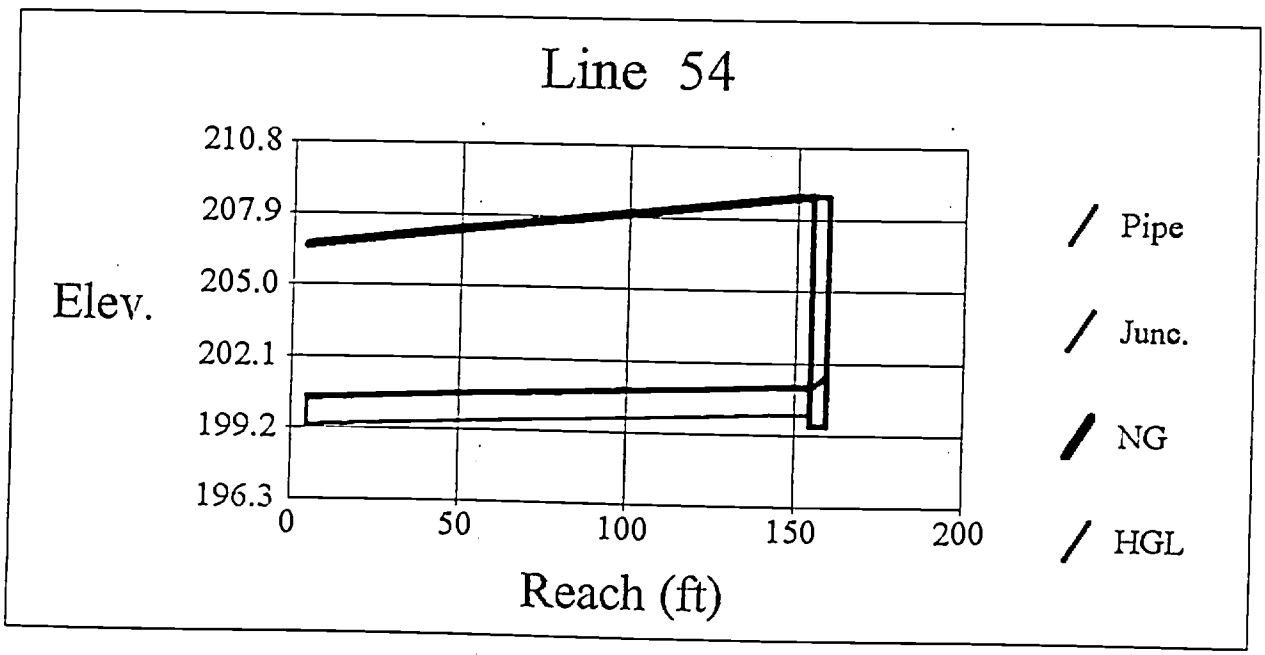

Line 49
193.0
191.3
189.6
188.0
186.3
184.6
Elev.
0
20
40
60
80
Reach (ft)
Pipe
Junc.
NG
HGL

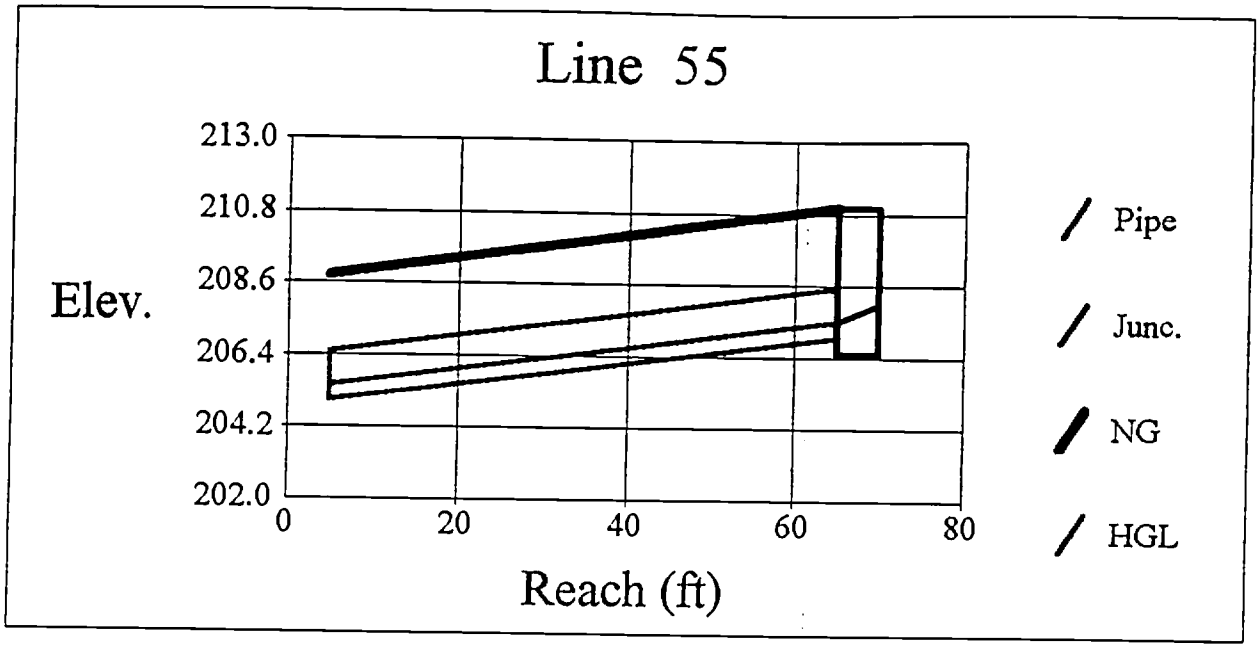

Line 50
194.4
192.4
190.4
188.4
186.4
184.4
Elev.
0
10
20
30
40
50
Reach (ft)
Pipe
Junc.
NG
HGL

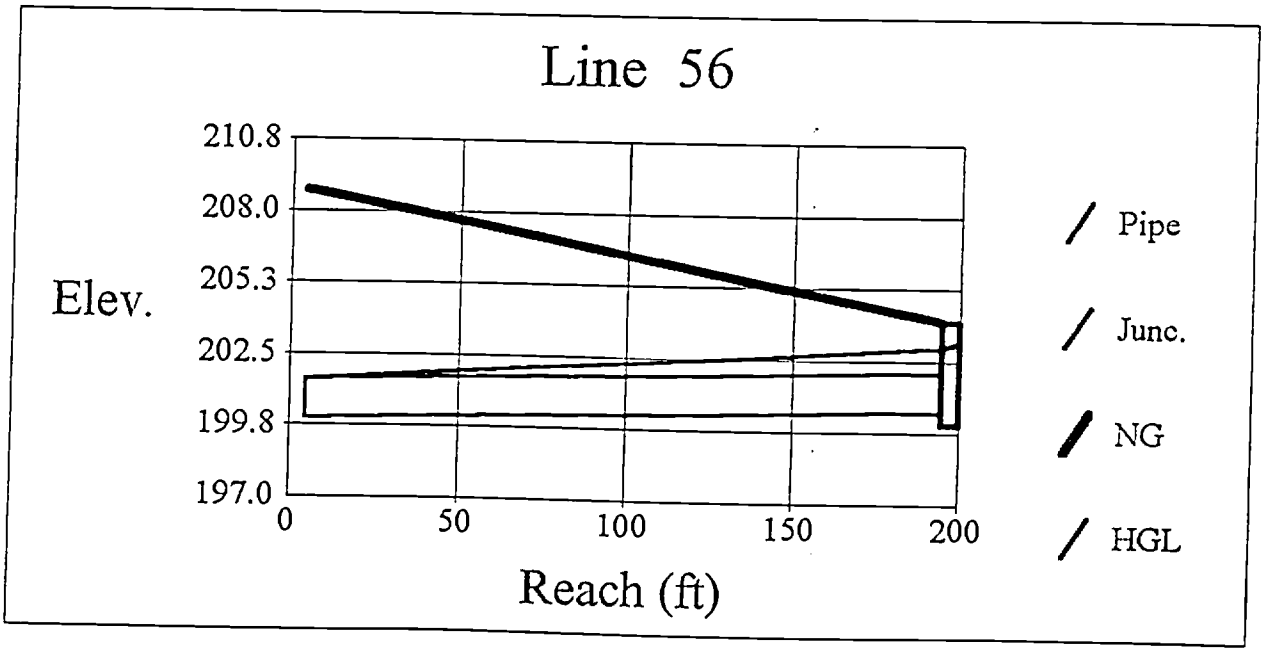

Line 51
Elev.
203.3
199.8
196.4
192.9
189.5
186.0
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

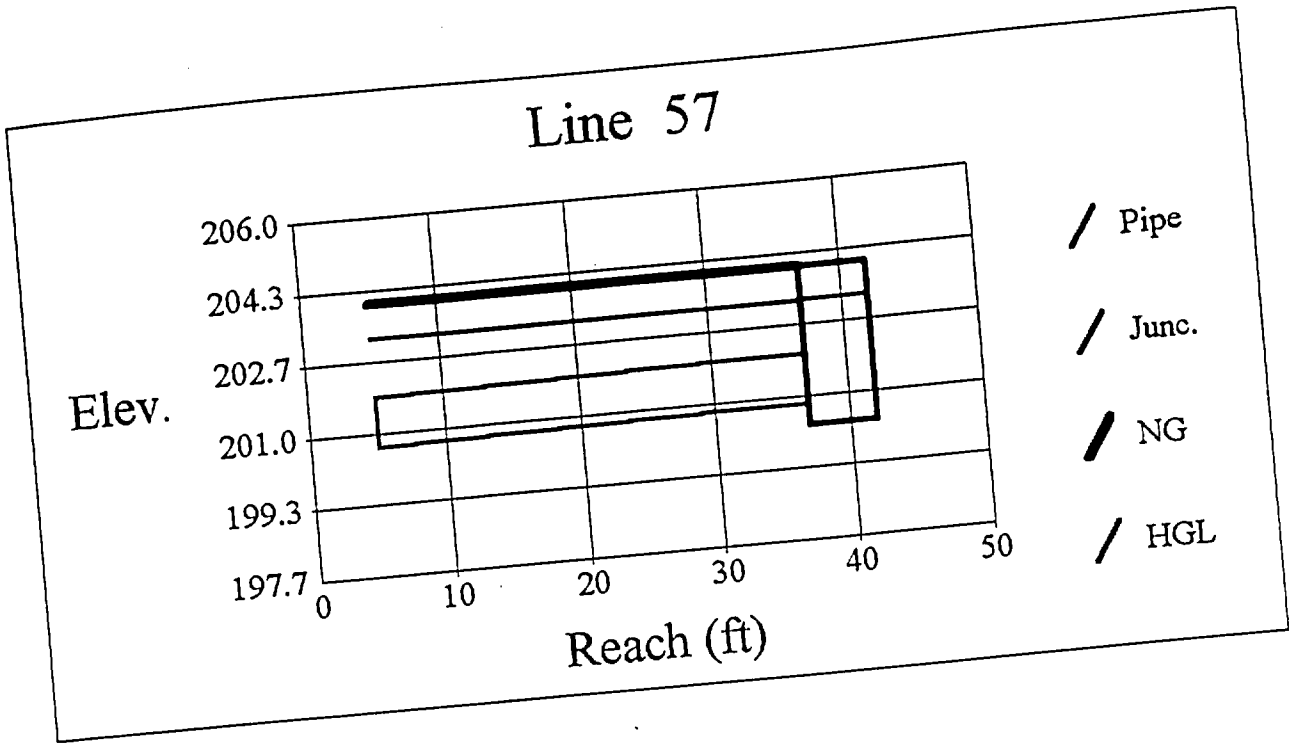

Line 52
Elev.
206.0
203.1
200.2
197.3
194.4
191.5
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL

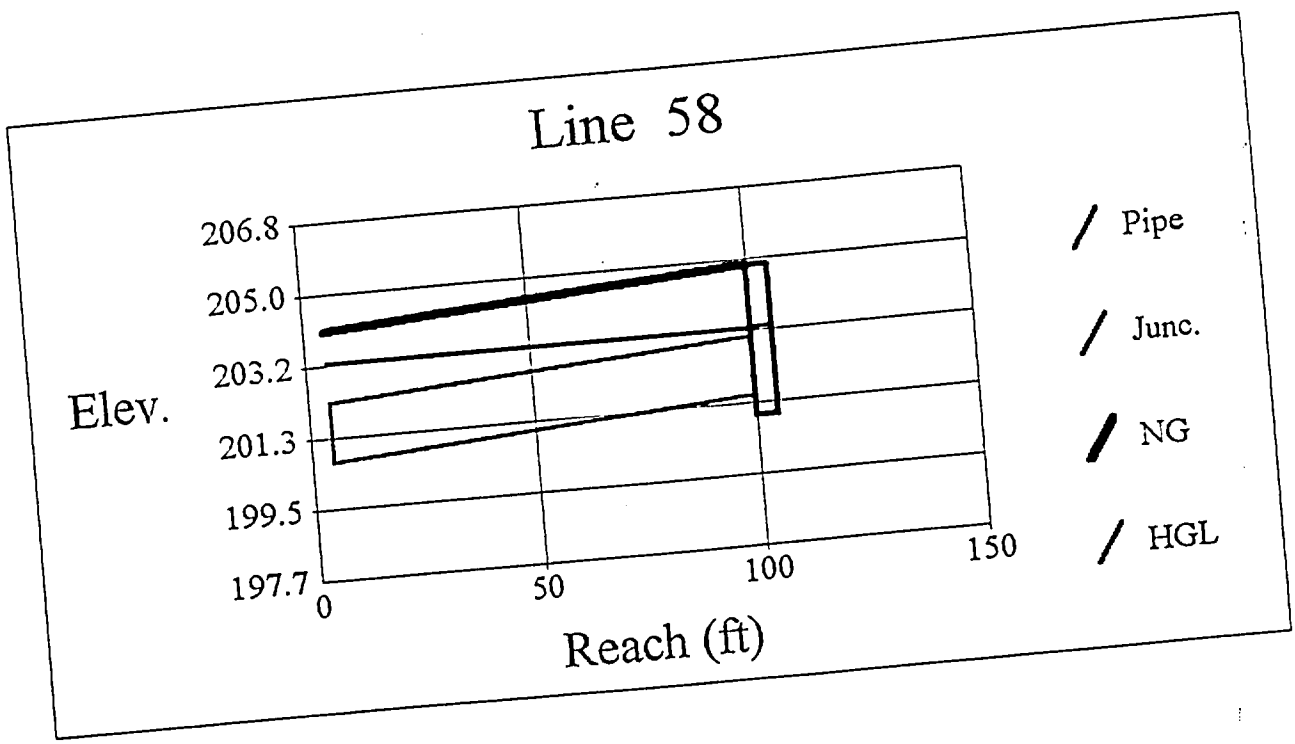

Line 53
Elev.
208.6
205.7
202.9
200.0
197.1
194.3
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL


Line 54
Elev.
210.8
207.9
205.0
202.1
199.2
196.3
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL


Line 55
Elev.
213.0
210.8
208.6
206.4
204.2
202.0
0
20
40
60
80
Reach (ft)
Pipe
Junc.
NG
HGL


Line 56
Elev.
210.8
208.0
205.3
202.5
199.8
197.0
0
50
100
150
200
Reach (ft)
Pipe
Junc.
NG
HGL


Line 57
Elev.
206.0
204.3
202.7
201.0
199.3
197.7
0
10
20
30
40
50
Reach (ft)
Pipe
Junc.
NG
HGL


Line 58
Elev.
206.8
205.0
203.2
201.3
199.5
197.7
0
50
100
150
Reach (ft)
Pipe
Junc.
NG
HGL