

THIS CONTRACT, entered into by and between CH2M HILL NORTHWEST, an Oregon Corporation, 200 S.W. Market Street, Suite 1200, Portland, Oregon 97201, hereinafter called "Engineer" and the CITY OF PORTLAND, a municipal corporation of the State of Oregon, hereinafter called "City",

W I T N E S S E T H :

WHEREAS a tentative agreement for providing engineering consulting services to provide for Phases I and II, Geology and Soils Investigation, S.E. Feeder Main installation has been negotiated between the Bureau of Water Works and Engineer, which is attached hereto and made a part hereof;

NOW, THEREFORE, the parties hereto agree as follows:

1. For Phases I and II, Geology and Soils Investigation, Engineer agrees to perform geologic reconnaissance and soils engineering services from S.E. 67th and Holgate Boulevard to Powell Butte Reservoir in accordance with the attached agreement marked Exhibit 1 and by reference made a part hereof, dated December 5, 1979, consisting of five pages; and in accordance with the attached proposal marked Exhibit 2 and by reference made a part hereof, dated November 9, 1979, consisting of six pages.
2. That, the Engineer shall furnish a draft of the report of the completed investigation within 45 days of receipt of notice to proceed, provided that reviews, approvals, and information to be furnished and work to be performed by persons and agencies not under the Engineer's control are furnished and/or completed in accordance with the schedule to be established by the Engineer.
3. That, after the City's approval of the draft, the Engineer shall furnish nine bound copies of the report and one unbound copy in a form suitable for duplicating by the City and incorporating into City of Portland Contract Documents. At all times, during the life of the project, the Engineer shall maintain in his budget enough funds to produce a report covering all work completed without exceeding the maximum fee authorized by the City.
4. That, the purpose of this work is to provide a geotechnical investigation of the proposed pipeline route for inclusion as an appendix to the pipeline construction Contract Documents; it being specifically understood that detailed design of the pipeline and appurtenances are beyond the scope of this Agreement.

IN WITNESS WHEREOF, this \_\_\_\_ day of \_\_\_\_\_, 1979,  
Engineer has caused this Contract to be executed in triplicate  
by its President or other authorized representative, and  
City has caused the same to be executed in triplicate by its  
Mayor and Commissioner of Public Utilities pursuant to  
Ordinance No.

CH2M HILL NORTHWEST

(Corporate Seal)

By \_\_\_\_\_  
Assistant Regional Manager

CITY OF PORTLAND

Approved as to form:

*Harold G. Beckwith*  
City Attorney

By \_\_\_\_\_  
Mayor

By \_\_\_\_\_  
Commissioner of Public  
Utilities

EXHIBIT 1.AGREEMENT TO FURNISH CONSULTING SERVICES  
TO THE  
CITY OF PORTLAND, OREGONARTICLE 1.

In consideration of a fee for services as set forth herein, the firm of CH2M HILL NORTHWEST, a professional engineering corporation, hereinafter referred to as the ENGINEER, agrees to provide consulting engineering services to the CITY OF PORTLAND, OREGON, hereinafter referred to as the CITY.

ARTICLE 2.

The specific services will consist of providing engineering services to the CITY consisting of a geologic reconnaissance and soils investigation for Phases I and II of the S.E. Feeder Main from S.E. 67th and Holgate Boulevard to the new Powell Butte reservoir.

The specific services to be furnished by the ENGINEER are as follows:

1. Provide a schedule showing project phases and when various City furnished services are required in order to maintain the schedule.
2. Make approximately 17 exploratory borings or test pits and furnish boring or test pit logs at locations shown on the attached tentative boring locations plan, subject to modification if unusual or unexpected subsurface conditions are encountered.

All logs shall include a material description and groundwater elevation, if encountered. Logs of the borings shall include the results of Standard Penetration resistance tests taken at approximately five-foot vertical intervals in all borings.

3. Provide a geological site reconnaissance along the northwest slope of Powell Butte.
4. Make recommendations addressing trench stability for entire pipeline route, as well as slope stability for northwesterly slope of Powell Butte, as affected by the proposed pipeline construction.

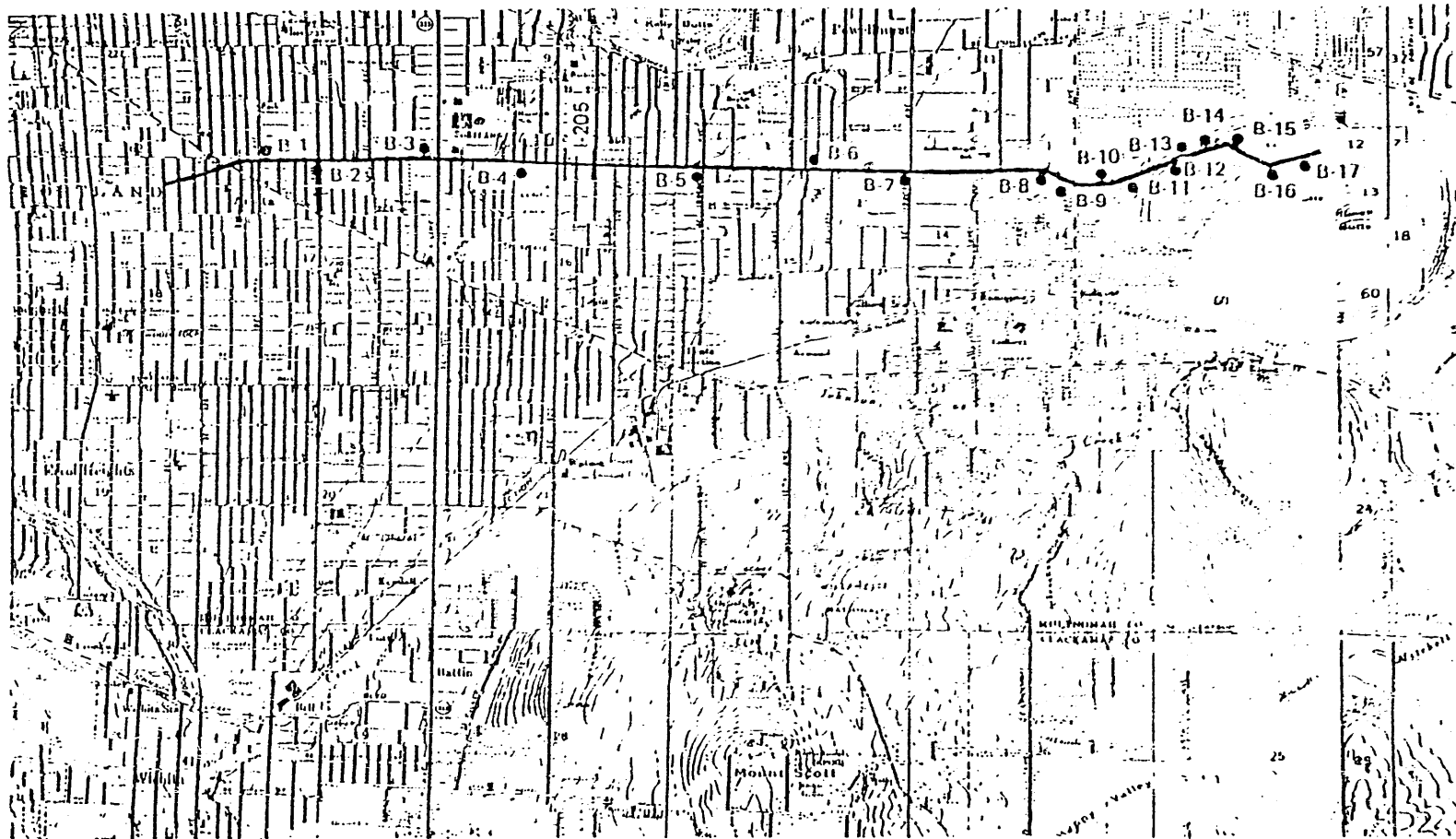


FIGURE 1  
TENTATIVE BORING LOCATIONS PLAN



149013

5. Conduct laboratory testing and analysis on selected samples as necessary to provide additional data for engineering analysis. Such tests shall include but not be limited to grain size analyses and percent finer than the No. 200 sieve, for non-cohesive soils; and Atterberg limits and natural moisture contents for cohesive soils.
6. Analyze and make recommendations on gully crossing methods, considering bin walls, fills, culverts, and other alternatives, such as gabion walls or reinforced earth, based on the data gathered from tasks 2, 3, and 5, above. Provide soils properties and parameters necessary for design of recommended gully crossing method, so that Owner may design said crossing in conformance with recognized standard engineering practices.
7. Indicate suitability of native excavated material for backfill as A) in existing state B) after screening, both within existing street rights-of-way and along the pipeline route up Powell Butte.
8. Provide a written report presenting all findings and recommendations, and containing logs as described in Task 2 above, and results of laboratory analyses as described in Task 5 above.

### ARTICLE 3.

As consideration for providing the specific engineering services enumerated in Paragraph 2, the CITY shall pay the ENGINEER the amount of the ENGINEER's Salary Costs, as defined in ARTICLE 5, expended for the services, multiplied by a factor of 2.2, plus direct expenses in connection therewith.

Total cost for all work for the completion of work herein described to provide the service set forth in Phases I and II of the geology and soils investigation of the S.E. Feeder Main not to exceed \$10,000 without prior approval of the OWNER.

### ARTICLE 4.

Payment to the ENGINEER as prescribed in Paragraph 3 is to be made as follows:

1. For specific engineering services enumerated in ARTICLE 2, within 30 days after date of billing, the amount due, as prescribed in ARTICLE 3, for such services rendered during the month.

ARTICLE 5.

It is further mutually agreed by the parties hereto:

1. That, the ENGINEER will not begin work on the services listed in Paragraph 2 until the CITY directs him in writing to proceed.
2. That, the ENGINEER's Salary Costs are defined as the amount of the wages or salaries of the ENGINEER's employees working on the PROJECT, plus 30 percent of such wages or salaries to cover all taxes, payments, and premiums measured by or applicable to such wages or salaries, such as, but not limited to, Worker's Compensation insurance, Social Security, State and Federal unemployment insurance, medical-hospital insurance, salary continuation insurance, pension plan costs, and pro rata allowances for vacation, sick leave, and holiday pay.
3. That, the ENGINEER's direct expenses are defined as the costs incurred on or directly for the PROJECT, other than the Salary Costs (as defined hereinbefore). Such direct expenses shall be computed on the basis of actual purchase price for items obtained from commercial sources and on the basis of usual commercial charges for items provided by the ENGINEER. Direct expenses shall include, but not be limited to; necessary transportation costs, including mileage at the ENGINEER's current rate of \$0.17 per mile when the ENGINEER's own automobiles are used; meals and lodging; laboratory tests and analyses; computer services; automatic typing equipment; telephone, printing, binding, and multilith charges. When technical or professional services have been furnished by outside sources, as request or approved by the CITY, an additional 5 percent of the costs of these services shall be added for the ENGINEER's administrative and continuing PROJECT responsibilities.
4. That, if payment of the amounts due as prescribed in ARTICLE 3, or any portion thereof, is not made within 30 days after the period specified in Paragraph 4, interest on the unpaid balance thereof will accrue at the rate of twelve percent (12%) per annum and become due and payable at the time said overdue payments are made .

5. If, during the course of the project, it becomes apparent that any phase of the work will exceed its originally estimated cost, the Engineer shall notify the Owner in writing prior to the actual cost overrun. The City will have the option of either limiting the scope of work or authorizing additional payment. Additional payment may not be authorized for work resulting in costs which exceed those estimated by the Engineer unless prior written notification is received by the City.
6. That, insofar as the work under this Agreement may require, the CITY shall furnish the ENGINEER
  - a) Maps showing approximate location of existing utilities.
  - b) Necessary improvements for access to site, such as removal of the berm to the Holgate Boulevard entrance, widening the jeep trail to a minimum width of 12 feet, and levelling the jeep trail of high bumps.
  - c) Assistance in obtaining City and County street opening permits and pay all permit fees.
  - d) A backhoe and operator if it is mutually agreed that test pits would be more economical than making borings on the Powell Butte portion of the work.
  - e) Existing material relating to S.E. Holgate Blvd., Powell Butte, and other information contained in Bureau files which may be applicable.
7. That, in the event the City cannot provide their portion of the services described above when in accordance with the schedule provided by the ENGINEER, the ENGINEER reserves the right to bill the CITY for delays beyond the ENGINEER's control.
8. That, in soils investigation work and in determining subsurface conditions for the PROJECT, the characteristics may vary greatly between successive test points and sample intervals. The ENGINEER will perform this work in accordance with generally accepted soils-engineering practices and makes no other warranties, expressed or implied, as to the professional advice provided under the terms of this Agreement.

9. That either party may terminate this Agreement upon giving the other party at least thirty (30) days written notice. It is understood that this Agreement is not an exclusive consulting agreement.
10. That, this Agreement is to be binding on the heirs, successors, and assigns of the parties hereto and is not to be assigned by either party without first obtaining the written consent of the other.
11. That, in the event of any action brought by either party against the other to enforce any of the obligations hereunder or arising out of any dispute concerning the terms and conditions hereby created, the losing party shall pay the prevailing party such reasonable amounts for attorney fees, costs and expenses as may be set by the Court.
12. That, in event the Engineer or any of his employees desire to include reference to work on this project in any documents, resumes, information sheets, or any other publication of the Engineer, that written permission will be obtained from the Owner prior to publishing or distributing such material.



Subject: City of Portland, Powell Butte RFP

CH2M HILL is pleased to respond to your request for proposals for geologic reconnaissance and soils engineering services for Phases I and II of the S.E. Feeder Main from S.E. 67th and Holgate Boulevard to the new Powell Butte Reservoir. This proposal outlines our proposed approach to these services based on our reconnaissance of the pipeline route and our conversations with Mr. Dale Pestes of your staff. We understand that the purpose of this study is to provide subsurface information along the pipeline route to evaluate trench and slope stability, and to evaluate the suitability of trench excavation spoil as backfill for the pipeline. The report is to be incorporated in City of Portland contract documents.

### Scope

Based on our understanding of the project, we have prepared a tentative boring location plan. As the investigation proceeds, modifications may be required if unusual or unexpected subsurface conditions are encountered. Figure 1 shows the proposed boring locations. We anticipate any necessary improvements to access will be made by the client.

Section 1, from S.E. 67th to S.E. 136th along Holgate, is in a relatively level residential area with a limited choice of boring locations. For this section of the pipeline, we propose to place the borings in the grass strip between the curb and sidewalk wherever possible. Based on the general soil types found in this area of the City, we propose to locate nine exploratory borings approximately as shown on Figure 1 in this section. We understand that the pipeline has already been installed under I-205 and is currently capped at each end.

Section 2 contains the steepest terrain of the entire route. We recommend more detailed investigation of the subsurface with exploratory borings in this section because of the steep slopes and the potential problems that may be encountered where the pipeline crosses gullies. In addition to determining subsurface conditions for the pipeline trench, stability of the existing slope, both during and after construction, is a crucial factor which will have to be considered in the pipeline design and construction.

Section 3 runs from the crest of Powell Butte to Powell Butte Reservoir. We anticipate that this section of the route will require a minimal number of borings.

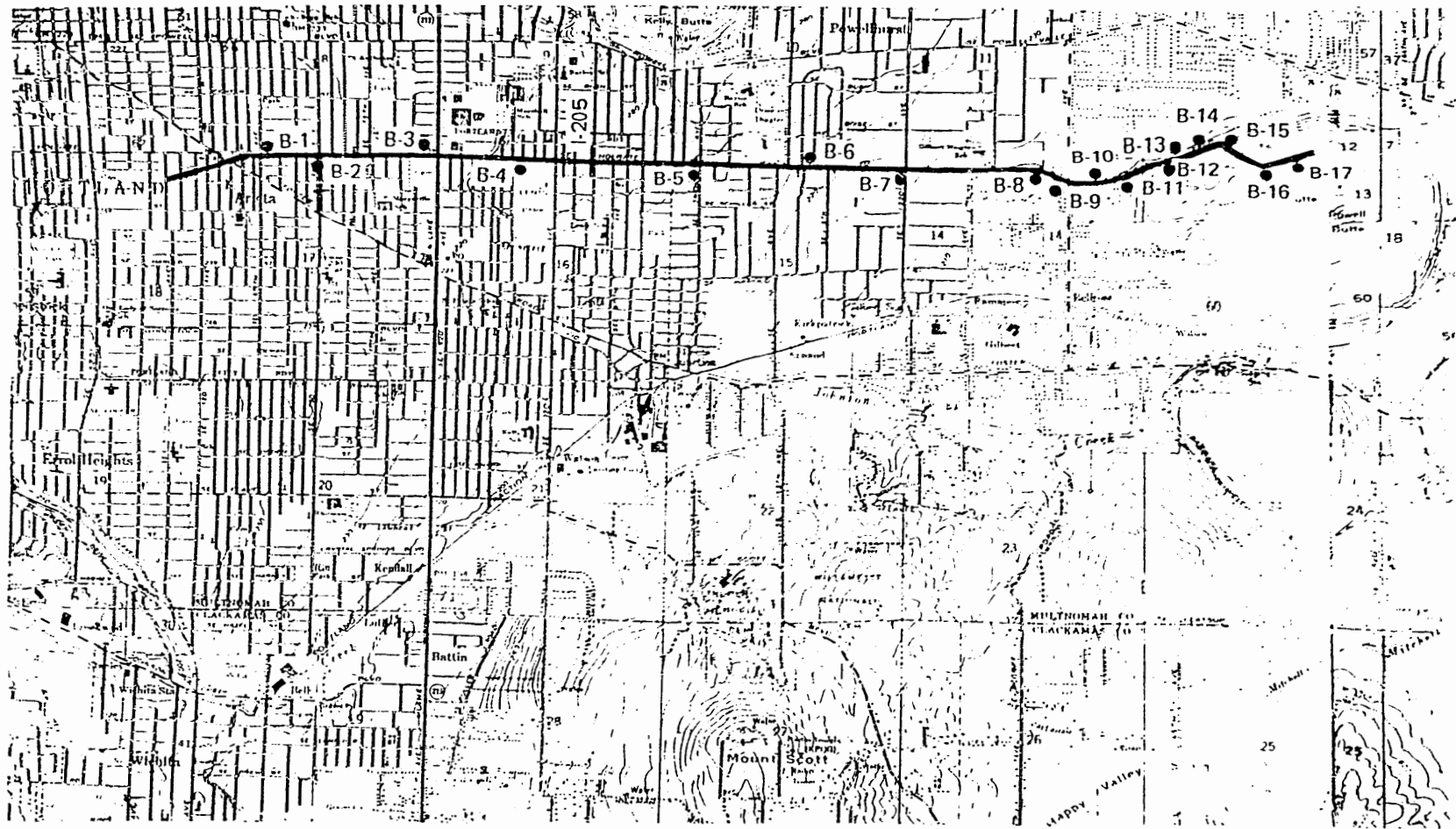


FIGURE 1  
TENTATIVE BORING LOCATIONS PLAN

In addition to the exploratory borings, we propose to provide a detailed site reconnaissance by a geological engineer along the north side of Powell Butte. This reconnaissance will provide data with which to analyze and make recommendations for slope stability and slope protection measures required for this section of the pipeline. We also propose to conduct laboratory testing and analysis on selected samples to provide additional data for engineering analysis.

Our engineering analysis will address trench stability for the entire pipeline route as well as slope stability for Section 2 of the pipeline. Particular attention will be paid to analysis of the gully crossings, with bin walls, fills, culverts, and other alternatives being considered.

#### Budget and Schedule

We propose the following budget to provide this scope of service:

Drilling: 17 borings @ 15 feet each, based on local drilling costs for standard drilling conditions	\$4,200
Drilling inspection by CH2M HILL	1,850
Laboratory analysis	450
Detailed geologic site reconnaissance	350
Engineering analysis	2,150
Report preparation and administrative costs	600
	<u>\$9,600</u>

We propose to undertake your project with a fee basis of direct salary costs times a multiplier with expenses at direct cost. Outside services would be billed at cost plus 5 percent. We would be willing to enter into an agreement specifying a fee limit of \$10,000.

The proposed project schedule is shown on Figure 2. We will arrange for the exploration borings to begin as soon as possible after receipt of a mutually agreeable contract, purchase order, or other form of notice to proceed. Site reconnaissance would also begin at this time. The draft of our report to you would be completed within 45 days of contract date.

# PROJECT SCHEDULE

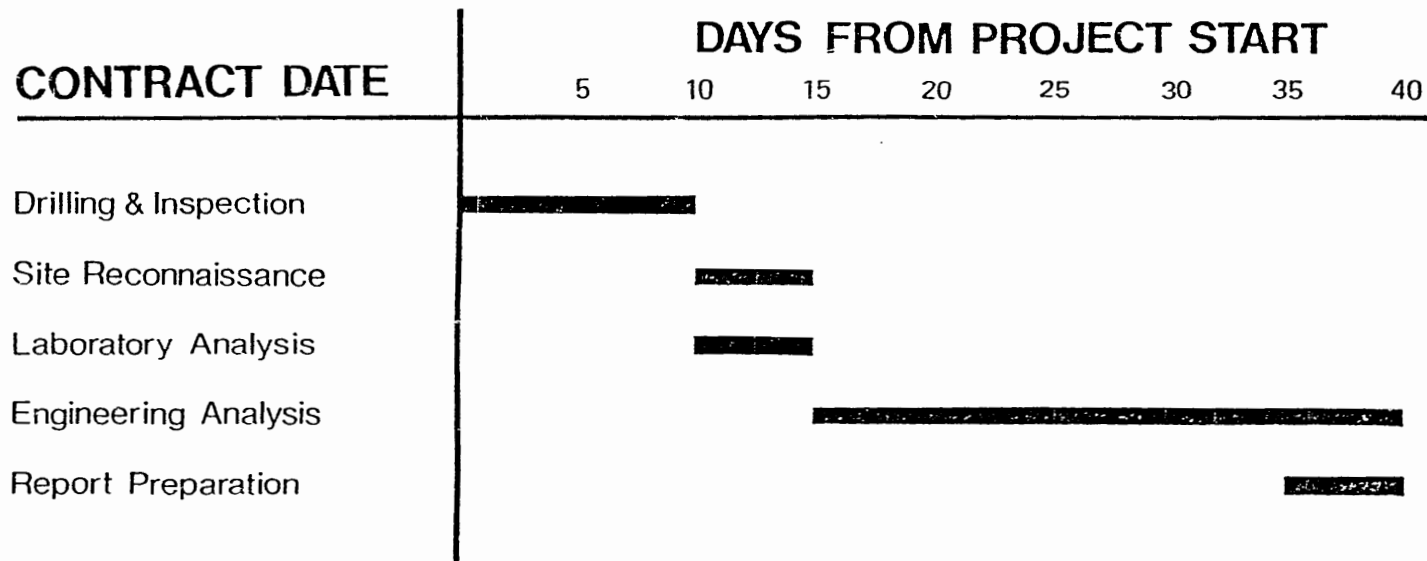


FIGURE 2

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### Project Staff

CH2M HILL has available in the Portland regional office, as well as firm-wide, a highly qualified geotechnical staff with diverse backgrounds and expertise. We have included the resumes of our Portland office geotechnical staff in this proposal for your review. In addition, we have over 750 professionals on our staff with experience in almost every field of engineering. Each staff member will be available for consultation should the need arise during the conduct of your project.

We propose to use the team of Ms. Rhea L. Graham, Project Manager, Mr. Edwin F. Shorey, Geologist, and Mr. James R. Schneider, Geotechnical Engineer, for your project. Each of these staff members has had experience in varied geotechnical exploration analysis and design projects. This team is based in our Portland office, and will be available to discuss your project with you.

### Corrosion Engineering

If the City has not already considered a corrosion predesign field survey, we would like to suggest it. We have outlined, as an addendum to this geotechnical proposal, details of a corrosion study that we would suggest. The purpose of this additional testing would be to evaluate the propensity of the native soil to sustain corrosion reactions. Chemical analysis of the soil samples for chlorides, sulfates, pH, and conductivity is suggested. High concentrations of sulfates are detrimental to maintaining structural integrity in concrete structures. Acidic conditions in the soil, as measured by the pH, are potentially harmful to both concrete and steel structures. High chloride concentrations and high soil conductivity are both potentially damaging to buried steel and ductile iron structures, and could require some mitigation efforts in the pipelines.

The suggested soil samples analysis could be performed in one of our laboratories. The particular samples requiring corrosion analysis would be chosen by Mr. David Odom, a CH2M HILL corrosion engineer, through evaluation of the boring logs and limited onsite observation during drilling. Because CH2M HILL's Portland based corrosion engineer is trained in both geology and corrosion control, we feel that he is uniquely qualified to perform this work.

Although the suggested soil sample analysis and boring log evaluation will not completely replace a corrosion predesign field survey, information gained from the above tests has been extremely valuable in other pipeline designs in the Portland area. CH2M HILL conducted a predesign survey and soil sample analysis for both the 24-inch-diameter Airport Extension Supply Main report (refer to October 20, 1975, corrosion survey) and the St. Helens Supply Main report (refer to August 3, 1977, survey).

We estimate that the cost of the suggested laboratory sample analysis, boring log evaluation, and report of the findings, would be approximately \$1,500 for corrosion engineering services related to the pipeline design.

A reference list of some of our current clients for geotechnical services is included in our proposal. We welcome your inquiry of them to evaluate our capabilities and services. In addition, several brochures describing our experience and capabilities have been included in this proposal. We are very interested in working with you on this project. We thank you for this opportunity to present our qualifications.

ORDINANCE NO. 149013

An Ordinance authorizing an agreement with CH2M-Hill Northwest, Inc., Consulting Engineers, for geotechnical investigation for the proposed Southeast Feeder Main for a sum estimated at \$10,000 for the Bureau of Water Works, authorizing warrants, and declaring an emergency.

The City of Portland ordains:

Section 1. The Council finds:

1. The Bureau of Water Works is in need of a geotechnical investigation to be performed prior to design and construction of the new 66-inch Southeast Feeder Main.
2. The firm of CH2M-Hill Northwest, Inc., of Portland, Oregon, was selected to perform the necessary engineering services for a sum estimated at \$10,000 during this phase of the project, and this firm has been approved by the Commissioner of Public Utilities.
3. The selection was made after review of proposals by a Consultant Selection Committee established in accordance with Chapter 5.68 of the City Code, Consultant Service Contracts.

NOW, THEREFORE, the Council directs:

- a. The Mayor and the Commissioner of Public Utilities are authorized to execute on behalf of the City an agreement with CH2M-Hill Northwest, Inc., for the above stated engineering services estimated at a cost of \$10,000, said agreement to be substantially in accordance with the form of the agreement attached to the original only of this Ordinance, marked Exhibit "A" and by this reference made a part hereof.
- b. The Mayor and Auditor are authorized to draw and deliver warrants when demand is presented, approved by the proper authorities, said warrants estimated at the sum of \$10,000 and to be charged to the Bureau of Water Works' 1979-80 Budget, Water Fund, Project 3407, BUC 18600374, Object Code 210 (Professional Services), said warrants to be delivered to CH2M-Hill Northwest, Inc., 200 S.W. Market Street, Suite 1200, Portland, Oregon 97201.

ORDINANCE No.

149013


Section 2. The Council declares that an emergency exists because a delay in securing the engineering services described herein would cause a delay in design and construction of the entire Southeast Feeder Main project; therefore, this Ordinance shall be in force and effect from and after its passage by Council.

Passed by the Council, JAN 9 1980

Commissioner Ivancie  
D. Pestes:ij  
January 2, 1980  
BUC 18600374

Attest:

  
Mayor of the City of Portland

  
Auditor of the City of Portland



Calendar No. 32

**ORDINANCE No. 149013**

**Title**

An Ordinance authorizing an agreement with CH2M-Hill Northwest, Inc., Consulting Engineers, for geotechnical investigation for the proposed Southeast Feeder Main for a sum estimated at \$10,000 for the Bureau of Water Works, authorizing warrants, and declaring an emergency.

THE COMMISSIONERS VOTED AS FOLLOWS:		
	Yeas	Nays
Ivancie		
Jordan		
Lindberg		
Schwab		
McCready		

FOUR-FIFTHS CALENDAR	
Ivancie	
Jordan	
Lindberg	
Schwab	
McCready	

INTRODUCED BY
COMMISSIONER IVANCIE

NOTED BY THE COMMISSIONER
Affairs
Finance and Administration
Safety
Utilities <i>FJI</i>
Works

BUREAU APPROVAL	
Bureau: WATER WORKS	
Prepared By: D. Pestes/ij	Date: 1-2-80
Budget Impact Review:	
<input type="checkbox"/> Completed <input type="checkbox"/> Not required	
Bureau Head <i>[Signature]</i>	
Carl Goebel, Administrator	

NOTED BY
City Attorney
City Auditor
City Engineer <i>[Signature]</i>

Filed JAN 4 1980

**GEORGE YERKOVICH**  
Auditor of the CITY OF PORTLAND  
By *[Signature]*  
Deputy