

HAD TO LEAVE @ 8:00pm
WRITTEN TESTIMONY SUBMITTED

PLEASE PRINT LEGIBLY!

MEETING DATE

6-13-94

NAME

Jim Sjulín

ADDRESS

PORTLAND PARKS + REC.

STREET

1120 S.W. 5th

97204

CITY

PORTLAND, OR

ZIP CODE

West Hills

I WISH TO SPEAK ON AGENDA ITEM #

Reconciliation

SUPPORT

OPPOSE

SUBMIT TO BOARD CLERK

#1

PLEASE PRINT LEGIBLY!

MEETING DATE 6/14/94

NAME

E. Frank Schnitzer

ADDRESS

1536 Quaker Ave SE

STREET

Albany, OR

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

Neutral - Angel Bros DOGAMI representative

SUPPORT

OPPOSE

SUBMIT TO BOARD CLERK

#2

PLEASE PRINT LEGIBLY!

MEETING DATE

6/13/94

NAME

PAUL KEIRAN

ADDRESS

DEQ

STREET

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

West 17/15

ANGELL BROTHERS QUARRY

SUPPORT

OPPOSE

SUBMIT TO BOARD CLERK

#3

PLEASE PRINT LEGIBLY!

MEETING DATE

6/13/94

NAME

JANE HART Metro

ADDRESS

600 NE Grand Ave

STREET

Portland, OR 97212

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

Recon Report

SUPPORT

OPPOSE

✓ West Hills

SUBMIT TO BOARD CLERK

RECONCILIATION
REPORT

#4

PLEASE PRINT LEGIBLY!

MEETING DATE June 13, 1994

NAME

Neil Kagan

ADDRESS

522 SW 5th, #1050

STREET

Portland

CITY

97204

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

West Hills

SUPPORT

OPPOSE

SUBMIT TO BOARD CLERK

X

#5

PLEASE PRINT LEGIBLY!

MEETING DATE 6.13.94

NAME DONNA MATIBAZZO

ADDRESS 19300 NW SAUVIE ISLAND RD

STREET PORTLAND 97231

CITY **ZIP CODE**

I WISH TO SPEAK ON AGENDA ITEM # 94-95

SUPPORT (Comments) **OPPOSE** West Hills
✓ Anzell

SUBMIT TO BOARD CLERK BROS & Scenic Views

#6

PLEASE PRINT LEGIBLY!

MEETING DATE 6/13/94

NAME CHRIS WRENCH

ADDRESS 3103 NW Wilson

STREET

Portland OR 97210

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM # Reconciliation
report

SUPPORT (partially) OPPOSE (partially)
SUBMIT TO BOARD CLERK

#7

PLEASE PRINT LEGIBLY!

MEETING DATE June 13, 1994

NAME ESTHER LEV / The Wellands Conservancy

ADDRESS P.O. Box 1195

STREET

Tualatin, Ore

CITY

97062

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM # West Hills
Far. Report

SUPPORT _____

OPPOSE X

SUBMIT TO BOARD CLERK

#8

PLEASE PRINT LEGIBLY!

MEETING DATE

6-12-94

NAME LYN MATTEI OR. NAT'L Resources

ADDRESS

522 SW 5th Suite 1050

STREET

PORTLAND OR 97204

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

West Hills
Reconciliation

SUPPORT

OPPOSE

X a reservation

SUBMIT TO BOARD CLERK

#9

PLEASE PRINT LEGIBLY!

MEETING DATE

6/13/94

NAME

JOHN SHERMAN

FRIENDS OF
FOREST PARK

ADDRESS

1912 NW ASPEN

STREET

PORTLAND, OR

CITY

97210

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

West Hills

SUPPORT

OPPOSE

☒

SUBMIT TO BOARD CLERK

#10

PLEASE PRINT LEGIBLY!

MEETING DATE

6/13/94

NAME

Arnold Rochlin

ADDRESS

Forest Park Neighborhood Association

STREET

P.O. Box 83645

CITY

Portland

ZIP CODE

97283

I WISH TO SPEAK ON AGENDA ITEM #

West Hills
Reconciliation
Report

SUPPORT

OPPOSE

SUBMIT TO BOARD CLERK

11 & #16

PLEASE PRINT LEGIBLY!

MEETING DATE 6/13/94

NAME JODEANNE BELLANT

ADDRESS 14956 NW Mill

STREET

Portland OR 97230

CITY

ZIP CODE

WEST HILLS

I WISH TO SPEAK ON AGENDA ITEM # 94-95 ANGELL

SUPPORT _____ OPPOSE ✓ BROTHERS QUARRY

SUBMIT TO BOARD CLERK

#12

PLEASE PRINT LEGIBLY!

MEETING DATE

6/13

NAME

RON CARLEY

ADDRESS

PORTLAND AUDUBON
STREET

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

West Hills

Reconciliation
Report

SUPPORT

OPPOSE

SUBMIT TO BOARD CLERK

#13

PLEASE PRINT LEGIBLY!

MEETING DATE June 13-94

NAME Gordon Hoare (HOARE)

ADDRESS 15729 NW Sheltered Nook Rd

STREET

Portland

CITY

97231

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM # WEST HILLS RECONCILIATION

SUPPORT _____ **OPPOSE** X

SUBMIT TO BOARD CLERK

#14

PLEASE PRINT LEGIBLY!

MEETING DATE

6/13/94

NAME

SETH TANE

ADDRESS

13700 NW NEWBERRY RD

STREET

PORTLAND OR 97231

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

2

WESTMILL

SUPPORT

OPPOSE

SUBMIT TO BOARD CLERK

X
QUARRY
EXPANSION

#15

PLEASE PRINT LEGIBLY!

MEETING DATE 6/10/94

NAME Richard B. Shepard

ADDRESS 2404 SW 22

STREET

Trousdale, OR 97060

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM # West Hills

→ SUPPORT

Full expansion
of quarry

OPPOSE

West Hills
Expansion

SUBMIT TO BOARD CLERK

Report

#17

PLEASE PRINT LEGIBLY!

MEETING DATE

6/13/94

NAME

JEAN Adams

ADDRESS

13014 NW MARINA WAY

STREET

Portland OR.

97231

CITY

ZIP CODE

West Hills
Associates
Report

I WISH TO SPEAK ON AGENDA ITEM #

1

SUPPORT

OPPOSE

✓

SUBMIT TO BOARD CLERK

#18

PLEASE PRINT LEGIBLY!

MEETING DATE 6-13-94

NAME Skip Anderson

ADDRESS P.O. Box 83449

STREET

Portland Ore

CITY

97283

ZIP CODE

West Hills

I WISH TO SPEAK ON AGENDA ITEM #

Reconciliation Report

SUPPORT

OPPOSE

SUBMIT TO BOARD CLERK

#19

PLEASE PRINT LEGIBLY!

MEETING DATE 6-13-94

NAME DONIS MCARDLE

ADDRESS 17405 NW Skyline
STREET
Portland CITY 97231 ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM # West Hills

SUPPORT _____ OPPOSE ☒ _____
SUBMIT TO BOARD CLERK

#20

PLEASE PRINT LEGIBLY!

MEETING DATE

6-13-94

NAME

Art Wagner

ADDRESS

12941 NW Newberry

STREET

Portland Or 97231

CITY

ZIP CODE

I WISH TO SPEAK ON AGENDA ITEM #

2 West Hill

SUPPORT

~~Support~~

OPPOSE

Oppose

SUBMIT TO BOARD CLERK

STATEWIDE PLANNING PROGRAM

GOAL 5 PROCESS CHART

OPEN SPACE
MINERAL & AGGREGATE
ENERGY SOURCES
FISH & WILDLIFE
SIGNIFICANT NATURAL AREAS
SCENIC VIEWS & SITES
WATER AREAS
WILDERNESS AREAS
HISTORIC SITES
CULTURAL AREAS
RECREATION TRAILS
SCENIC WATERWAYS

**STEP ONE -
IS THE RESOURCE
SIGNIFICANT?
(USING MEASURES OF
LOCATION, QUALITY,
AND QUANTITY)**

1A - NO

1B - NOT ENOUGH INFORMATION

1C - YES

GO TO STEP TWO

NO FURTHER
ACTION

ESTABLISH TIME FRAME
FOR OBTAINING INFORMATION

**STEP TWO - ARE
THERE CONFLICTING
USES?
(EITHER OTHER
RESOURCES OR
ALLOWED BY ZONING)**

2A - NO

PRESERVE THE
RESOURCE

2B - YES

DO "ESEE" ANALYSIS
GO TO STEP THREE

**STEP THREE - HOW
SHOULD CONFLICTS
BETWEEN USES BE
RESOLVED?**

3A - PRESERVE THE RESOURCE

3B - ALLOW CONFLICTING USES

3C - LIMIT CONFLICTING USES
(BALANCE)

Howard Canyon Reconciliation Report

- Howard Canyon Mineral & Aggregate
- Streams (Knieriem, Howard Canyon and Big Creek)

Significance

Level of
Protection

Protection
Program

West Hills Reconciliation Report

- Scenic Resources
- Stream Resources
- Wildlife Habitat
- Angell Brothers Mineral & Aggregate

Significance

Level of
Protection

Protection
Program

OVERALL CONCLUSIONS

Howard Canyon

- Streams (Knieriem, Howard Canyon & Big Creeks) — "3-C"
- Aggregate — "3-C"

West Hills

- Scenic — "3-C"
- Streams — "3-C"
- Wildlife — "3-C"
- Aggregate — "3-B" for approximately south one-half
"3-C" for approximately north one-half

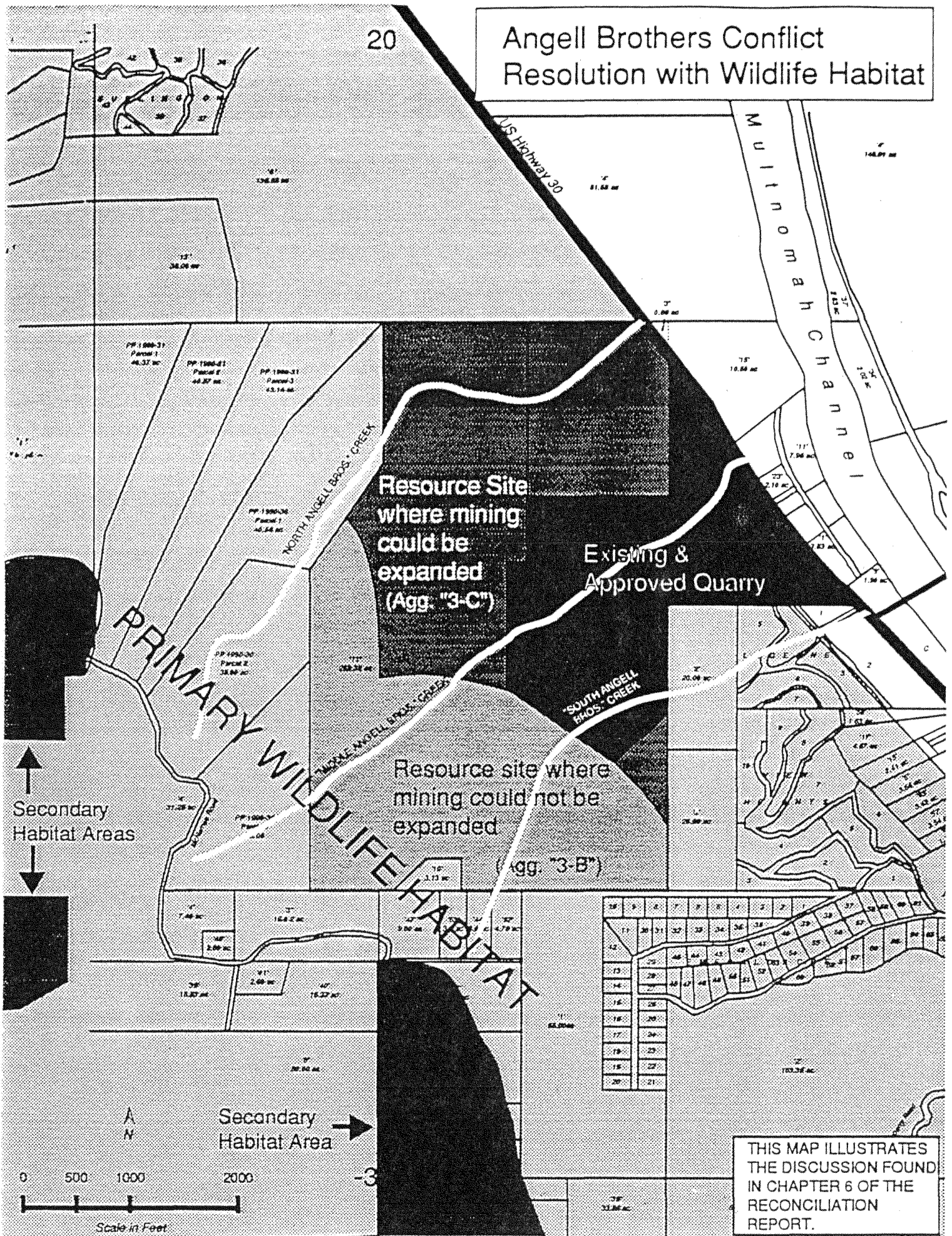
OVERALL CONCLUSIONS

HOWARD CANYON

- Streams (Knierem, Howard Canyon & Big Creeks "3C") -- Find that these streams are significant ("1-C"), and limit residential, community service and conditional use, and transportation/public improvement conflicts by regulating proposed development in the riparian zone of each significant stream.
- Aggregate (Howard Canyon Quarry "3C") -- Find that it is significant ("1-C") and that:
 - 1) Conflicts with residential uses can be resolved by adopting plan and overlay zoning designations which require some restrictions on new houses, such as setbacks from potential mining areas, and require some restrictions on mining operations in order to meet DEQ noise and dust standards for existing residences, minimize visual impacts, and minimize blasting impacts.
 - 2) Conflicts with significant streams can be resolved by requiring that mining runoff meet DEQ standards for water quality and prohibiting construction of holding ponds in the riparian zone.
 - 3) Multnomah County will require independent ongoing verification that noise, dust, and water quality standards are being met by mining operations.

Angell Brothers Conflict Resolution with Wildlife Habitat

20



THIS MAP ILLUSTRATES THE DISCUSSION FOUND IN CHAPTER 6 OF THE RECONCILIATION REPORT.

OVERALL CONCLUSIONS

WEST HILLS

- **Scenic** (East face of the West Hills "scene areas" "3C") -- Find that scenic views are significant ("1-C") and limit residential, community service and conditional use conflicts by reviewing and regulating the siting and design of new structures within the scene areas.
- **Streams** (26 West Hills Streams "3C") -- Find that 26 West Hills streams are significant ("1-C") and limit residential, community service and conditional use, and transportation/public improvement conflicts by regulating proposed development in the riparian zone of each significant stream except for "North Angell Brothers" Creek within the Angell Brothers aggregate site, which is not protected ("3-B").
- **Wildlife** (West Hills "3C") -- Find that wildlife habitat in the West Hills is significant ("1-C") and limit residential and similar uses by reviewing and regulating the siting of proposed development to have minimal impact upon wildlife and its habitat.
- **Aggregate** (Angell Brothers Quarry, Northern 1/2 "3C" and southern 1/2 "3B") -- Find that it is significant ("1-C") and that:
 - 1) Conflicts with residential uses can be resolved by adopting plan and overlay zoning designations which require some restrictions on new houses, such as setbacks from potential mining areas, and require some restrictions on mining operations in order to meet DEQ noise and dust standards for existing residences, minimize visual impacts, and minimize blasting impacts.
 - 2) Conflicts with streams can be resolved by allowing quarry operations on a portion of the North Angell Brothers stream, but protecting water quality into Burlington Bottoms to DEQ standards.
 - 3) Conflicts with scenic views can be resolved by requiring quarry operations to use berming and reclamation techniques which minimize the amount of unreclaimed mined area visible at any one time.
 - 4) Conflicts with wildlife habitat can be resolved by not allowing quarry operations on the south half of the Angell Brothers aggregate site, in order to preserve a minimum one-half mile wide contiguous wildlife habitat area through the West Hills
 - 5) Multnomah County will require independent ongoing verification that noise, dust, and water quality standards are being met by mining operations

June 10, 1994

DEPARTMENT OF
LAND
CONSERVATION
AND
DEVELOPMENT

Multnomah County Board of Commissioners
Multnomah County Planning Commission
2115 SE Morrison Street
Portland, OR 97214

Dear Chair Stein, County Commissioners, Chair Yoon and Planning Commissioners:

Since LCDC approved Multnomah County's periodic review work program for resolving Goal 5 issues, the department has worked closely with the county planning staff. We have offered advice about the requirements of the statewide planning goals. We have suggested approaches and opportunities available to Multnomah County to make the policy decisions before you. Please consider these comments in your deliberations.

First, we are concerned with the county treating these hearings as quasi-judicial proceedings. To our knowledge, you have treated no other aspect of periodic review in this way. The issues before you are complex and affect significant areas of the county. The department believes a satisfactory conclusion to this controversy demands a broad view that cannot be achieved by focussing on one or two specific land uses in the narrow confines of a quasi-judicial proceeding.

Second, we are continuing to review and analyze the county's written reports. We will watch how the analyses evolve as the county works towards its September 6, 1994 deadline to submit a completed product. After this date, the department will review the work for compliance with Goal 5.

Finally, we ask you to consider three comments about the analyses. One, the county should be clear about its identification of significant resources, and why the resources are significant. Two, the level of protection for any resource must be commensurate with the identified conflicts and the consequences of these conflicts on protection of the resource. Three, the county needs to examine thoroughly opportunities to mitigate conflicts between resources.

We are able to help your staff with the Goal 5 analyses and development of appropriate implementation tools. Steve Oulman is the department's lead staff person for this project. Call him at 378-5144 if you have questions.

Sincerely,



Richard P. Benner
Director

Barbara Roberts
Governor



1175 Court Street NE
Salem, OR 97310-0590
(503) 373-0050
FAX (503) 362-6705

**BEFORE THE BOARD OF COUNTY COMMISSIONERS
FOR MULTNOMAH COUNTY, OREGON**

In the Matter of Adopting Hearing Rules)
for the Conduct of a Joint Planning)
Commission and Board Quasi judicial)
Hearing on June 13, 1994)

RESOLUTION
94 -95

WHEREAS, ORS 197 requires the Land Conservation and Development Commission to Review the Multnomah County Comprehensive Framework Plan periodically to determine consistency with the State Land Use Goals; and

WHEREAS, the Land Conservation and Development Commission reviewed in April 1993 the Multnomah County Comprehensive Framework Plan and determined it did not comply with State Land Use Goal 5; and

WHEREAS, the Land Conservation and Development Commission required Multnomah County to complete Goal 5 work by December 31, 1993 and subsequently approved a detailed work Program extending the County's deadline to September 6, 1994; and

WHEREAS, the Land Conservation and Development Commission approved a work program which requires the Multnomah County Planning Commission and Board to conduct a Hearing to consider two "Reconciliation Reports"; and

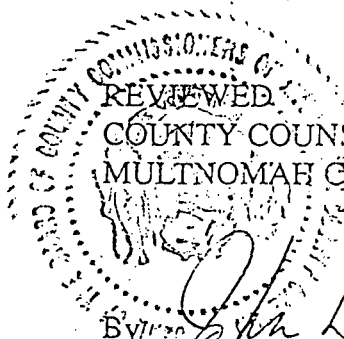
WHEREAS, both the Multnomah County Planning Commission and Board have adopted rules for the conduct of quasi judicial hearings; and

WHEREAS, the Board must amend their rules to hold a hearing with the Planning Commission;

NOW, THEREFORE, IT IS RESOLVED for the June 13, 1994, joint hearing of the Planning Commission and Board of County Commissioners on the two Reconciliation Reports, or any continuation thereof, the RULES FOR THE CONDUCT OF PLANNING COMMISSION AND BOARD OF COUNTY COMMISSIONERS JOINT QUASI-JUDICIAL HEARING as set forth in Exhibit "A" are hereby adopted.

APPROVED this 24th day of May, 1994

MULTNOMAH COUNTY, OREGON



COUNTY COUNSEL FOR
MULTNOMAH COUNTY, OREGON

By John L. Dubay
John L. Dubay, Deputy County Counsel

By

Beverly Stein
Beverly Stein
Multnomah County Chair

Exhibit "A"
RULES FOR THE CONDUCT OF PLANNING
COMMISSION AND BOARD OF COUNTY
COMMISSIONERS JOINT QUASI-JUDICIAL HEARING

SECTION 1. NATURE AND CONDUCT OF HEARING

A. Parties are entitled to an opportunity to appear, in person or by a representative or Counsel, to present and rebut testimony and evidence to an impartial approval authority, to have the proceedings recorded and to receive a written decision which includes Findings of Fact and Conclusions based on the record made at the hearing.

B. The following persons are parties and shall be entitled, either themselves or through their representatives or Counsel, to make an appearance of record before the Board of Commissioners and the Planning Commission:

1. All persons entitled to individual mailed notice under the applicable Ordinance; and
2. Other persons who demonstrate an interest in the proposed action.

C. The Board of Commissioners or the Planning Commission may call as a witness a person with technical or specialized knowledge regarding an issue in an action.

D. No person shall testify without:

1. Receiving recognition from the Chair of the County Commissioner;
2. Stating his or her full name and residence address; and
3. If requested, stating the basis on which he or she is entitled to status as a party, pursuant to these Rules or as a witness on behalf of a party pursuant to these Rules.
 - (a) A challenge to the party or witness status of a person, and a ruling thereon by the Chairperson, shall be made at the time the person requests recognition to testify.
 - (b) A challenge to the party or witness status of a person may be made only by a party.

E. There shall be no audience demonstration, such as applause, cheering, display of signs, or other conduct disruptive of the hearing. Disruptive conduct may be cause for expulsion from the hearing, termination of the hearing, or other appropriate action.

F. The term person includes an individual, partnership, corporation, association, governmental unit or public or private organization.

SECTION 2. CONFLICT OF INTEREST: BIAS, EX PARTE CONTACT

A. Any actual or potential conflicts of interest, bias or partiality shall be disclosed at the hearing where the action is considered.

B. Any party may challenge the impartiality of any member before or during the hearing. A challenge must include the facts relied on by the challenging party, relating to the member's alleged bias, prejudgment, or personal interest, or other facts from which the party has concluded that the member cannot participate in a decision in an impartial manner.

C. In the event of a challenge for bias, the challenged member shall respond in a statement which shall be part of the record. The statement shall refer to the challenge and include the reasons why the member has elected to participate or abstain. The statement shall not be subject to cross examination or rebuttal.

D. In the event any member has pre-hearing *ex parte* contact with a party, the member shall publicly disclose the occurrence and the substance of such contact and the persons involved. The statement shall also indicate any interest or independent knowledge of the member. The term independent knowledge refers to facts received by other than public means which are not capable of judicial or official notice, are not in the record of the action and are not a matter of general knowledge. The statement shall be made at the beginning of the hearing on the action or at such time during the course of the hearing that the member becomes aware of the existence of an *ex parte* contact or independent knowledge. The statement regarding *ex parte* contact shall be subject to the same Rules as for a statement of bias in paragraph (C) in this section.

SECTION 3. QUORUM and PRESIDING OFFICER

A. A quorum of the Planning Commission and a quorum of the Board of Commissioners shall constitute a quorum for the joint meeting.

B. The Presiding Officer of a joint meeting shall be the Chair of the County Commission or a person designated by the Chair.

SECTION 4. RULES OF EVIDENCE

A. Evidence received at a hearing shall be of the quality that reasonable persons rely on in the conduct of everyday affairs.

B. Irrelevant, immaterial or repetitious testimony or evidence shall not be admitted.

SECTION 5. ORDER OF PROCEDURE

The order of procedure shall be as follows.

A. Call the session to order.

B. Call for the Staff Report relating to actions previously decided, if appropriate. And list the applicable and substantive criteria governing the action.

C. Summarize the nature and conduct of the hearing as described in these Rules and explain where the public can obtain copies of the Rules of Procedure and the Agenda.

D. Explain the sequence of events to be followed at the hearings as described in Subsections (F) through (O) of this Section.

E. Instruct the audience that only testimony or evidence directed to the approval criteria will be accepted and that failure to raise an issue with sufficient specificity to afford the Commission and the parties an opportunity to respond to the issue precludes appeal to LUBA on that issue.

F. Call the first Agenda item and describe the Action.

G. Request a representative of the Division of Planning and Development to describe the nature of the proposal, explain any graphic or pictorial displays which are to be part of the record and summarize the Staff Report and Recommendation.

H. Call for the presentation by Proponents of the Action.

1. Those testifying in support of an action have three minutes per person, exclusive of time used by the Board and Planning Commission for questions. Additional time shall only be granted if the evidence/testimony is not repetitious, irrelevant, or immaterial.

2. Proponents shall be heard in the following order.

- (a) Representatives of agencies or interested governments,
- (b) Persons receiving notice of the hearing.
- (c) Neighborhood associations, organizations or other groups.
- (d) Persons not entitled to receive notice of the hearing but who demonstrate to the Approval Authority that they have an interest in the action.

I. Call for the presentation by opponents of the Action.

1. Those testifying in opposition to an application have three minutes per person, exclusive of time used by the Board and Planning Commission for questions. Additional time shall only be granted if the evidence/testimony is not repetitious, irrelevant, or immaterial.
2. Opponents shall be heard in the following order.
 - (a) Representatives of agencies or interested governments,
 - (b) Persons receiving notice of the hearing.
 - (c) Neighborhood associations, organizations or other groups.
 - (d) Persons not entitled to receive notice of the hearing but who demonstrate to the Approval Authority that they have an interest in the action.

J. Provide opportunity for a representative of the Division of Planning and Development to add to or clarify the factual information presented.

K. Close the public portion of the hearing and accept requests for continuances and the opportunity to submit additional evidence as provided in ORS 197.763(4)(b) and (6).

SECTION 6. RECORD OF PROCEEDINGS

A. The proceedings of the Board and Planning Commission shall be electronically or stenographically recorded.

B. In the manner provided by ORS 192.105-192.170, the Division of Planning and Development may dispose of physical and documentary evidence not claimed by the person identified sixty days after notice that the evidence may be claimed has been mailed to such person.

SECTION 7. PUBLICATION OF RULES

These Rules shall be placed on record with the Division of Planning and Development and the Clerk of the Board of County Commissioners and copies shall be made available to the public at all joint hearings of the Board and Planning Commission.

SECTION 8. AMENDMENT AND SUSPENSION OF RULES

A. Any Rule of Procedure not required by law may be amended, suspended, or repealed at any hearing by majority of those present.

B. A procedural rule may be adopted to regulate a situation not provided for in these Rules or in County Ordinances.

SECTION 9. RELATIONSHIP WITH OTHER RULES

These Rules supercede other Board and Planning Commission rules.

SECTION 10. DECISIONS

Following the joint hearing, the Planning Commission and Board of County Commissioners will make their separate decisions in accordance with MCC §11.05.300 through MCC §11.05.400.

6/13/94 BCC/PC JOINT HEARING

SHARON TIMKO SUBMITTAL

6/3/94 HOWARD CANYON QUARRY
SITE VISIT

6/10/94 ANGELL BROTHERS QUARRY
SITE VISIT

SEARCH

Insert film strip into machine



Do not touch the film inside

WIND

6/13/94 BCC/PC JOINT HEARING

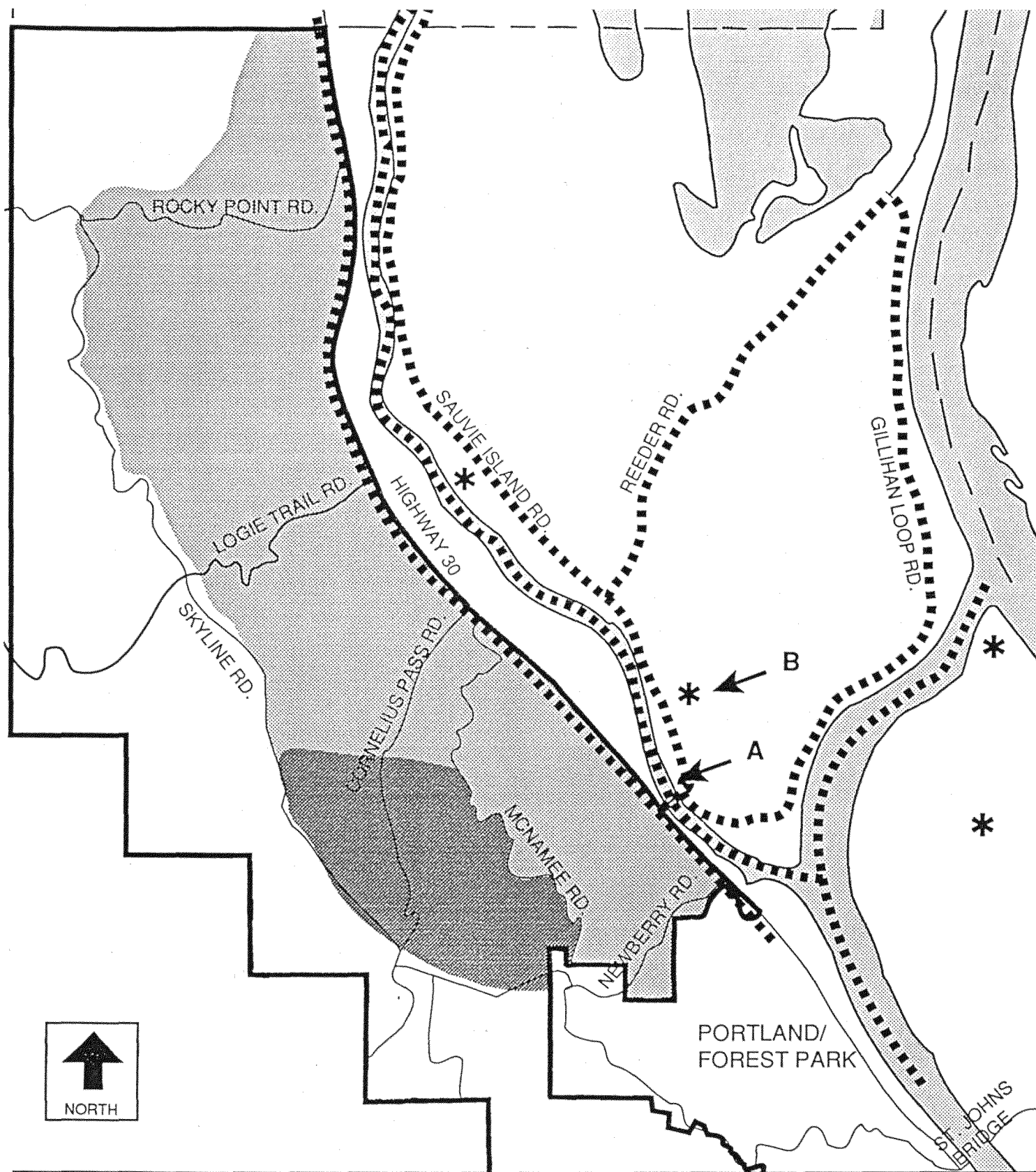
JEAN ADAMS SUBMITTAL ON BEHALF
OF JACK SANDERS

ANGELL BROTHERS QUARRY

WEST HILLS SITE VISIT

On Friday, June 10, 1994 at approximately 2:00pm County Commission Chair Beverly Stein, Commissioner Tanya Collier, Planning Commission members Leonard Yoon, Laurie Craghead, John Ingle and Karin Hunt, Board assistants Sharon Timko, Katherine Burke and Stuart Farmer, Engineering staff member Don Newell (who was responsible for video taping the trip), and Planning staff member Bob Hall (who conducted the tour) made the following visit of a portion of the West Hills (stops indicated refer to attached maps):

- The group, with the exception of Yoon and Hunt, assembled at the Portland Building, travelled downtown streets to US Highway 30, and north on that highway to the Sauvie Island Bridge. Crossed the bridge and met Yoon and Hunt at the parking area near the bridge (stop A).
- At the turnaround the group observed the Angell Brothers aggregate site, and the scenic, stream and wildlife resource areas were described and pointed out (stop A).
- Travelled north on Sauvie Island Road to the Bybee/Howell House where it again observed the scenic, wildlife and Angell Brothers resource sites (stop B).
- Travelled south on Sauvie Island Road, crossed the Sauvie Island Bridge, and north on US 30, and entered the Angell Brothers site.
- Skip Anderson of Angell Brothers met and led the group in a separate vehicle for the remainder of the trip. The only contact Anderson had with the group was with Hall and Timko who twice asked that he lead the group to viewpoints requested by other members of the group.
- Travelled westerly along the pit floor to the point where Middle Angell Brothers Creek enters the pit floor (stop C).
- Drove to the upper portion of the operation where active mining was occurring (stop D).
- Stopped on the way down from the upper area to observe the Rafton/Burlington Bottoms, Sauvie Island, and the location of North Angell Brothers Creek (stop E).
- Left the mine site and travelled north along US 30 to McNamee Road, and southerly along McNamee Road to an access road into the southerly portion of the Angell Brothers site. A secondary wildlife habitat area was observed along McNamee Road.
- Entered the site and travelled along a logging road to a point approximately mid center of the south one-half of the site. Along the way observed a residence to the east of the site (stop F).
- Observed the basin of South Angell Brothers Creek, the primary wildlife habitat area, and viewable portions of Angell Brothers site.
- Returned north along McNamee Road and south along US 30 and observed the point where North Angell Brothers Creek passes under US 30 (stop G).
- Pointed out where South Angell Brothers Creek passes under US 30 (no stop made).
- Dropped off Yoon and Hunt at the Sauvie Island turnaround and returned to Portland Building at approximately 4:40pm via US 30 and downtown streets.
- A video was made of all stops during the visit.
- With the exception of pointing out the secondary wildlife habitat area along McNamee Road, the residence to the east of the Angell Brothers site, and the point where South Angell Brothers Creek passes under US 30, there was no discussion regarding particulars of the visit except at the above identified stops.



WEST HILLS SCENIC RESOURCES STUDY AREA



STUDY AREA



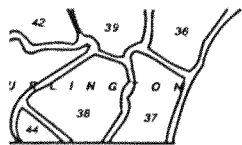
AREA REMOVED FROM STUDY



KEY VIEWING AREA



KEY VIEWING CORRIDOR



20

Angell Brothers Site

US Highway 30

Multnomah Channel

G

Existing Quarry

Angell Brothers Site

28

PP 1990-31
Parcel 1
40.37 ac

PP 1990-31
Parcel 2
40.37 ac

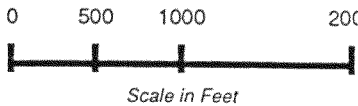
PP 1990-31
Parcel 3
43.14 ac

PP 1990-30
Parcel 1
40.56 ac

PP 1990-30
Parcel 2
38.00 ac

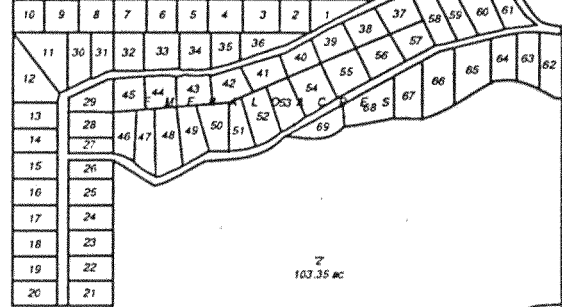
PP 1990-30
Parcel 3
38.00 ac

N



32

33



WEST HILLS RECONCILIATION REPORT

ADDENDA & ERRATA

(Note: Struck through language is deleted and bolded language is added).

Page & paragraph #

III-8, TABLE B

STREAM	CRITERIA MET
Rock Creek - North Reach	5
Rock Creek - Middle Reach	5
Rock Creek - South Reach	5
Balch Creek	5
South "Wildwood" Creek	4
Miller Creek	4
Jackson Creek	3
Joy Creek	3
Jones Creek	3
"Rocky Point" Creek	3
Scappoose Creek	3
North "Wildwood" Creek	3
Middle "Wildwood" Creek	3
South "Rainbow" Creek	3
North Bronson Creek	3
South Bronson Creek	3
"North Angell Bros." Creek	3
East Fork McKay Creek	2
North Jackson Creek	2
"Wildwood" Creek - Main Stem	2
North "Rainbow" Creek	2
"Holbrook" Creek	2
South Jackson Creek	2
McCarthy Creek	2
Saltzman Creek	1
"Burlington" Creek	1
"South Angell Bros." Creek	0
"Newberry" Creek	0
"Middle Angell Bros." Creek	0

III-45, ¶1

5. **ISSUE:** If all streams in the West Hills are significant, then they are no longer significant in relation to the others.

III-46, ¶4

As for the actual reclamation plan, there is no doubt that even the best reclamation plan will not result in the return of a stream to the exact physical condition that existed prior to the quarrying that caused the need for reclamation. The goal of a reclamation plan is the return of the land to a condition that will **not** cause negative impacts, be they to water resources, scenic qualities, wildlife habitat, or other attributes, that will affect the surrounding area.

III-175, ¶1

Stream Description:

Its origin has been clear cut on the south side and a mixed conifer deciduous forest is on the North. It then flows into an area where both sides of the stream have been clear cut and only a few overstory trees remain; however in several areas buffer strips up to 100 feet wide have been maintained. The buffers are primarily red alder but some Douglas fir and western red cedar are also present. These buffers are very open and many of the conifers have been removed. Dense salmonberry and himalayan blackberry are in the stream channel. At ¼'s of a mile from the headwaters the stream goes under ground and flows under a road (culvert has been removed, re-surfaces and enters another mixed conifer/deciduous forest). Overstory is primarily red alder and big-leaf maple with western red cedar, western hemlock, and Douglas fir becoming more common upslope. The stream is joined by a second stream from the south and forms a delta of transported sediment and debris against the embankment of a powerline access road. Water is ponded in this area and drains subsurface under and through a grated culvert that is 90% blocked by silt and debris. **The stream remains sub-surface under fill associated with a Bonneville Power Association Line -- at the time of observation in early May, no water was flowing into the grated culvert.** According to County Planning staff, the culvert's outlet is immediately east of the Burlington Northern's Cornelius pass railroad grade, unknown. ~~Immediately east of the road is a channel overgrown with himalayan blackberry but no water was flowing at the time of observation.~~ **At the time of observation in early May, water which was stained a rust color flowed out the culvert outlet -- the probable source of the additional water is underground drains associated with the Bonneville Power Association Line fill.** This channel was overgrown with himalayan blackberry. The water then entered a culvert under the Cornelius Pass railroad grade, Highway 30, and the Astoria railroad grade and exited into Burlington Bottoms.

IV-49-52

Rocklin should be spelled Rochlin

VI-24, ¶ 1

Add the following items

- Adopt a plan and overlay zoning designation within the 1,200 foot impact area in which new conflicting uses such as new homes would be subject to some restrictions, such as setbacks, so as to not cause any future mining activity to violate state standards for noise, etc.
- As a condition of approval of any future operational permit, require an ongoing program of verifying that DEQ noise standards are being met at all homes in the impact area. This would be at the expense of the mining operator with the contracted consultant subject to the approval of the Planning Director.
- As a condition of approval of any future operational permit, require an ongoing program of verifying that DEQ water quality standards are being met for any runoff from the site into the streams. This information could be from an approved consultant or state DEQ reports.
- Restrict days and hours of blasting and require advance notice.

VI-27, ¶ 6

~~All four significant resources in the West Hills should be designated "3-C".~~ The West Hills Scenic, Wildlife, Streams and Wetland (except as noted below), and that portion of the Angell Brothers site more than one-half mile from secondary wildlife habitat areas should be designated "3-C". That portion of the Angell Brothers site within one-half mile of secondary wildlife habitat areas and that portion of the "North Angell Brothers" stream within the mineral resource site should be designated "3-B". This will provide a level of protection that recognizes and protects the attributes that make each resource significant, while preventing the economic and social consequences that would occur if conflicting uses were prohibited.

VI-27, ¶ 8 & 9

Protection and utilization of the Angell Brother's aggregate site will be accomplished through zoning restrictions for uses within the impact area and Comprehensive Plan amendments detailing operating standards. This would allow expansion of mining ~~northern half of the site~~ within the "3-C" area, provided that the mining plan can be found to meet certain standards designed to protect the other significant

resources such as compliance with DEQ and DOGAMI regulation regarding water quality, screening requirements, and demonstration that reclaimed areas are capable of supporting forest vegetation.

The "3-C" and "3-B" designations and proposed protection standards provide overall protection to all four of the significant resources in the West Hills. This program complies with Statewide Planning Goal 5.

Angell Brothers, Inc.

P.O. Box 83449 • Portland, OR 97283-0449
286-4201



June 10, 1994

R. Scott Pemble, Planning Director
Multnomah County Department of Environmental Services
2115 SW Morrison Street
Portland, OR 97214

Subject: West Hills Reconciliation Report (May 23, 1994)

Dear Scott:

Exhibit A, attached, is in response to concerns raised about the ability of Angell Bros. to reclaim the quarry after mining. The site inspection attached found topsoil accumulations in the undisturbed areas of the quarry to be shallow in the 12-30" depth range. William C. Gilmore also notes that he has had survivability rate of 90% in planting acreages much larger than the Angell Bros. Quarry with soil depths of 6" and less.

Angell Bros. reclamation plan on file with DOGMI shows a minimum of 2 ft of topsoil to be placed over benches when finished. In addition, some of the benches will be engineered and constructed with 40 ft of overburden and topsoil. This greatly increases the opportunities for successful reclamation.

By using test plots to determine the proper planting techniques, seed mixture, fertilization types and rates, and by monitoring the results, we believe a survivability rate of 90% is very achievable.

Attached is a report from ODFW's Habitat Conservation Division (Exhibit B) regarding Multnomah County's determination of significance for the Middle Angell Bros., Creek and North Angell Bros. Creek. Much of the concern with Angell Bros. North Creek stems from the supposition that the creek is a "significant" contributor to Burlington Bottoms. The report states that ODFW clearly has an interest in the conservation of Burlington Bottoms since it was purchased by Bonneville Power Administration for wildlife mitigation and is managed by the Department. The conclusion of ODFW was that they do not believe that either North or Middle Angell Bros. Creek warrant a

R. Scott Pemble, Planning Director
June 10, 1994
Page 2

determination of significance, and they recommend the County reconsider the determination of "significant" for both streams.

On page V-46 "table 7" of the West Hills Reconciliation Report is a list of Aggregate Suppliers in Multnomah, Clackamas, Washington, and Columbia counties in Oregon and Clark county in Washington. Of the eight suppliers listed for Multnomah county, Angell Bros., Inc. is the only rock quarry. The remaining seven are all sand & gravel operations. It should be understood that there is a distinct difference between quarry rock and sand & gravel rock. Quarry mined rock is used for base rock, railroad ballast, rip rap, and rock to make asphalt. Sand & gravel rock is primarily used for concrete and base rock. Of the seven sand & gravel operations listed in table 7 under Multnomah County, only Ross Island, Gresham Sand & Gravel and Estacada Rock Products actually produce aggregate in Multnomah County. Portland Sand & Gravel and Porter Yett have been depleted and no longer produce aggregate. Lone Star NW does not produce in Multnomah County but imports sand and gravel from Columbia County. This difference in material makes it even more important to continue providing rock from this quarry well into the future.

Aggregate costs are directly related to the length of the haul. Moving aggregate 15 to 20 miles from the manufacturing site doubles its cost. That's why it's important to have the manufacturing site as close to the market area as possible. Rock prices hauled to a specific project, such as the new Trailblazer arena can vary substantially. For instance, rock hauled from Angell Bros. to the Blazer Arena would cost \$8.50 per cubic yard. Rock hauled to the same place from Gresham Sand & Gravel would be between \$11.50 and \$12.00 a cubic yard. Rock hauled from Estacada Rock Products to the same location would cost \$13.00 per cubic yard. The savings on this one project equal hundreds of thousands of dollars. It is not hard to understand why it is important to have the aggregate site as close as possible to the market place.

ANGELL BROS., INC.



F.H. "Skip" Anderson, President

FHA/tls

RECEIVED

JUN 10 1994

Multnomah County
Zoning Division

Applied Ecosystem Services

2404 SW 22nd Street
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Troutdale, OR 97060-1247

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June 10, 1994

R. Scott Pemble, Planning Director
Multnomah County Department of Environmental Services
2115 SW Morrison Street
Portland, OR 97214

RECEIVED
JUN 10 1994
Multnomah County
Zoning Division

Subject: West Hills Reconciliation Report (May 23, 1994)

Dear Scott:

I will summarize my comments and concerns first, then provide more specific examples.

Summary:

The West Hills Reconciliation Report dated May 23, 1994 recognizes many of the limitations in the Goal 5 resource inventories/significance determinations and the associated ESEE analyses. However, it is deficient in three categories:

1. lack of data to support several conclusions;
2. lack of logic in deriving conclusions from earlier reports; and
3. inconsistent assumptions have been made for impacts associated with resources.

The lack of data is illustrated by the second paragraph on page V-37. The authors state that expansion of the quarry to the requested size "would obstruct the principal connection between Forest Park and the northern portion of the West Hills". While the County likes to cite the Lev *et al.* 1992 study, they continue to have difficulty in understanding what that report says and the biological base upon which it is built. The County's contractors did not have a study transect within a mile of this so-called "critical area" so there are no data (other than aerial photographs manually interpreted) to support this claim. Further, neither the County nor its contractors explain (or support with data) for which of the species/guilds listed in Table 4 (page V-10) this unexamined area is a critical bottleneck or why loss of this area could lead to local extinction in another area, the 4,700 acre Forest Park. Finally, there are no data which support the classification of areas into primary habitat and secondary habitat; it is strictly subjective. However, there is a workable solution which will be discussed below.

The lack of logic pervades this reconciliation report. The most significant errors arise from the conclusions drawn from the myth that the West Hills is a wildlife corridor. Because the County agrees that the concept of a wildlife corridor is a myth (page V-90, issue 18) the concept of a movement bottleneck and the requirement for forested swaths of a defined minimum size also become irrelevant. Without the demonstrated existence of a movement bottleneck there

is no reason to restrict the expansion of the Angell Brothers quarry along the south and west of the property or to maintain a 0.5-mile swath of forest for movement of large mammals. There is not a 0.5-mile wide forested swath anywhere in the vicinity of Newberry Road, McNamee Road, and Skyline Road, nor has there been such a forested swath for a long while. There is absolutely no data or justification for a swath of any predetermined width at any place within the West Hills (see, for example, Esther Lev's suggestion of a 200 meter buffer in Exhibit A and the color infrared aerial photograph marked as Exhibit B).

The new approach is to consider the entire Tualatin Mountains as a peninsula with the City of Portland's Forest Park at the eastern end. Despite the new approach, there is still no biological or ecological basis for believing that the present and proposed mixes of land use and land cover pose any measurable threat to any animal species known to inhabit the area. There are also no data to alter this belief. Denying future quarrying on the southern and western portions of the Angell Brothers property cannot be justified or defended. If, in the future, there is evidence that habitat of specified character and size is required for a specific wildlife need, it is most probable that those needs could be met. Examination of the 1991 color infrared aerial photograph of the area (scale 1:1,000; Exhibit B) illustrates two important points. First, there is a wide forested band which arcs to the west around the Angell Brothers property. Second, there are quite a few residential developments throughout the area. Considering that most of the visible clearcut areas will be adequately revegetated within the next seven years, there is (and will continue to be) abundant wildlife habitat of many types.

Other aspects of the logical lapses in this report include the demonstration of relevance to the West Hills of observations made in other areas and under different situations. This applies to the size of clearcuts, the ratio of edges to interiors, the distribution of animals within the West Hills and Forest Park, and the use of areas by animals which would permit classification into primary and secondary habitat areas. The author's logic is most egregiously flawed in the statements associated with issue 15 (page V-88). Black bears and mountain lions do not determine what other animals can exist in an area. Birds fly into and out of and small mammals can readily maintain self-sustaining populations in the 4,700 acres of Forest Park whether or not black bears or mountain lions are present there.

Assumptions assigned to Goal 5 resources, specifically minerals and rock, timber, and wildlife habitat are inconsistent. The Conflict Resolution and Protection Program section, Chapter VI, also contains oxymorons; for example, the North Angell Brothers Creek is *significant* because of its *minor contribution* to Burlington Bottoms. Different assumptions are applied to impacts of mining on wildlife, impacts of timber harvest on wildlife, and the impacts of mining on timber harvest. These inconsistencies do not contribute to the resolution of conflicts nor do they lead to balanced — and equal — protection of all Goal 5 natural resources.

Specifics:

There are still no data to support conclusions of wildlife habitat loss. "The best available information" requirement of Goal 5 means that there be *some* data to support conclusions. Many of these data gaps have been detailed in previous letters I have submitted to you containing comments on the West Hills inventories, significance determinations, and ESEE analyses for scenic, streams, aggregate, and wildlife resources. For example, the water quality significance of high BOD levels and the definition of riparian zone are both wrong and lead to invalid conclusions. Neither definition can be scientifically supported.

The continued lack of data is illustrated by the ODF&W wildlife habitat definition which you include on page V-3 of the Reconciliation Report. This definition is in terms of particular species, guilds, and life history requirements. None of the wildlife-related reports (inventory, significance determination, ESEE, or this report) associate particular species or guilds to the habitat generalizations presented. This is not technically defensible. In my previous comments on your wildlife efforts (including my letter of April 25, 1994), I have repeatedly pointed out the superficial nature of the data presented by Marcy Houle and Esther Lev, *et al.*, in the previous work they did for the County. Their own reports acknowledge the limits of their efforts because of the insufficient funding level. For example, the Lev, *et al.* report states that they found no differences in animals among their six transects and collected so few data that the report is useful for only limited baseline information in a few areas of the Tualatin Mountains.

In the Reconciliation Report there is no discussion of what benefits will accrue to wildlife from what you are proposing. In all the materials which have been presented by the County, there is no evidence that restricting rock quarrying will help animals or their habitat. As I mentioned in earlier comments, the risk to the health of large, wild animals increases when they try to inhabit urbanized areas (or any area with growing human populations and presence). It is unfair to the animals to lure them into unsafe areas. Concurrently, such practices increase the risk of harm to humans by these animals (Exhibit C).

It is disappointing to note that your contractors have ignored the effects of terrain on wildlife use and movement. Larger mammals will not cross a draw by going down one side and up the other unless they are frightened or feel threatened. Game trails in most areas are on or just below ridgelines above the heads of draws unless they lead to a drinking water source. The expansion area on the Angell Brothers quarry property is very steep and the suggested restricted areas will not be used by wildlife nearly as much as will other areas. For example, there is a wide, fairly well forested band of land west of the quarry property which would be of higher wildlife habitat values and could be preserved by the County for that use until the upper reaches of the quarry have been mined and reclaimed (Exhibit B).

The report is incorrect in concluding that agricultural areas are lower quality wildlife habitat than are forested areas. Foods are abundant and concentrated, access is relatively easy, and the open areas facilitate watching for predators. While the food values vary with season and

the crops in production, farmers can tell you about damage caused by deer, mice, birds, and insects. Animals will also use farmlands when moving around because the terrain is easy to navigate and predators cannot stalk them as easily as in more dense cover. Because the 1992 Lev *et al.* report found no significant differences in animal abundance among transects, it is most reasonable to conclude that all areas in the West Hills are of equal wildlife habitat value.

In the revised discussions of scenic resources in the West Hills, the term "outstanding" has been inserted without any definition of this criterion or data to support such a designation. Saying that the Board *feels* that the scenic resources are outstanding is not defensible as "best available data" in terms of Goal 5 compliance. Further, any perceived degradation in scenic quality due to mining at the highest elevations of the quarry expansion area will be temporary. These bands could be mined and reclaimed within approximately five years to the point that viewers on Sauvie Island, the Columbia River, or any other view point or route would not be able to notice any intrusive difference in the landscape pattern.

To illustrate quarry reclamation in this immediate area, examine the photographs of the closed Oregon Department of Transportation (ODOT) rock quarry at mile 7.5 of Interstate 205 (Exhibit D). According to ODOT Maintenance Supervisor Jim Samson (personal communications, June 10, 1994), this site was closed as a quarry approximately 20 years ago. The only deliberate reclamation efforts, to the best of his knowledge, was slope stabilization and hydroseeding for erosion control. In this highly visible location, the former quarry does not stand out from the adjacent landscape. It should be obvious that planned reclamation based on both solid ecological expertise and defined use objectives (e.g., wildlife habitat) has a very high probability of success.

The response to stream issue 1 (page III-43) neither addresses the issue raised by both Steve Oulman and me, nor provides the data which support the conclusions presented. To be technically defensible you need to present the data you have. For example, if a stream passes through an agricultural area, the specific impacts of local agricultural practices on that local stream must be described along with the supporting data.

Logical lapses are found throughout the reconciliation report but are the most severe in Chapter V, wildlife. The first full sentence at the top of page V-9 reads, "This study [referring to the 1992 Lev, *et al.* West Hills wildlife report] found that species diversity depends upon both the quantity and the quality of habitat". However, the referenced report does not support this conclusion. The third paragraph of page iii notes that some differences were discernible for birds but not for mammals, and their section 3.3.4 (page 6) states that "[i]t cannot be inferred that a significant difference exists between any two specific transects".

Another logical inconsistency is found on page V-9 of the Reconciliation Report. The author states that Forest Park is not large enough to support mammals such as elk, bobcats, mountain lions and black bears which need a migratory corridor to the west. This statement, which is probably correct, conflicts with both the acknowledgement that there is no migratory

corridor in the area and the obvious fact that self-sustaining populations of mountain lions and black bears in Forest Park and the southern portions of the Tualatin Mountains is not desirable because of human population growth in these areas (Exhibit C).

The reason provided in the report for the temporary nature of logging's impact on wildlife habitat is that "values" are restored to pre-cut conditions in 10 years. Applying this logic to the southeastern portions of the Angell Brothers quarry property, which was clearcut three years ago, means that in another seven years the amount of habitat will be greatly increased in the so-called "bottleneck" area. Scheduling mining activities to accommodate this growth could be done. On the same topic, the reconciliation report acknowledges that mitigation for mining impacts can be done but the conclusions do not offer the opportunity to negotiate mitigation measures as the most practical approach to maximizing protection for both mineral and wildlife habitat resources. It is also illogical to state that mining and forestry are incompatible when each use is permitted in the other use's zones. Obviously, they can — and do — coexist in many places, and they could in the West Hills.

The relationship between quarrying and forestry can be best illustrated by forest practices in Oregon west of the Cascade Mountains. A timber company cannot cut trees without building roads for access and to remove the cut timber. Roads cannot be built and maintained (including meeting water quality standards for sedimentation in streams) without rock. Therefore, rock quarries are a necessity in forest lands. Most timber companies do not deliberately reclaim their quarries because they will need to obtain more rock in the future. However, the normal ecological processes of primary terrestrial succession leads to the buildup of soils from lichens and mosses, and sequential stages of vegetation from grasses and forbs to hardwoods and, ultimately, conifers. This process was verified during a telephone conversation with Robert Burnham, Cavenham Forest Industries Land Manager on June 9, 1994.

The assumptions of potential impacts related to use of sites for wildlife habitat, forestry, and mining are inconsistent. On page VI-6 there is no environmental impact to the Angell Brothers quarry if forestry is fully allowed yet section 7 (mining) does not address forestry from this perspective. This is also not correct. If mining is prohibited or restricted there will be air quality degradation from the increased traffic required to import rock from greater distances. Because the state is trying to increase air quality to attract new business relocations, this environmental impact could also have detrimental economic impacts. Further, the forestry section (number 1, beginning on page VI-5) lists consequences to wildlife habitat areas while the wildlife habitat section (number 4, beginning on page VI-10) states that the only potential for impact is at the quarry site.

If forestry is fully allowed (page VI-5) the environmental impacts are numerous from habitat loss and "diminishment" but these impacts are temporary (page VI-6). Regrowth, it is implied, immediately restores pre-cut values related to scenery, wildlife habitat, and riparian value. No time scale is presented. However, on page VI-16, the report states that a forest habitat would not be re-established on a mined area for at least 10 years following reclamation.

R. Scott Pemble, Planning Director
page 6
June 10, 1994

Not only is this assertion not supported by anything presented in this (and earlier) reports, but it is not correct. This latter section also refers to the "vital connection between Forest Park and large tracts of forest land to the north and west", a reference not found in the sections on forestry (number 1) or wildlife habitat (number 4).

There are also computational errors in the report. For example, logging has a cycle of 60 to 80 years. Therefore, the value of the timber must be amortized over this time and not credited to the present. All Goal 5 natural resources have monetary values which are based on time periods which vary but are relatively long. It is necessary to compare these resource's values either by the fraction representing their present worth or by their worth per year during their lifetime. Mixing the two methods yields incorrect values and can result in bad decisions.

In summary, I commend you for making significant progress toward complying with Goal 5. However, there is no technically defensible rationale for restricting the expansion of the Angell Brothers quarry within the western and southern portions of their property. If you objectively consider the available data, are logically consistent in evaluating natural resources in the area, and apply uniform assumptions to potential impacts you will see that mining is not inconsistent with forestry or wildlife habitat. For that matter, state regulations administered by DOGAMI will most likely result in a reclaimed quarry which far exceeds existing conditions for both forestry opportunities and wildlife habitat values. This is an opportunity to plan for the future in a manner which compensates for projected increased human population growth during the next decades.

Accepting the reasoning presented above could result in many benefits to other Goal 5 values in this area of the West Hills. For example, by offering the full expansion area for mining the north channel drainage area may not be needed for extracting rock. This would enhance the visual barrier from that direction. In addition, the reclamation proposal for the entire area submitted to DOGAMI offers specific wildlife habitat values to be incorporated into the post-mined area. This would provide valuable amenities in an area which is projected to experience highly significant human population growth in the coming decades.

Sincerely,

Richard B. Shepard

Richard B. Shepard, Ph.D.
Principal

Enclosures: Exhibits A, B, C, D

c: Steve Oulman/DLCD

RECEIVED BY FAX

DATE 7-6-92
TIME 5:15 PM

Frank Parisi

July 1, 1992

RECEIVE

JUN 10 1994

Multnomah County
Zoning Division

To: Skip Anderson
 From: Esther Lev
 Re: Wildlife Habitat Recommendations for Angell Brothers Quarry

After reviewing the Comprehensive Plan Amendment and the Conditional Use Permit for the Angell Brothers Quarry, I have the following recommendations as how the quarry expansion can best fit the goals and objectives of the West Hills Wildlife Study.

The recommendations of the Study of Forest Wildlife Habitat in the West Hills report suggest that at all times a band of contiguous forest habitat a minimum of .5 mile wide be maintained between the Multnomah County Line on the north, Highway 30 on the east, Newberry Road on the south and the ridgeline on the east. The .5 mi. minimum is suggested as a good estimate which can provide some habitat that can contribute to the life needs of the largest mammals as well as supporting the home territories for many smaller species. It also provides contiguous habitat for some species that have short dispersal distances, while connecting long range dispersers to patches of suitable habitat.

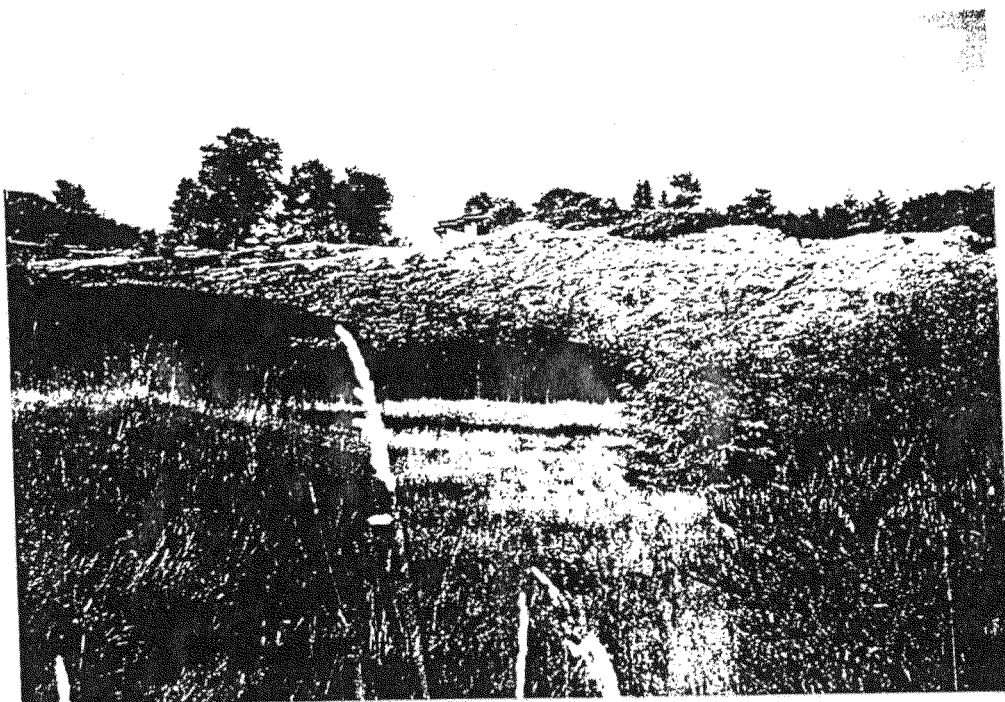
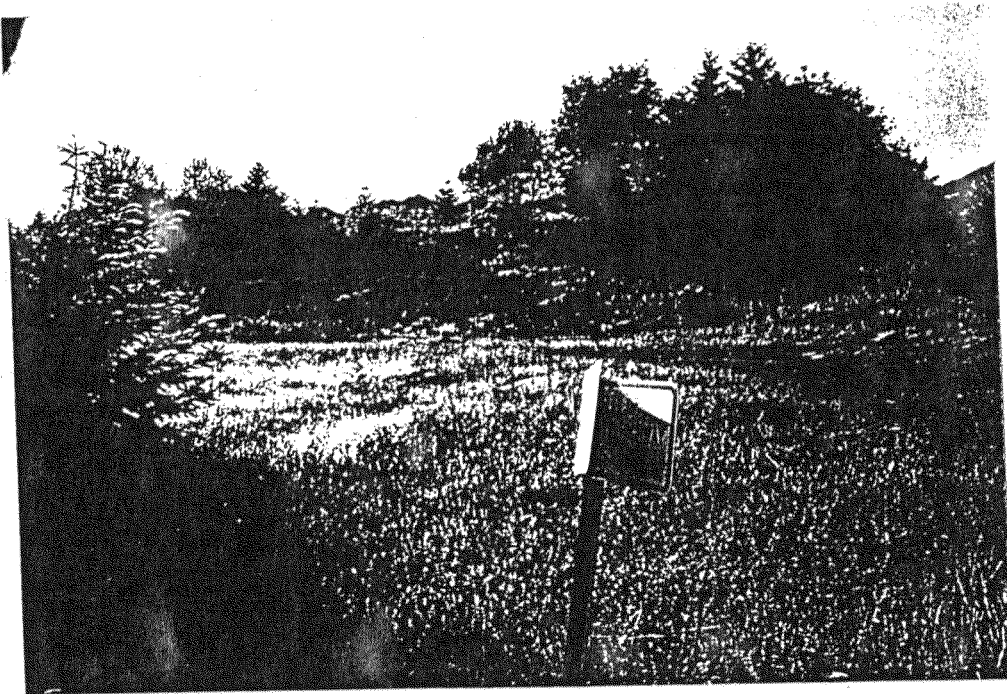
The proposed quarry extension is located within this area. In order to insure a contiguous forested habitat I suggest that a 625 ft. or 200 meter conservation easement be drawn from the edge of the property directly south of the extension boundary. The 625 ft. will provide for a minimum of 225 ft. of interior forest habitat with 200 ft. of edge habitat on either side. Interior habitat is critical for many of the species residing within this forested habitat area. Studies of interior species requirements, especially birds, in other northwest forested areas have shown that a minimum of 200 ft. of interior habitat is necessary, in order to sustain many of the forest dwelling wildlife species. The conservation easement line should be drawn parallel to the existing quarry boundary or Highway 30, whichever allows for a wider entry to the habitat area at the eastern end of the quarry boundary.

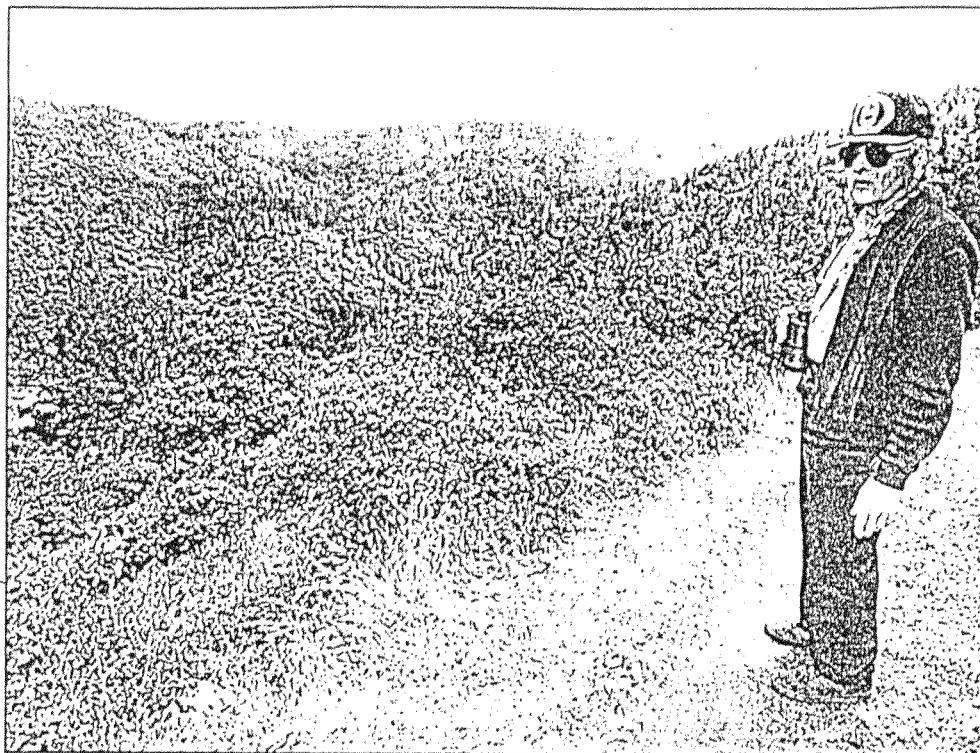
The reclamation plan for the site will be reviewed and modified by Oregon Department of Fish and Wildlife, Esther Lev, David Evans and Associates and any other interested parties. Bench width may vary from greater to lesser than 20 ft. to accommodate mining needs, as far as possible, maximize wildlife benefits and use. The benches will be vegetated with native species with a composition similar to those growing in the least disturbed areas of Forest Park. An on-going research and monitoring program will be established to monitor wildlife use changes during quarry activity and after reclamation of the site.

Esther Lev
 729 SE 32nd
 Portland, Oregon
 97211
 503/239-4065

Environmental
 Consulting

Exhibit D. Two views (looking west and east, respectively) of the old ODOT rock quarry along Interstate 205. The quarry is located at mile 7.5 on the north side, just past the exit road from the West Linn rest area. Closed about 20 years ago, it has revegetated naturally. The only planned reclamation activity was slope stabilization.





BOB GALBRAITH/Associated Press

Ken Starbird, security chief of a nearby housing development, scans the area in California's Auburn State Recreation Area where a cougar killed jogger Barbara Schoener last weekend. Her mutilated body was found Sunday.

Mountain lion that killed jogger now the hunted in Sierra foothills

■ A legislator calls for repeal of the California law banning hunting of cougars in the wake of Barbara Schoener's death

By JOHN HOWARD
The Associated Press

COOL, Calif. — In the final, terror-filled moments of her life, Barbara Schoener was ambushed by a mountain lion that knocked her down a hillside and sank its teeth into her neck.

The 40-year-old housewife and marathon runner is believed to be the first person killed by a mountain lion in California in 85 years.

Hunters with dogs and shoot-to-kill orders have been sent to scour the rugged Sierra Nevada foothills for the animal, and a state lawmaker is calling for the repeal of Califor-

nia's 1990 ban on hunting cougars, which are being sighted more and more as California's population expands into rural areas.

"Because they are no longer hunted they no longer fear us," said Assemblyman David Knowles, in whose district the attack took place. "They are now hunting us."

Schoener was reported missing Saturday when she didn't return from a morning jog. Searchers found her body Sunday.

Pete Schoener said he initially thought his wife had been murdered.

"A mountain lion never crossed my mind," he said.

Schoener, the mother of two young children, was jogging along a popular trail in the Auburn State Recreation Area about 45 miles from Sacramento.

Based on tracks and blood marks, investigators determined that the lion pounced onto a steep, brush-covered stretch of trail about 20 feet behind her.

The first attack knocked the 5-foot-8, 120-pound Schoener off the path and sent her tumbling down the slope. She struggled to her feet and tried to shield her face with her

arms when the lion struck again, slashing with its claws.

She fell farther down the slope and apparently stood up again before the lion made the final attack, biting her neck and crushing her skull.

Later, the animal dragged her partially eaten body about 100 yards and covered it with leaves. Experts say mountain lions often hide their kill and return when they get hungry.

Officials want to kill the cat because they think it could attack again. They also want to examine its carcass to find out if the animal was rabid, which could explain the rare attack.

Searchers looked for a mature male cougar, which could weigh as much as 140 pounds.

The animals roam over as much as 150 square miles but are extremely territorial, with only one male to an area. So once searchers have found a mature male, they will track it to see if it returns to the site of the attack and or shows signs of being rabid. Once they think they have the right animal, they will kill it, the Fish and Game Department said.



SCHOENER

More people, more cougars and more confrontations in Oregon

Residents are reporting incidents at an increasing rate as the big cats' territory shrinks while their numbers rise

The Associated Press

LOWELL — Face-to-jowl meetings between humans and cougars are becoming more common as an increasing number of big cats prowl the hills and rural areas of Oregon.

"The cat population is growing," said Bruce Campbell, a state Fish and Wildlife Department biologist,

who picked up a cougar carcass last week for research after a homeowner shot the animal to protect his dog.

The shooting occurred Wednesday night, after Corky Wright saw a cougar's paws wrapped around his 5-month-old dog. The cat's jaws clamped on the husky's skull about to crush it.

Wright used his .22-caliber semi-automatic from about four feet away to save Buffy, a 5-month-old he had rescued from the pound a few months earlier.

"Bang! Bang! I give her two bullets right in the chest cavity and

killed her," Wright, 60, said the day after the attack. "Then, out of anger, I give her five more."

It wasn't the first cougar Wright had ever shot.

"I killed quite a few," he said. "We got \$60 from the county and \$30 from the state for each one."

The bounty program resulted in dwindling cougar ranks during the 1950s, when the animals were hunted to the brink of extinction. After the government outlawed cougar hunting, the mountain lions began a comeback.

State Fish and Wildlife officials es-

timate the Oregon cougar population at about 2,500, up from 200 statewide before the animal gained protection and bounties were dropped.

Last year, the Oregon Department of Fish and Wildlife logged 222 cougar damage complaints, up from 151 complaints in 1992, 86 in 1990 and 36 in 1986.

Now, once rare sightings and reports of cougar-caused livestock damage have become more and more common, wildlife officials said. The largest increases are in the Willamette Valley.

"What we're seeing now is there are a lot of cougars just living in areas where they didn't live before," said wildlife biologist Bill Castillo.

Cougars are extremely territorial animals — loners that fear each other as much or more than they fear humans. A single cougar can claim hundreds of acres.

"We've got enough cougars now that all the good habitat is being occupied," Castillo said. "Young animals are being displaced and taking up residence around people, because that's the only unoccupied area."

The attack on Wright's dog was

the second such Lane County attack in as many years. In February 1993, a cougar killed a chained-up dog in Veneta.

Two months ago, a cougar startled a 17-year-old Cheshire boy as he walked through a Christmas tree farm.

On April 22, a woman jogging on a California mountain trail was attacked and killed by a cougar.

"It's a trend that concerns us," Castillo said. "These animals are adaptable, they're intelligent and they're becoming bolder and more visible."



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Mr. F.H. "Skip" Anderson
Angell Bros., Inc.
Hwy. 30, W. Sauvie Island Bridge
Portland, OR 97231

September 21, 1992

Dear Mr. Anderson,

I enjoyed meeting with you recently to tour and review the feasibility of reforestation of the current and future planned quarrying operations at your quarry located on Hwy 30 across the West Sauvie Island Bridge in Multnomah County, Oregon. The legal description of the property is Township 2 North, Range 1 West, Section 29.

In reforestation of reclaimed land, soil type is the dominating factor in determining what species can be planted, growth potential (Site Index- total height of trees in 50 years), and survivability. The predominant soil type in this area is in the Goble (silty loam) Series with a smaller amount (approx. 10-15%) in the Wauld (very gravelly loam) Series. In an undisturbed situation, these soils are found on slopes of 30-70% have an annual precipitation of 35-50" of rain per year and a Site Index as high as 135 to 155 feet in height over a 50 year period of time.

My tour of the area showed the current topsoil accumulation in the undisturbed areas to be shallow in the 12-30" depth range before grading into the fractured basalt rock and deposited soil. The current tree and plant growth has adapted well to this rocky environment, and gives me every indication of a high success in reforesting the quarried areas now, and in the future.

Your plan to add two feet of topsoil to the terraced flats will enable the trees planted to have an even better environment for survivability. Each terraced area will have specific requirements as to what species can be planted there, and whether additional water will be needed during hot periods for the first three years after planting.

My experience with the U.S. Forest Service in Eastern Oregon included planting acreages much larger than this (1MM+) trees in one year in arid areas (10-24" precipitation per year) with soil depths of 6" and less. I had survivability rates of 90% and better for these planting. We planted in totally rocky areas with similar rates of success.



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I have included copies of studies of strip mined reforestation in Southwest Virginia by J.L. Torbert, et.al., to show that there scientific backing to substantiate my findings and opinions. In a phone conversation with Mr. Torbert, he stated that high survival rates were consistently encountered in blasted bedrock as long as soil was filled into the planting hole. I will provide a more complete bibliography upon request.

In summary, your needs to reforest the bench areas in concert with wildlife habitat needs are very realistic for a high level of success, and documented evidence from other projects in much harsher conditions demonstrate that your plans to quarry and reclaim the terraced lands should encounter a high success and meet all concerns of Multnomah County Planning Department and all other agencies involved. If you have any questions or concerns regarding my findings, please contact me at your earliest convenience.

Sincerely,



William C. Gilmore
Urban Forester, B.S., VPI&SU '77
Certified Arborist, ISA-PNW #31



May 19, 1994

Scott Pemble, Planning Director
Multnomah County Department of
Environmental Services
2115 S.W. Morrison Street
Portland, OR 97214

Subject: Additional comments on Multnomah County's significant Streams
Study for the McNamee-Harborton Area--North and Middle Angell
Brothers Creeks

Dear Mr. Pemble:

The following comments are based on the May 4, 1994 site visit attended by Jay Massey (ODFW Lower Willamette Fish District Biologist), Gail McEwen (ODFW Land Use coordinator), Steve Oulman and Mel Lucas (DLCD), Rich Shepherd (Applied Ecosystems Services), Gordon Howard (Multnomah County), and Skip Anderson (Angell Brothers).

The County has designated North Angell Brothers Creek as "significant" per three of the study criteria; Recreation, Public Safety, and natural Area Value. Middle Angell Brothers Creek was designated "significant" under the Recreation and Natural Area Value Criteria. The Department of Fish and Wildlife recommends the County reconsider the determination of "significance" for both the North and Middle Angell Brothers Creeks.

Recreation

Per Strategy B of Multnomah County Policy 16-G: A water resource is "significant" if the resource contributes water to a park or recreation facility, and diversion or degradation of the resource would significantly diminish the recreational value of the resource.



Scott Pemble
May 19, 1994
Page Two

North Angell Brothers Creek was designated "significant" on the basis of its contribution to Burlington Bottoms. Participants in the May 4 site visit walked a segment of North Angell Brothers Creek from a culvert drain about 100 feet west of the BPA transmission line to the concrete culvert on the east side of the lower railroad grade, which drains into Burlington Bottoms. They saw no clearly defined creek channel.

Although water could be heard in the culvert drain west of the BPA transmission line, there was no surface flow into the culvert. Participants walked down the east facet of the hillside to the culvert outlet above the upper railroad grade. Water was flowing out of the culvert at this point. However, the absence of surface flow at the culvert drain indicated that much of the water flowing from the culvert outlet comes from subsurface flow. Lateral drains under the BPA power line road fill are one possible source for this subsurface flow.

The culvert in the hillside above the upper railroad grade drained into another culvert below the upper railroad grade. From that point, water flowed through the culvert under Highway 30 and the lower railroad grade. The outlet of the culvert was a ditch that drained into Burlington Bottoms. The current of the water at the outlet of the culvert was negligible.

The Department clearly has an interest in the conservation of Burlington Bottoms, since it was purchased by Bonneville Power Administration for wildlife mitigation and is managed by the Department. However, based on the May 4 site visit, we could not conclude that North Angell Brothers Creek warrants a "significant" designation due to its contribution of water Burlington Bottoms.

Public Safety

Per Strategy D(4) of Multnomah County Policy 16-G: "The riparian or watershed vegetation associated with a water resource shall be considered part of the water resource area if that vegetation substantially contributes to the protection of water quality by reducing sedimentation and erosion, removing nutrients, or lowering water temperature/increasing BOD."

Both North and Middle Angell Brothers Creeks were designated "significant" under this criteria. North Angell Brothers Creek riparian corridor benefits are described as: "There exists sufficient canopy cover and woody debris in stream to improve water quality." Middle Angell Brothers Creek benefits were stated as: "Riparian vegetation remaining from clear cut is sufficient to improve water quality."

Riparian vegetation clearly maintains water quality for fish by shading streams and thus reducing water temperatures, and by contributing to woody debris which improves fish habitat. However, neither North nor Middle Angell Brothers Creek is fish-bearing. Per the County planning department staff, Strategy D (4) relates only to the value of riparian vegetation for maintaining potable water quality. The Department recommends the County re-evaluate the criteria as it relates to potable water. Neither stream is within a watershed management unit or a ground water recharge for municipal water system.

Natural Area Value

Per Strategy E of Multnomah County Policy 16-G: A water resource or wetland area that scores between 35-44 points on the "Wildlife Habitat Assessment" (WHA) rating form may be determined "significant" if it provides an essential connection between or demonstrably enhances higher rated adjacent resource areas.

Both North and Middle Angell Brothers Creeks were designated "significant" on this basis in the Significance Matrix for the McNamee Harborton subarea. Although not specifically identified in the Significant Streams Study, County staff indicated the two "higher rated adjacent resource areas" are the West Hills Wildlife Habitat Area and Burlington Bottoms.

Highway 30 and the two railroad grades separate the West Hills Wildlife Habitat Area from Burlington Bottoms. Although the highway and railroad grades do not form a complete barrier to wildlife passage, they are significant impediments. In addition, Middle Angell Brothers Creek flows through the Angell Brothers quarry. The quarry headwall is an additional barrier to wildlife passage. For this reason, the Department does not believe the North and Middle Angell Brothers Creeks form an "essential connection between" or "demonstrably enhance" the adjacent West Hills Wildlife Habitat Area and Burlington Bottoms.

Conclusion

The Department of Fish and Wildlife does not believe the North and Middle Angell Brothers Creeks warrant a determination of "significant" based on the comments herein. We recommend the County reconsider the determination of "significance" for both streams.

Scott Pemble
May 19, 1994
Page Four

Thank you for the opportunity to make additional comments on the Significant Streams Study for the McNamee--Harborton Area following our participation in the site visit. If you have any questions, please contact me or Gail McEwen.

Sincerely,

Stephanie Burdick
for

Jill Zarnowitz
Assistant Director
Habitat Conservation Division

cc: (by fax)

Frank Peresie
Skip Anderson
Dick Angstrom

RECEIVED
MAY 24 1994

Multnomah County
Zoning Division

Oregon

March 31, 1994

DEPARTMENT OF
GEOLOGY AND
MINERAL
INDUSTRIES

MINED LAND
RECLAMATION

Skip Anderson
Angell Bros. Inc.
PO Box 03449
Portland, OR 97203

RE: ID No. 26-0019

Dear Skip,

Based on the February 3, 1994 agency meeting at your quarry, the DOGAMI permit conditions have been slightly revised and are listed below. These conditions are specific to all post 1972 areas and then to all areas outside of the 1990 disturbance boundary. Permit conditions 1.a. through 1.g. apply to the 42 acre expansion area approved by Multnomah County in 1990.

Since you have begun to quarry in the 42 acre expansion area, compliance with these conditions is needed at this time. Some of these permit conditions require submission of detailed information regarding slope stability, overburden placement, and reclamation of the stream drainages. Since the field season is almost upon us, you should plan to accomplish this in the near future. After a final decision is made by Multnomah County on your pending application for expansion, you will know the scope of the field work necessary to maintain compliance with the DOGAMI permit.

Within the next 30 days, please submit a time schedule for completion so that we can agree on a reasonable time frame.

1. The following conditions apply to all areas outside of the 1990 disturbance boundaries:
 - a. Prior to mining, a geotechnical landslide potential investigation by a professional engineering geologist of the entire site must be conducted. This geotechnical report will be consulted periodically during the life of the mine to ensure that sedimentation plans, safety considerations, bench height, overall slope, and mine sequencing can properly accommodate any perceived risk as the mining operation proceeds. Supplements to the geotechnical investigation may be required during mining as the situation warrants.
 - b. Prior to mining, longitudinal and cross-sectional profiles of each stream drainage to be impacted are required. Pre- and post-mining profiles must be submitted to insure that channel carrying capacity and sinuosity are maintained. The design must also include energy dissipation structures, construction of sediment ponds, silt basins and other structures designed to isolate the disturbed areas from the drainages plus a plan to re-establish riparian vegetation.



- c. Prior to mining in each expansion stage, a materials balance calculation must be done using drilling data to estimate volumes of soil and overburden to be relocated. A plan addressing how these materials will be handled and stored must be submitted, including amounts to be placed on mined out benches, in permanent and temporary stockpiles or sold. A map showing the location of storage areas must be submitted.
- d. Prior to mining in each expansion stage, benching schematics must be submitted for approval. Benching schematics must describe overall height and width of benches constructed for mining and reclamation. For final reclaimed surfaces or benches a summary of the amount of scree slopes, backfill areas, and exposed highwalls is needed. It is recognized that field conditions or other factors may require modification to the submitted plan.
- e. The maximum cut slope angle for the silt overburden that would be stable during life of mine must be determined by a qualified professional and then implemented as site expansion occurs.
- f. All new soil stockpiles and spoil dumps created after January 1, 1994 must receive written approval, prior to construction, from DOGAMI. Generally, fill slopes steeper than 2:1 are not approved without a stability analysis. Required information to be submitted to obtain approval includes: a description of pre-mined topography; method of removal for vegetation and unconsolidated soils; construction of shear key, or other technique to construct a stable toe; the method of placement and compaction; the height of lifts; the final height and slope. Small soil stockpiles may be approved with less information, but they must be stable.
- g. A buffer strip of approximately 600 feet along the south boundary of stage 4 and the southern and western boundary of stage 3 shall be established by mutual agreement between the permittee and ODFW.

2. The following conditions apply to all areas outside of the 1972 boundary:

- a. Maximum cut slope angle for any slopes left in the silt overburden after mining is 2:1.
- b. Minimum property line setback for rock extraction shall be 200 feet or greater as indicated by findings of the landslide geotechnical report.
- c. Soil and overburden movement for the placement on benches or in stockpiles is restricted to the dry season of each year. Removal for off site use may occur at anytime, providing all necessary measures are taken to protect water quality.
- d. Annually, prior to November 1st, all bare areas where soil or overburden is exposed shall be mulched and seeded. This requirement does not pertain to stockpiles of processed material.

Skip Anderson
Angell Brothers
March 31, 1994
Page 3 of 3

- e. No activity shall be allowed in the drainage channels after October 1st of each year. Annually, all activity shall be isolated from the drainage channels by a one hundred foot buffer while they are active. No turbid water shall be allowed off site. The intermittent stream channels shall be isolated from all storm water ponds and sediment traps.
 - f. For any drainage that will not be mined through, the minimum undisturbed buffer strip shall be 100 feet.
 - g. If the situation occurs where ground water de-watering is necessary to continue mining, the DOGAMI Operating Permit must be modified by submission of an amended application to allow de-watering of the excavation.
3. As described in the plan prepared by Applied Ecosystem Services, test plots will be implemented if expansion occurs outside of 1990 Multnomah County CUP boundary. The test plots, including the statistical design, type of treatments, and objectives, must receive prior approval from DOGAMI.

I spoke to Paul Keiran, DEQ, regarding some recent water quality sampling results of your storm water runoff. The recent data suggests that the improvements made in your storm water control system have significantly improved the water quality of your runoff, particularly the berm construction which isolated your upper storm water pond from the creek. As more subdrains and dry wells are constructed along the northwest highwall after stockpile removal, as we discussed during our last site visit, I expect to see additional improvements in the system.

Now that I have completed field measurements of your highwalls, I will soon be forwarding a new reclamation bond estimate and a request for a bond increase. Thank you for your cooperation.

Sincerely,



E. Frank Schnitzer
Reclamationist
Mined Land Reclamation

- c: Steve Oulman - DLCD
Bob Hall - Multnomah Co
Gail McEwen - ODFW Portland
John Beaulieu - DOGAMI
Gary Lynch - DOGAMI
Paul Keiran - DEQ NW Region

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CHARLIE HALES, COMMISSIONER

CHARLES JORDAN, DIRECTOR

June 13, 1994

Multnomah County Board of Commissioners
1120 S.W. 5th Avenue
Portland, Oregon 97204

Dear Commissioner:

As much as time has allowed, I have reviewed the *West Hills Reconciliation Report* dated May 23, 1994. Based on my review and on my interest in the protection of Goal 5 resources important to Forest Park and to other Portland parks, I submit the following observations and recommendations.

First, the scenic resource inventory and evaluation work is much improved. Hopefully, the result will be fair consideration of these important resources as they will be given some weight during land use decision making.

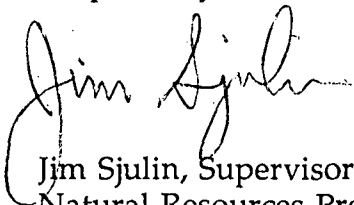
Second, for purposes of determination of significance, the stream resource inventory information is adequate in its identification of streams in the West Hills running through Forest Park.

Worth reconsidering, however, is the ESEE analysis. While the matrix correctly states that there are numerous impacts from existing and potential conflicting uses, the ESEE conclusions and summary appear to consistently favor economic over environmental consequences. For example, when consequences of protecting the environment are stated they may be accompanied by a reminder that the impacts are "transferred to another site" (four times on pages 40-41, Chapter III). However, when there is an economic consequence such as loss of property value or loss of a job, there is no mention of the possibility of increased property value at other sites, or jobs created elsewhere if use of the site is limited. Also questionable in the ESEE summary is the statement that there is a "reduced availability of amenities" if residential use is not allowed or limited. The only place where that statement may be true is on the parcel so regulated. The remainder of the watershed and downstream areas would enjoy enhanced amenities. I suggest that ESEE analysis be done on a more consistent basis and that a more global view be considered before such conclusive statements are made. Policy made from statements having such a constrained viewpoint may not be in the best interest of all.

Having said that, I cannot predict how the result of a revised ESEE analysis would play out in terms of recommended policy. However, I would suggest that you may be more inclined to consider some meaningful regulation of residential use, and regulation of agriculture, and you may be less distracted by assertions of "transferring environmental impacts", "reduced property value", "reduced availability of amenities", and "regulatory burden".

The City is having some success with a more broadly applied environmental zone. The e-zone places the responsibility of resource protection with all property in the watershed and with all property in significant wildlife habitat areas. I believe that this approach is both more fair and more effective in the long run. Please consider it as opposed to a narrow band along streams which may ultimately fail.

Respectfully,

A handwritten signature in cursive script, appearing to read "Jim Sjulín".

Jim Sjulín, Supervisor
Natural Resources Program
Portland Parks and Recreation



METRO

June 13, 1994

Multnomah County Board of
Commissioners
1120 S.W. Fifth Avenue
Portland, Oregon 97204

Multnomah County
Planning Commission

Re: "West Hills Reconciliation Report", May 23, 1994.

Dear Commissioners:

We are writing on behalf of the Metro Regional Parks and Greenspaces Department. We appreciate this opportunity to share our thoughts and concerns regarding the "West Hills Reconciliation Report".

Comments:

I. Stream Resources

Chapter III, Stream Resources, B., 1., Introduction, Pg. III-9 states that the "significant streams analysis does not directly address associated wetlands or the watershed outside the riparian zone." We believe that this Chapter is seriously flawed for not identifying Burlington Bottom wetland, a significant Goal 5 resource, as part of the inventory of significant streams resources. Multnomah County Comprehensive Plan ranks Burlington Bottom the 3rd highest for wildlife habitat of all Goal 5 wetlands. Burlington Bottom is a 428 acre wildlife mitigation site owned by Bonneville Power Administration and provides habitat for rare, threatened and endangered species. Burlington Bottom should have been considered as a Goal 5 resource of equal weight as the other goal 5 resources in the West Hills Goal 5 review process. Underscoring this point is the fact that LCDC's position in court has been that all Goal 5 resources in the impact area have to be considered together in the analysis. The entire decision making process has been skewed and a vital element omitted by not considering the economic, social, environmental and energy (ESEE) consequences for Burlington Bottom in the Stream Resources ESEE analysis.

At the very least, Burlington Bottom should have been considered as part of the resource of North Angell Brothers Creek due to its downstream hydrological

connection with the creek.

Chapter III, Stream Resources, B. 3., Impact Areas, Pg. III-10 states that the impact area for streams includes downstream public parks or recreational facilities. Potential impacts to Burlington Bottom are discussed but the County's statement that these impacts could be avoided by the owner's voluntary compliance with DOGAMI and DEQ standards is a totally unsatisfactory plan for protection. **The only responsible protection program for Burlington Bottom is to prohibit mining activities in the watershed that drains into it.**

A serious omission was made not to include Multnomah Channel as a publicly used recreational resource in the impact area for Stream Resources.

We agree with your findings for those streams in the West Hills Rural Area that are designated significant. However, with respect to the North Angell Brothers Creek we believe your declaration of significance is inconsistent and understated. We disagree with the County's statement in Chapter VI Reconciliation, B., 7., Mining, Pg. VI-15 and 16, that the significance of North Angell Brothers Creek is minor compared with the other streams on the West Hills. This reasoning is apparently the basis for not protecting its lower segment in the area of the proposed quarry expansion. This reasoning is faulty. The lower reach has inherent wildlife habitat value and acts as a connection between two areas that the County has recognized as significant, e.g. the upper reach of North Angell Brothers Creek and the downstream wetlands of Burlington Bottoms.

The statement in Chapter VI, Reconciliation, b., 7., Mining, Pg. VI-16 that "the contribution of water from the North Angell Brothers Creek to Burlington Bottom has been found to be minor compared to other water sources such as Multnomah Channel" does not take into account that inflow from Multnomah Channel may be temporarily interrupted during low flow summer months. Decreased inflow from Multnomah Channel would put more importance on the perennial flows from the North Angell Brothers Creek.

Compromising any part of the North Angell Brothers Creek means to compromise all of its parts, especially the downstream segments and receiving waters. The entire length of the North Angell Brothers Creek and those associated wetlands, i.e. Burlington Bottom, warrant the same protection allowed the other designated significant streams.

Furthermore, no stream flowing into Burlington Bottom should be compromised by conflicting uses. We strongly disagree with the County's conclusion in Chapter VI, Reconciliation, B., 7, Mining, Pg. VI-16 that "Expansion of the Angell Brothers quarry site into the watershed of the significant North Angell Brothers" stream should be allowed". **Absolutely no quarry activities should be allowed in the watershed of the**

North Angell Brothers Creek.

A Portland hydrologist, Jon Rhodes, provided testimony (September 1992) in response to the proposed Angell Brothers quarry expansion that outlined the likely impacts on the North Angell Brothers Creek and its downstream environs. Mr. Rhodes asserted that the proposed expansion would "increase streamflow, erosion, and downstream sedimentation" and that these increases would "probably be extremely significant." Burlington Bottom, miscellaneous wetlands and Multnomah Channel would be subject to the impacts noted above.

In an effort to quantify the increases, Mr. Rhodes estimated that annual erosion and sediment delivery in the North Angell Brothers Creek would rise by 950% or approximately 430 tons/year while average annual streamflow would increase by 130%. The implications of accelerated sedimentation include a loss of Burlington Bottom's open water areas and a reduction in the site's ability to store water.

Mr. Rhodes' study assumed full expansion, and the current proposal by the County is for expansion in the approximate lower half of the proposed expansion area. Absent another study, one can reasonably assume that the estimates for sediment and streamflow would be reduced by about half, which are still of a magnitude to cause severe and irreparable impact (pers. comm. Jon Rhodes 6/9/94). Mr. Rhodes also stated that any quarrying activity would carry a significant amount of risk to the longevity and ecological health of Burlington Bottom.

The potential impacts from the proposed quarry expansion are counter to the purpose for which Burlington Bottom was acquired. Currently, BPA is finalizing a management plan for Burlington Bottom that is the culmination of a two year cooperative effort with the Oregon Department of Fish and Wildlife, The Nature Conservancy and Metro Parks and Greenspaces Department (previously Multnomah County Parks). Objectives include the enhancement of wetland areas for the benefit of wildlife and provision of opportunities for wildlife observation and education.

In several locations throughout the West Hill Reconciliation Report the County states that "water quality and quantity flowing into Burlington Bottoms should be maintained by the quarry operator pursuant to standards set by the Oregon Department of Environmental Quality". This statement violates Statewide Planning Goal 6 to maintain and improve the quality of the air, water and land resources of the state. Goal 6 requires that all wastes and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards. As the above mentioned study of the quarry expansion determined that increased streamflow, erosion and downstream sedimentation would probably be extremely significant. Quite simply, allowing quarry expansion within any part of the streams feeding Burlington Bottoms will cause an unacceptable impact. Furthermore,

requiring the operator to maintain water quality and quantity flowing into Burlington Bottoms pursuant to DEQ standards is an irrelevant requirement. The County's solution of maintaining water quality and quantity is not to allow quarry activities in the watershed(s) that feeds Burlington Bottom.

Full protection (3A) of significant streams in our view, would require prohibition of all conflicting uses throughout the entire watersheds of the significant streams. We concede that this course of action is unrealistic. However, we strongly believe that the proposed conclusions and protection strategies fall short of what is required to achieve even limited protection of the stream resources:

The following comments are in response to the conclusions drawn in Chapter VI, Reconciliation, B. Conflict Resolution, Pgs. VI-5 through VI-17. In addition to our recommendation that no quarry activities be allowed in the watershed of the North Angell Brothers Creek and Burlington Bottom, we also recommend the following measures to fully protect significant stream values throughout the West Hills Rural Area:

Forestry Uses - Although the Forest Practices Act (FPA) has been updated and improved, there is still considerable room for further improvement, particularly in the area of stream protection. Protection standards on federal lands have recently been amended and strengthened in response to considerable evidence regarding the negative impacts of timber harvest and road construction on Class I streams and their tributaries. By assuming that the FPA protects these significant streams, the County is shirking its responsibility to the Goal 5 resources and missing an opportunity to help shape timber harvest guidelines by participating in the process.

It is recommended that the County advise the State Forestry Department of its determinations relative to this and other "resource reconciliation" efforts and recommend the implementation of appropriate protection measures. Additionally, it would be advantageous to assign County Staff to monitor and participate in various issues and processes initiated by the Board of Forestry which impact timber harvest activities adjacent to Class I streams and their tributaries.

Residential Uses - It is recommended that residential uses be prohibited within 100 feet of significant streams, 50 feet of their tributaries, and all riparian vegetation protected except for hazard trees. It is further recommended that access drives in the riparian zone be avoided whenever practical and in the event crossing a significant stream cannot be avoided, a bridge or arch culvert should be required and installed in a manner that is approved by the Oregon Department of Fish and Wildlife.

Soil disturbing activities should be restricted to typically dry months, erosion

prevention measures should be required for all soil distributing activities and revegetation required prior to the rainy season.

Agricultural Uses - We strongly disagree with the report's reasoning for concluding that the County should not regulate agricultural activities. It is widely accepted that agricultural activities have and continue to be a major factor in the degradation and destruction of riparian habitat, decline in wildlife diversity, degradation of water quality, destruction of fish resources and introduction and spread of exotic plant species and, in some cases, disease.

You have the authority and ability to begin a process of restoration. We urge you to use it.

At a minimum, it is recommended that livestock and crop cultivation be prohibited within 100 feet of significant streams and 50 feet of their tributaries. Where streams have been degraded, landowners should be required to repair the damage they've done. Roads associated with agricultural activities should be treated per 'Residential Uses' above.

It is further recommended that the County limit its annual appropriation to the West County Soil and Water Conservation District to restoration activities on streams and wetlands which have been degraded by agricultural activities. These funds should be earmarked to assist landowners with restoration effort

Community Service and Conditional Uses - It is recommended that these uses be prohibited within 100 feet of significant streams and 50 feet of their tributaries. Access roads, riparian vegetation and soil disturbing should be restricted as noted above in 'Residential Uses'.

Mining - (Not applicable for watersheds for North Angell Brothers Creek and Burlington Bottom)

It is recommended that mining activity be prohibited within 200 feet of a significant stream and that all riparian vegetation be protected except for hazard trees. It is further recommended that:

No mining be permitted within 100 feet of any tributary to a significant stream and that all riparian vegetation be protected except for hazard trees.

- Roads associated with aggregate mining be treated per 'Residential Uses' above and strictly limited to one (1) crossing.
- That the mine operator be required to complete fish, wildlife and water

quality inventories prior to an expansion of mining activity.

- That a mining and reclamation plan require specific approval of the Oregon Department of Fish and Wildlife and DEQ in addition to DOGAMI.
- That the mine operator be required to test water quality downstream of the mine at a frequency which is adequate to capture the full range flows expected in the significant streams.
- That exposed earth never exceed two (2) acres at any time.

II. Wildlife Habitat

We agree with the conclusion in Chapter VI, Reconciliation, B., 7. Mining, Pg. VI-16 that quarry expansion should not be allowed inside of a continuous one-half mile wide primary forested habitat area located between the quarry on the northeast and the identified secondary habitat areas along McNamee Road to the southwest. Furthermore we agree with the analysis that indicates that the minimum half mile wide protection area be maintained as undisturbed forested habitat.

We do not agree with the County's finding in Chapter VI, Reconciliation, B., 1. Forestry, Pg. VI-6, that the Forest Practices Act will adequately protect this resource for its recognized values as a wildlife corridor linking Forest Park with the Coast Range. We believe the county understated the impacts of logging on wildlife habitat as "temporary in nature". Logging practices typically allowed under the Forest Practices Act are more appropriately characterized as severe and long term on wildlife species dependent on a forested environment. We recommend that the County work with the State Department of Forestry and the State Forestry Board to devise more stringent protection measures for this valuable resource. Furthermore, we disagree with the statement that Forestry activities should not be prohibited from exception lands. The county should take all steps necessary to restrict forest activities on identified exception lands in the West Hills.

We do not support the County's assessment in Chapter VI, Reconciliation, B., 2., Agriculture, Pg. VI-7 that most primary wildlife habitat areas are protected from agricultural impacts simply because the soils in those areas are generally unsuitable for agricultural uses. Since the potential for agricultural activities in those poor soils areas is still a possibility and given that agricultural activities conflict with wildlife habitat values, the County should take all regulatory steps necessary to assure long term protection in "primary", "secondary" and "impacted" habitat areas in the West Hills area.

As discussed above in the Streams Resources section, residential uses should not be allowed within 100 feet of significant streams, or within 50 feet of their tributaries. This condition will help protect wildlife corridors which occur along the streams.

III. Scenic Views of the West Hills

Scenic and aesthetic values must be protected from all conflicting activities. The protection measures discussed above for stream resources and wildlife habitat would serve to protect the scenic resources from negative impacts associated with agricultural, residential, forestry, community service and conditional uses and mining.

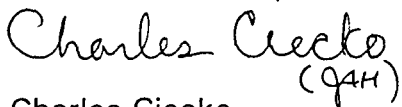
In closing, the "Multnomah County Natural Areas Protection and Management Plan" adopted by the Board in June 1992 states:

"Although the Board of County Commissioners is mindful of concerns regarding the rights of property owners, it also recognizes the responsibility of all land owners to develop and manage property in a manner which is consistent with the conservation of 'publicly-owned' resources such as fish, wildlife, scenery, air and water."

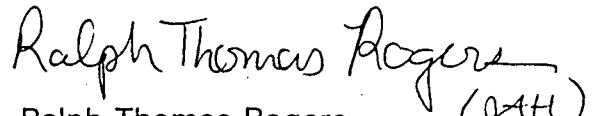
We believe our recommendations represent the minimum actions required to protect the streams, wildlife and scenic resources that have been found to be significant. We appreciate your consideration of our comments and recommendations.

Again, thank you for the opportunity to share our views.

Sincerely,


(gah)

Charles Ciecko
Director


(gah)

Ralph Thomas Rogers
EPA Biologist

c.c.

Multnomah County Board of Commission:
Beverly Stein, Chair of the Board
Dan Saltzman, District 1
Gary Hansen, District 2
Tanya Collier, District 3
Sharron Kelley, District 4

Multnomah County Planning Commission:

Leonard Yoon, Chair

Karin Hunt, Vice Chair

Laurie Craghead

Samuel L. Diack

Chris Foster

William Fritz

Peter Finley Fry

John Ingle

Dave Kunkel

Steve Oulman, Department of Land Conservation and Development

Robert Walker, Bonneville Power Administration

Jill Zarnowitz, Oregon Department of Fish and Wildlife

Neil Mullane, Oregon Department of Environmental Quality

Rena Cusma, Metro

Judy Wyers, Metro

Merrie Waylett, Metro

NEIL S. KAGAN

ATTORNEY AT LAW

1050 Yeon Building
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Telephone
(503) 223-4272
Fax
(503) 225-0811

June 13, 1994

MEMORANDUM

TO: Multnomah County Board of Commissioners
Multnomah County Planning Commission

RE: West Hills

The Friends of Forest Park ask the Board and the Commission:

- to reject the planning department's recommendation that the Angell Bros. mineral and aggregate resource site be deemed significant and added to the Goal 5 inventory;

- to reject the planning department's recommendation that the northern portion of the Angell Bros. mineral and aggregate resource site be designated "3C";

- to protect wildlife habitat completely by prohibiting mining on the entire unused Angell Bros. mineral and aggregate resource site (by designating the mineral and aggregate resource site "3B" if it is deemed significant and added to the Goal 5 inventory);

- to protect the North Angell Brothers stream and the Burlington Bottoms wetlands completely by prohibiting mining within the watershed of the North Angell Brothers stream (by designating that portion of the mineral and aggregate resource site "3B" if it is deemed significant and added to the Goal 5 inventory); and

- to revise the West Hills Reconciliation Report to explain the reasons for making the foregoing decisions

NEIL S. KAGAN

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June 10, 1994

R. Scott Pemble
Planning Director
Department of Environmental Services
Division of Planning and Development
2115 S. E. Morrison Street
Portland, Oregon 97214

Re: West Hills Reconciliation Report

Dear Mr. Pemble:

On behalf of Friends of Forest Park, I am writing to comment on your staff's West Hills Reconciliation Report of May 23, 1994 ("the report"). The report justifiably recommends full protection of the half-mile band of significant wildlife habitat between McNamee Road and the Angell Bros. mineral and extraction site. The report unjustifiably recommends protection of the balance of the Angell Bros. aggregate resource, however, at the expense of inventoried significant wildlife habitat and streams on the site, and inventoried significant wetlands in Burlington Bottoms.

The evidence does not support the recommendation that the Angell Bros. mineral and aggregate resource site should be added to the Goal 5 inventory

A fundamental problem with the report's recommendation of protection of the Angell Bros. aggregate resource is its uncritical conclusion that the resource is significant. This conclusion was based largely on evidence submitted by H. G. Schlicker & Associates to the effect that the site contains approximately 220 million cubic yards of very good aggregate material. Report at IV-5. Yet Schlicker's evidence has been convincingly contradicted. See Exhibit 101 to Friends of Forest Park's Brief in Opposition to Angell Bros.'s Applications for a Comprehensive Plan Amendment and a Conditional Use Permit ("Brief"), which Friends of Forest Park re-submitted in commenting on the West Hills Significant Resources Analysis Reports, on April 25, 1994 ("Beeson Statement").

Beeson, a highly reputable expert on geology, said Schlicker's evidence, "without deep bore hole data, [is] . . . insufficient to adequately address the questions of rock quality and quantity." Beeson Statement, second page. More particularly, Beeson said:

Mr. Pemble
June 10, 1994
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"The estimate of the quantity and quality of rock in the proposed quarry is apparently based on surface observations, two shallow (84 ft) bore holes, and the assumption that the same quality of rock exists to the base of the proposed quarry floor hundreds of feet below the surface. While it is possible this assumption is correct, there are several potential problems that could decrease this estimate: 1) The thickness of the CRBG [, "Columbia River Basalt Group",] is variable (400 to 800 ft) in the Portland Hills and the base of these flows could lie above the proposed quarry floor toward the back of the quarry. 2) The quality of the rock and its suitability for crushing is not the same in all CRBG flows due to differences in the thickness of vesicular zones, the possible presence of flow top breccia, and the nature of the texture and jointing. 3) Although no faults have been mapped at this site, faults and fault breccia are not uncommon in the Portland Hills and the rock quality may be poor along these zones due to alteration and a high clay content. The uncertainty in the estimates of rock quality and quantity could be greatly reduced with several core holes distributed over the proposed quarry area that penetrate to the depth of the proposed quarry floor."

Beeson Statement, first page.

Later, Beeson discredited well log evidence introduced by Angell Bros. to establish the quantity and quality of the aggregate resource. In oral testimony to the Planning Commission on October 5, 1992, Beeson said:

"First of all with respect to quality and quantity. Mr. Parises [sic] pointed out that these water well logs indicated it was all solid rock. I would like to read just a couple lines from some of these. Mr. Rupel's well. Let us go through a few of these. It says soft, decomposed brown basalt, firm gray brown basalt, firm gray brown basalt, soft brown basalt and so on on the way down the hole. It is not all uniform quality and characteristics [sic]. Here is another one from Tony Well and is in the vicinity also. This is down at three hundred fifty something feet. Conglomerate broken brown rock, conglomerate brown soft rock and clay, weather basalt, wood soft cole basalt mix. Not exactly all solid rock all the way. I don't know exactly the nature of this. I don't think they do either since there has been no drill holes for that purpose. And, I might say after having used these is that most geologists or engineers do not put much reliance in these. They are done by

Mr. Pemble
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drillers. They are not either engineers nor geologists and I have a lot of experience with them. They should be used with great caution in any case."

Transcript of October 5, 1992, Item 2 - CU 14-92, Angell Brothers Rock Quarry at 42 (emphasis added).

Since the Schlicker evidence was the only evidence of quantity and quality, Report at IV-5 through IV-6, and since that evidence was rejected by Beeson, the county has no credible evidence to conclude the site is significant. Consequently, the report should drop the recommendation that the aggregate resource should be protected, to the detriment of the significant Goal 5 resources on and off the site. Instead, the report should recommend protecting the significant Goal 5 resources completely.

The county should protect more than the half-mile band of significant wildlife habitat between McNamee Road and the Angell Bros. mineral and extraction site

Whether or not the county deems the Angell Bros. site significant, it should afford complete protection to the significant wildlife habitat over the entire site. Only complete protection provides any certainty that the ecological integrity of Forest Park can be sustained.

The "Study of Forest Wildlife Habitat in the West Hills [, "Wildlife Study,"] recommended maintenance of a continuous, 1.5 mile peninsula of forested habitat extending from Forest Park to the Coast Range . . . to compensate for the temporary loss of forest habitat that results from clear-cutting." Report at V-9. The Wildlife Study also recommended maintenance of a minimum band of contiguous forest habitat one half-mile in width. Wildlife Study at 26. But the study did not say maintenance of a half-mile band would be sufficient to sustain the ecological integrity of Forest Park.

Rather, the Wildlife Study said a half-mile band of habitat "may suffice." Wildlife Study at 26. The Wildlife Study readily conceded that a half-mile band of habitat might be too narrow. In fact, it said the band should perhaps be three-quarters of a mile wide and, moreover, that discussions with recognized wildlife experts justified a band as wide as one and a half miles. Wildlife Study at 26.

In the face of such uncertainty, recommending a mere half-mile band of wildlife habitat is far too risky a gamble when Forest Park, a resource of unparalleled quality and significance to the region, is at stake. As Friends of Forest Park established in its Brief, and in its April 25, 1994, comments on the West Hills

Mr. Pemble
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Significant Resources Analysis Reports, Forest Park is critical to the region's identity, and a magnet for residents, businesses, and tourists. Nothing less than full protection of its unique values is warranted, and nothing more than a half-mile band of wildlife habitat is insufficient. For this reason, the report should recommend designating the entire Angell Bros. site under consideration "3B."

The county should fully protect the "North Angell Brothers" stream to ensure the preservation of the irreplaceable Burlington Bottoms wetlands

The North Angell Brothers stream running through the Angell Bros. site flows into the Burlington Bottoms wetlands. Report at III-24, 48. The Burlington Bottoms wetlands represents one of the state's largest remaining wapato wetlands, and provides habitat for a number of important wildlife species, including bald eagles and many other waterfowl, shorebirds, and songbirds.

Were Angell Bros. permitted to expand its quarry operations to include the area through which the North Angell Brothers stream flows, the quality of Burlington Bottoms would suffer from an enormous, approximate 950% increased rate of sedimentation. Brief, Exhibit 107 ("Rhodes Declaration") at 9. As a result, the sedimentation of the wetlands will accelerate, destroying its open water character and reducing its ability to store water. Rhodes Declaration at 9.

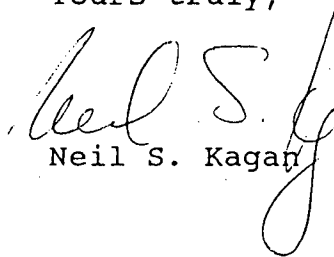
Given the county's obligation to protect significant streams and wetlands for future generations, the report should not recommend allowing the immediate and future harm to either resource that quarry operations would cause. Instead, the report, at the very least, should recommend designating "3B" that portion of the Angell Bros. site within the watershed of the North Angell Brothers stream.

Conclusion

The county should bear in mind that it has broad discretion to decide what level of protection to extend to Goal 5 resources. It may extend full, partial, or no protection, so long as reasons support its decision. Here, the unique value of the wildlife habitat, streams, and wetlands provide more than ample reasons to justify extending no protection to the Angell Bros. site. If any more reasons were necessary, the huge supply of aggregate the existing Angell Bros. site is capable of producing has to be the clincher. Therefore, the report should recommend designating the Angell Bros. site "3B" if, indeed, it is deemed significant at all.

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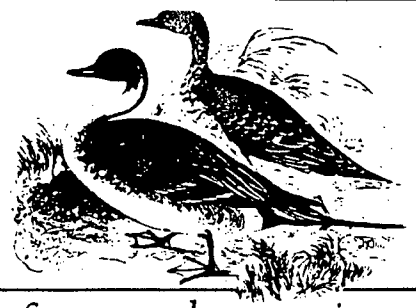
Yours truly,


Neil S. Kagan

NSK/gmm
Enc.

cc: Steve Oulman, DLCD

SAUVIE ISLAND *Conservancy*



dedicated to the preservation of island rural life, wildlife & natural recreation areas

13 June 1994

Multnomah County Board of Commissioners
Multnomah County Planning Commission
1021 SW Fourth Ave.
Portland, OR 97204

To the Commissioners:

We agree with other testimony that the Planning Staff has done much good work in preparing the West Hills Reconciliation Report, and we commend the report for its protection of primary wildlife habitat.

However, we have two major concerns with regard to RESOURCE PROTECTION -- for the Angell Brother Quarry and for Scenic Views.

ANGELL BROTHERS QUARRY

First I'd like to say that we were stunned to see -- after having been involved in the Quarry hearings two years ago, when both the Planning Commission and the Board of Commissioners overwhelmingly denied Angell Brothers any expansion -- to see that the Planning Department has recommended allowing Angell Brothers half of the expansion they wanted. And then to see that the suggested expansion site would enlarge the already garish gaping scar directly across from Sauvie Island.

Other testimony describes the devastating impact that such an expansion would have on Burlington Bottoms. We would like to add that any harm done to Burlington Bottoms harms the wildlife on Sauvie Island as well. Smith and Bybee Lakes, the Bottoms, and the Sauvie Island wildlife areas are all interconnected parts of the Pacific Flyway; they are interconnected habitat; they are interconnected pathways for waterfowl and other wildlife. The bald eagles, the peregrine falcons, the sandhill cranes are unaware of our political lines of demarcation and ownership. Denigrate Burlington Bottoms and the effect will be felt on the wildlife of Sauvie Island.

SCENIC VIEWS

We feel that the Scenic Views Resource Protection Plan proposed by the staff offers essentially no protection at all of the resources.

1. NO PROTECTION FOR SCENIC CORRIDORS

There are approximately 52 miles of key viewing corridor identified on the map. Yet the report offers protection for views from only 5 tiny sites. Essentially, the resource is almost totally unprotected.

Compare that to the City of Portland Scenic Resources Protection Plan, in which all development and vegetation with a "scenic corridor" designation are subject to the same regulations as the key viewing sites. So, even if you describe a key viewing site as half a mile, it comes down to this: Portland's Protection Plan actually protects 100% of the scenic views, while this proposal protects less than 4%. By excluding the viewing corridors, it's no protection at all.

2. SOME KEY VIEWING CORRIDORS ARE TOTALLY EXCLUDED.

All of the highly scenic roads extending from Skyline Blvd to Route 30 have been excluded totally. ~~★~~ We disagree with this designation and there's much public testimony on record regarding the significance of those scenic views.

3. BURLINGTON IS EXCLUDED FROM ANY PROTECTION.

The report states that Burlington should be exempted because it is already developed. We disagree. Burlington is "developed" only to a minimal degree. We believe that standards should be established in keeping with the existing development, and that any new development would have to meet these standards.

4. THE PROTECTION PROPOSED IS UNENFORCEABLE.

The protection proposed is in language that is imprecise, and therefore unenforceable. This verbiage was described to us as "the stuff that litigation is made of." There is no translation of these concepts into enforceable standards. Here's one example: It says "the exterior colors of structures should be natural or dark earthtone colors." How do you enforce that? How do you regulate painting? Do you make painting a house become a permitted activity?

So that what little concept of protection that is written here, is, again, no protection at all because it's not written in standards that are enforceable.

~~★~~ Unlike comparable roads on the Portland side of the USB.

In closing, we request that the proposed Angell Brothers Quarry expansion be denied, and that the entire Scenic Views Resources Protection Plan be rewritten:

- a) Protection should include all viewing corridors.
- b) All connecting roads between Skyline and Route 30 should be designated key viewing corridors.
- c) Standards should be established for development in Burlington.
- d) All protection must be written in language that describes standards that are enforceable.

The City of Portland's Scenic Resources Protection Plan is a good model. It adequately protects 100 percent of the designated scenic resource. This county plan inadequately protects less than 4 percent. The Board of County Commissioners voted unanimously to protect the scenic values of the West Hills. We ask you to recognize that this plan offers practically no protection at all.

Thank you.

Donna M. Arzoo
for
The Seaside Island Conservancy

6/13/94

CHRIS WRENCH

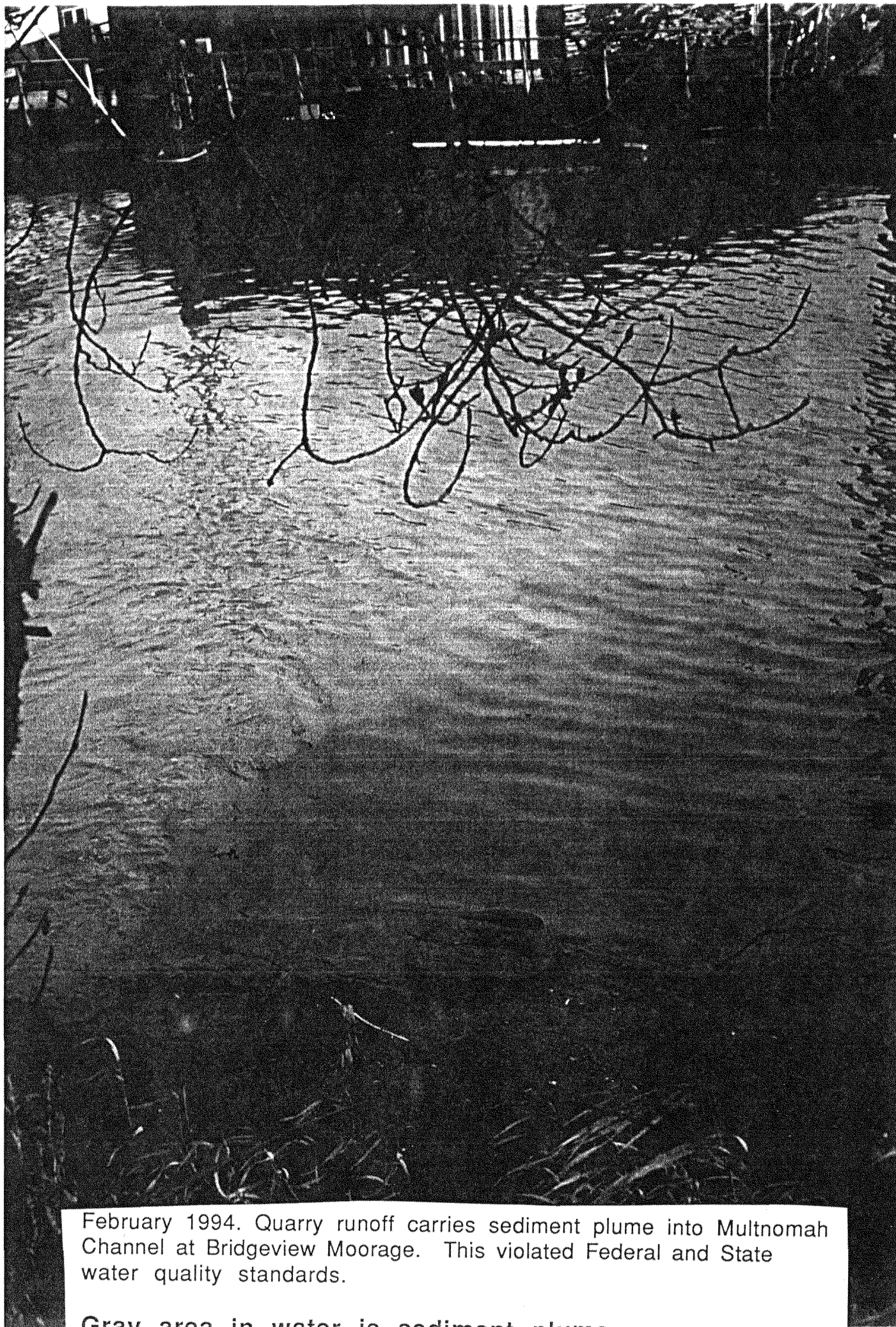
SWISMITAL



February 1994. Quarry runoff in wetland, laden with sediments. Quarry can be seen at top of photo.



February 1994. Runoff laden with sediments from quarry moves



February 1994. Quarry runoff carries sediment plume into Multnomah Channel at Bridgeview Moorage. This violated Federal and State water quality standards.

Gray area in water is sediment plume

6/13/94
CHRIS WRENCH
SUBMITAL

DECLARATION OF
JON RHODES, M. Sc.

1 I. QUALIFICATIONS

2 1. My name is Jon Rhodes. I am a hydrologist with 11 years of experience.

3 2. I received a Bachelor of Science degree in hydrology and water resources in 1981 from
4 the University of Arizona. In 1985, I received a Master of Science degree in hydrogeology from the
5 University of Nevada-Reno. I received a degree for Candidacy for Doctor of Philosophy in forest
6 hydrology from the University of Washington in 1989. I have completed all requirements for my
7 doctorate except the dissertation, which is in progress.

8 3. For the past three years, I have been employed by the Columbia River Inter-Tribal Fish
9 Commission. In this capacity, I have examined silvicultural, agricultural, roadbuilding, mining, and
10 other activities that alter streamflow or water quality. I have developed monitoring programs to
11 measure changes in channel condition and water quality caused by various land uses, and evaluated
12 extant channel morphology and water quality data. I have also served as a technical adviser on water
13 quality monitoring as a member of several technical committees addressing nonpoint source issues in
14 the Columbia basin.

15 4. Prior to my current position, I worked on a wide variety of issues related to nonpoint
16 pollution for the University of Washington, the Tahoe Regional Planning Association, the U.S.
17 Geological Survey, and the University of Nevada-Reno. In addition, over the past few years, I have
18 also been employed as consulting hydrologist, by several groups and agencies, including Multnomah
19 County.

20 5. I have published several scientific papers in peer-reviewed science journals and have

1 co-authored numerous technical reports on my research findings. The subject of most of these papers
2 has been the effects of nonpoint sources on water quality.

3 6. For the past three years, my work has focused on analyzing the effects of current and
4 proposed uses of land and water on nonpoint sources of pollution, water quality, channel morphology,
5 and anadromous fish habitat. Much of my work has involved the development of measures to protect
6 existing stream conditions from further degradation and to restore forested watersheds and their
7 streams consistent with the regional efforts to rebuild the anadromous fish runs of the Columbia River
8 basin.

9 II. INFORMATION REVIEWED

10 7. I have reviewed the Conditional Use Application by the Angell Brothers, Inc. to
11 Multnomah Planning Commission, for expansion of the existing quarry (hereinafter: "Application").
12 I also reviewed the Oregon Department of Environmental Quality's (hereinafter: "ODEQ") General
13 Permit No. 1000 (hereinafter: "Permit No. 1000") which covers the disposal of waste water and storm
14 water runoff from gravel mining activities. I reviewed water quality standards for the Willamette basin
15 in Oregon Administrative Rule 340-41-445 (hereinafter: "OAR-340-41-445"). I inspected and
16 evaluated the area downstream and adjacent to the quarry, including the discharge site on July 18,
17 1992. I also reviewed other pertinent scientific literature. The list of this literature is too lengthy to
18 list here, so I have listed it separately and attached it to this declaration.

19 III. SUMMARY

20 8. The Application proposes the expansion of the Angell Brother's rock quarry by 283
21 acres. The purpose of my review of the Application has been to evaluate: 1) the effect of the
22 proposed expansion on downstream water quality, water quantity and downstream wetlands; 2) whether
23 water quality control measures proposed in the application are adequate to protect water quality and

1 the public interest; and, 3) whether the quarry expansion will cause violations of Permit No. 1000 or
2 OAR-340-41-445.

3 9. Based on my review of available information I have concluded the following:

4 a) Quarry expansion will increase streamflow, erosion, and downstream
5 sedimentation. The increases in annual erosion, downstream sedimentation, and
6 turbidity that will be caused by the quarry expansion will probably be extremely
7 significant.

8 b) It is unlikely that the proposed water quality control measures will adequately
9 protect water quality from deleterious increases in stream turbidity. It is highly
10 unlikely that a detention ponds can be constructed which would be capable of insuring
11 there is no downstream discharge of storm runoff from the quarry into the downstream
12 wetlands and the Multnomah Channel. The pond currently used to collect quarry
13 runoff is completely ineffective for preventing discharge of quarry runoff into the
14 Multnomah Channel.

15 c) Discharge from the quarry to the Multnomah Channel is already common
16 occurrence during storm periods because the wetland which receives quarry runoff has
17 been completely filled in by sediment from the existing quarry operations and the
18 sediment load from the stream passing through the quarry. This discharge violates
19 Permit No. 1000, because the permit requires that there be no direct discharge of
20 quarry runoff to the Multnomah Channel. Therefore, Permit No. 1000 is already
21 being violated on a regular basis.

22 d) Seepage from proposed and existing detention ponds will be negligible.
23 Precipitation inputs to the ponds exceed evaporation. Neither seepage nor evaporation

1 from detention ponds will be very effective in disposing, or reducing the amount, of
2 runoff from the quarry.

3 e) The frequency and magnitude of the discharges of quarry runoff to the Multnomah
4 Channel are likely to be increased by quarry expansion. This will worsen the
5 violations of Permit No. 1000. Coupled with expected increases in downstream
6 turbidity, quarry expansion will reduce downstream water quality and probably violate
7 water quality standards for turbidity in the Multnomah Channel.

8 f) Waste water discharge into one downstream wetland has already significantly
9 affected the wetland by filling it with sediment. Continued discharges coupled with
10 increased sedimentation that can be expected from quarry expansion will worsen this
11 impact.

12 g) Quarry expansion will also increase sedimentation of the Burlington Bottoms, a
13 highly significant wetland. Over time, this will accelerate the loss of the open water
14 character of this important wetland, counter to the public interest.

15 IV. DISCUSSION

16 A. Aquatic Resources and Beneficial Uses Affected

17 10. The area proposed for quarry expansion in the Application is drained by three
18 intermittent streams, named "Stream A," "Stream B," and "Stream C" in the Application (Exhibit B).
19 Stream B drains the southwestern part of the proposed expansion and flows into Multnomah Channel.
20 Stream A drains central part of the quarry property and flows into the Multnomah Channel after
21 passing through a wetland which has been filled in by runoff from the quarry. Stream C drains the
22 northeastern part of the property and flows into the "Burlington Bottoms" which has been recognized
23 as a significant wetland by Multnomah County.

1 11. The designated beneficial uses of the Multnomah Channel include anadromous fish
2 passage and the rearing and spawning of cold water salmonids (OAR-340-41-422). These beneficial
3 uses are adversely affected by increases in turbidity and sedimentation (Reiser and Bjornn, 1991).

4 12. The Oregon Department of Environmental Quality (hereinafter: "ODEQ") has made
5 the assessment that sedimentation in the Multnomah Channel is already moderately impairing the
6 beneficial use of the river by cold-water fish (1988 Oregon Statewide Assessment of Nonpoint Sources
7 of Water Pollution (hereinafter: ODEQ, 1989), such as steelhead and chinook salmon.

8 B. Probable Effect of the Quarry Expansion on Streamflows, Erosion, Turbidity,
9 Sedimentation and Downstream Wetlands

10 13. Standard methods from available scientific and technical literature were used to estimate
11 the likely magnitude of changes in runoff, erosion, sedimentation, and turbidity that are likely to be
12 caused by quarry expansion. While these methods are generally accepted as useful estimation tools,
13 they are not necessarily accurate forecasts of the actual magnitude of change in runoff and
14 sedimentation that will be caused by the quarry expansion. Therefore, the estimates presented here
15 are not given for any sort of engineering purposes because the accuracy of estimates is uncertain. The
16 estimates of changes in runoff and sedimentation are presented only as a reasonable indication of the
17 likely magnitude of changes caused by quarry expansion as predicted by conventional, and widely
18 used, estimation methods.

19 14. It is probable that quarry expansion will increase runoff within the watersheds draining
20 the quarry due to the removal of vegetation and soil and increases in compaction caused by heavy
21 machinery (Dunne and Leopold, 1978). Rainfall-runoff curves from U.S. Soil Conservation Service
22 National Engineering Handbook (1972) were used together with average monthly precipitation data for
23 Portland, and the area of quarry expansion to estimate average monthly streamflow for the three

1 streams draining the quarry. The results of this approach indicates that quarry expansion will increase
2 average annual streamflows over estimated natural flows by about 190% in Stream A, 150% in Stream
3 B, and 130% in Stream C. Increases in annual peak storm runoff in these streams is expected to be
4 increased by about the same magnitude. Although the estimation method is crude, a more
5 sophisticated approach is not warranted given a general dearth of hydrologic data from the area.

6 15. Quarry expansion will increase soil erosion by removing vegetation, increasing runoff,
7 and steepening slopes (Dunne and Leopold, 1978). Virtually all studies indicate that removal of
8 vegetation greatly increases erosion (Dunne and Leopold, 1978; USEPA, 1980). Activities such as
9 the proposed quarry expansion typically increase erosion by about 50 to 100 times encountered under
10 natural vegetative cover in the Pacific Northwest (Dunne and Leopold, 1978). Increases in erosion,
11 sedimentation, and turbidity that will be caused by quarry expansion were estimated by use of the
12 Modified Soil Loss Equation (USEPA, 1980). The amount of area that will be disturbed by quarry
13 expansion was determined for each of the three watersheds via maps of the expansion in the
14 Application (Exhibit B). It was also assumed that 50% of the expansion and existing quarry area had
15 received successful reclamation and erosion control; erosion control will be much higher absent this
16 level of successful reclamation and erosion control. Subject to these assumptions and the accuracy of
17 the method and available data, it appears that quarry operations will increase annual erosion and
18 sediment delivery to streams by about 2600% in Stream A, 1400% in Stream B, and 950% in Stream
19 C. These estimated increases in annual sediment delivery to streams correspond to increases of about
20 1100 tons/yr in Stream A, 250 tons/yr in Stream B, and 430 tons/yr in Stream C. These estimates
21 appear reasonable when compared to the results of studies of erosion increases caused by land use
22 similar to that anticipated under quarry expansion (Dunne and Leopold, 1978).

23 16. These estimates of likely increases in sediment delivery are probably conservative,

1 because the Modified Soil Loss equation does not account for gully and channel erosion or mass
2 failures. Gully and channel erosion are common and significant sources sediment in unvegetated areas
3 in the Pacific Northwest (Swanson et al, 1987). My field evaluation also indicated that gully erosion
4 is a significant source of erosion in unvegetated areas in the vicinity of the quarry operation.
5 Vegetation removal associated with quarry expansion will increase the probability mass failures
6 (Furniss et al., 1991). Channel erosion and expansion is a common consequence of increases in runoff
7 in small watersheds (Dunne and Leopold, 1978); increased runoff is expected with quarry expansion.
8 Mass failures greatly increase sediment delivery when they occur. Further, it was also assumed that
9 vegetation removal and quarry expansion does not increase the efficiency of the delivery of eroded
10 sediment to streams. Vegetation loss typically increases the efficiency of the delivery of eroded
11 sediment (USEPA, 1980). Therefore, it is probable that sediment delivery caused by quarry expansion
12 will exceed the estimates given above.

13 17. Within given a watershed, stream turbidity is generally proportional to suspended
14 sediment. Stream turbidity can be roughly estimated by assuming that increases in sediment delivery
15 proportionally increase both suspended sediment and stream turbidity. Therefore, quarry expansion
16 may increase stream turbidity by about 2600% in Stream A, 1400% in Stream B, and 950% in Stream
17 C.

18 18. Case studies provide some indication that the estimated increases in turbidity associated
19 with quarry expansion are reasonable. Andersen and Potts (1987) found that logging and road
20 construction in a small fraction of a forested watershed increased suspended sediment seven times the
21 background yield in the first year after the activity and at two times the background in the second year.
22 Since suspended sediment is correlated to turbidity within a given watershed, it is probable that
23 increases in turbidity were similar to those found in suspended sediment. It can be expected that

1 quarry operations will have a cause much greater increases in suspended sediment than that found by
2 Andersen and Potts (1987) because a quarry operations will disturb a much larger percentage of the
3 watersheds, the level of disturbance will be more intense, and rainfall is higher than in the area studied
4 by Andersen and Potts (1987). Fowler et al. (1987) documented that the construction of a single road
5 crossing increased turbidity by more than 50 times (5000%) relative to an upstream site. Again, the
6 quarry expansion and operation will have much greater effect on erosion and sediment delivery than
7 a single road. These case histories and the estimated increases in turbidity associated with quarry
8 expansion indicate that there is a high likelihood that the quarry expansion will violate state water
9 quality standards for turbidity, because Oregon's state water quality standards allow only a 10 percent
10 increase in turbidity over background (OAR-340-41-455).

11 19. Increased turbidity in the Multnomah Channel is not the only impact associated with
12 increased runoff and sediment transport that can be expected with quarry expansion. Increases in
13 sediment delivery will also increase the amount of sedimentation in downstream wetlands. Stream A
14 drains into a small, unnamed wetland adjacent to the Multnomah Channel which the Application (p.
15 11) describes as a "...diked settlement pond." Stream C drains into the Burlington Bottoms which has
16 been recognized as a significant wetland by Multnomah County. The Application (p. 11) notes that
17 quarry runoff is currently piped into the "settlement pond."

18 20. During my field evaluation of the "pond" it was clear that the "pond" is actually
19 wetland because it had very strong indications of wetland hydrology, including hydric soils and
20 vegetation. My inspection also indicated that sedimentation in this wetland has already been
21 significant. Inspection of sediment accumulation between layers of leaves dropped annually by
22 endemic trees indicate that about one inch of sediment accumulates annually in the wetland. Given
23 the size of the wetland, this deposition is roughly equivalent to about 280 cubic yards/yr. If it is very

1 conservatively assumed that only about 50% of this annual sediment deposition is due to quarry
2 operation, the existing quarry operation is filling the wetland at a rate of about 0.5 inches/yr or 140
3 cubic yards/year. In contrast, it is estimated that the natural rate of sediment deposition in the wetland
4 was on the order of about 0.1 inch/yr. Plainly, this accelerated sedimentation of the wetland has
5 already greatly changed its character and altered the historic ability of this wetland to store water.
6 Estimated increases in sediment delivery associated with quarry expansion indicate that this rate of
7 sediment deposition and wetland filling will more than double the rate of sedimentation currently
8 observed in the wetland.

9 21. Quarry expansion will also accelerate the deposition of sediment in the Burlington
10 Bottoms. Based on increases in estimated sediment delivery, the rate of sedimentation in the
11 Burlington Bottoms will be increased by about 950%. If it is conservatively assumed that only 50%
12 of the annual sediment delivery to Stream C estimated under quarry expansion reaches the Bottoms,
13 the expansion can still be expected to cause an additional 170 cubic yards of sediment to be deposited
14 in the Bottoms annually. This will greatly accelerate the sedimentation of the wetland, which will
15 result in a much more rapid loss of the wetland's open water character over time. It will also reduce
16 the Burlington Bottoms ability to store surface water.

17 22. The estimates given above indicate that the quarry expansion is likely to significantly
18 increase runoff, erosion and sediment delivery. Case studies from scientific literature also indicate that
19 the expansion will have these same effects. The estimated impacts and field evaluation indicate that
20 the quarry expansion will accelerate the filling of downstream wetlands. The Application does not
21 adequately address these effects of quarry expansion, nor does it consider the consequences of these
22 effects. Full analysis of these effects and their consequences needs to be made before any reasonable
23 decision on the Application can be made.

1 C. Water Quality Control Measures Are Unlikely To Be Effective

2 23. The Application (p. 11) states water quality will be protected by compliance with
3 Permit No. 1000 which requires that no turbid runoff from the quarry operations can be discharged
4 into public waters. The Application (p. 11) proposes that it will comply with the permit by expanding
5 existing detention/settling ponds and then piping water into the small wetland below Stream A. The
6 Application (p. 11) notes that it is intended that water percolate from the pond into the ground, but that
7 a local resident has noted that silty water does flow into the Multnomah Channel.

8 24. It is unlikely that the Application's proposed sediment control measures will function as
9 described in the Application. It is more likely that discharge situation observed by the local resident
10 will not only continue, but worsen.

11 25. Based on estimated average annual runoff from the quarry operations, the detention of
12 all estimated annual quarry runoff would require about 700 acre-feet of storage capacity, assuming that
13 only quarry runoff is stored and that runoff from the rest of the watersheds is not stored. The storage
14 of 700 acre-feet would require a detention pond with an area of 100 acres and a depth of 7 feet. In
15 contrast, the existing operation has an area of 113 acres; with expansion, the operating area is expected
16 to be about 400 acres. The wetland currently used as a detention "pond" has an area of about 3 acres.
17 Although the application fails to provide any sort of engineering specifications or dimensions for the
18 proposed detention ponds, it is doubtful that the quarry will be able to construct ponds with the
19 dimensions needed to collect the water accrued during a single year of average precipitation.
20 Detention ponds would actually have to provide considerable more storage in order to comply with
21 Permit No. 1000, because years of above average precipitation are relatively common, and because
22 water will accrue over several years in the absence of downstream discharges; neither pond
23 evaporation nor seepage will be effective in reducing the amount of storm water held in ponds.

1 26. My field inspection of the wetland currently used as a detention pond indicates that
2 seepage in sediment detention ponds will be negligible. The wetland bottom is entirely composed of
3 thick layers of very tight clay deposited by storm waters. These clays were cracked, indicating a high
4 level of swelling when saturated. Such clays typically have extremely low infiltration rates, on the
5 order of about 0.1 foot/month. Given the results of my field evaluation, I would expect that any
6 additional detention ponds that collect storm runoff will be rapidly lined with similar deposits, and that
7 any percolation will soon be negligible in reducing the magnitude of stored storm water.

8 27. Surface evaporation from detention ponds will not cause a net reduction in storm water
9 in storage, because average annual precipitation exceeds average annual evaporation. Average annual
10 evaporation in Portland is about 24 inches (Dunne and Leopold, 1978) while average annual
11 precipitation is about 37 inches. Therefore, the very existence of a ponded surface should result in
12 a net annual increase of about 13 inches of pond depth per year.

13 28. Mere detention of storm water runoff from quarry operations will not be effective in
14 significantly reducing turbidity so that discharge water can be released without increasing downstream
15 turbidity. The clays in the wetland are comprised predominantly of colloidal material. Colloidal
16 material remains in suspension in water; it does not settle out under the influence of gravity. Most
17 of the deposited clay in the wetland is probably only deposited when the wetland is periodically de-
18 watered by discharges into the Multnomah Channel.

19 29. The wetland currently used as a detention pond has no ability to provide any long term
20 storage of surface water. All significant storage areas in the pond have been completely filled in.
21 Although the Application (p. 11) describes the wetland as diked pond, I found no evidence that the
22 wetland had any remaining static storage capacity, nor could I find any evidence of a dike. There is
23 evidence that there is significant runoff of water from this wetland. A heavily eroded channel about

1 four feet deep and three feet wide leads from the wetland surface to the Multnomah Channel. Based
2 on my field evaluation, I conclude that the wetland has very limited utility as a detention pond and that
3 the discharge of turbid quarry runoff into the Multnomah Channel is a common occurrence. This is
4 a violation of Permit No. 1000.

5 30. Based on my analysis, I also conclude that violations of Permit No. 1000 are likely to
6 worsen with quarry expansion, because the discharge of turbid storm runoff from the quarry to the
7 Multnomah Channel are likely to increase, with quarry expansion.

8 V. CONCLUSION

9 31. Based on my review of available information and accepted models, quarry expansion
10 will increase streamflow, erosion, and downstream sedimentation. Increases in annual erosion,
11 downstream sedimentation, and turbidity are likely to be highly significant.

12 32. The frequency and magnitude of the discharges of quarry runoff to the Multnomah
13 Channel are likely to be increased by quarry expansion. This will worsen the violations of Permit No.
14 1000. Coupled with expected increases in downstream turbidity, quarry expansion will reduce
15 downstream water quality and probably violate water quality standards for turbidity in the Multnomah
16 Channel.

17 33. Storm runoff from the quarry has already significantly affected one wetland by filling
18 it with sediment. Continued discharges, coupled with increased sedimentation that can be expected
19 from quarry expansion, will exacerbate this situation. Quarry expansion will also increase
20 sedimentation of the Burlington Bottoms. Over time, this will accelerate the loss of the open water
21 character of this important wetland.

22 34. Proposed water quality control measures are unlikely to adequately protect water quality
23 from deleterious increases in stream turbidity. It is highly unlikely that a detention ponds can be

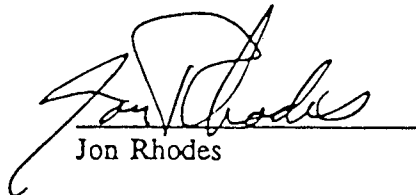
1 constructed which would be capable of insuring there is no downstream discharge of turbid runoff from
2 the quarry into downstream wetlands and the Multnomah Channel. The wetland currently used to
3 collect quarry runoff is completely ineffective for preventing discharge of quarry runoff into the
4 Multnomah Channel. Field inspection indicates that discharge from the quarry to the Multnomah
5 Channel is already a common occurrence in violation of Permit No. 1000 which requires that there
6 be no direct discharge of quarry runoff to public waters.

7 35. Neither seepage nor evaporation from detention ponds will be effective in reducing
8 of turbid runoff from the quarry. Seepage from proposed and existing detention ponds will be
9 negligible. Precipitation inputs to the ponds exceed evaporation.

I declare under penalty of perjury that I believe the foregoing is true and correct.

DATED

8/28/92


Jon Rhodes

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MULTNOMAH COUNTY
SIGNIFICANT STREAMS STUDY
TECHNICAL APPENDIX
MCNAMEE - HARBORTON AREA

Prepared for
Multnomah County Planning Department

Prepared by
SRI/SHAPIRO

April 8, 1994

TECHNICAL APPENDIX
MULTNOMAH COUNTY SIGNIFICANT STREAMS STUDY
MCNAMEE - HARBORTON AREA

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INVENTORY/SIGNIFICANCE ANALYSIS

INTRODUCTION

Inventories have been completed for streams in the McNamee - Harborton area. The inventory profiles address location, quality, and quantity consistent with Statewide Planning Goal 5 requirements. The Multnomah County Significant Streams study includes stream profiles which are mapped and organized by planning area. Data for a stream that is located in more than one study area is addressed within the study area in which the stream is primarily located. In the case of Rock Creek, study areas are consolidated. Maps indicate which stream reaches were inventoried.

Stream profile sheets include the location and the length of stream inventoried. The profiles provide information on economic use based on water rights data. The profiles address educational, recreational, and public safety issues. Natural resource values are addressed in terms of Stream Class, threatened and endangered species information, wildlife habitat assessment information and riparian vegetation. A qualitative description of each stream is also provided.

The significance criteria is addressed in a matrix format. If any of the criteria are satisfied, the stream is considered significant and a Goal 5 analysis is conducted. If the stream does not meet the criteria, an ESEE analysis under Goal 5 is not prepared and no further action is required or appropriate under Goal 5. These streams are not included on the Plan Inventory for Goal 5 purposes.

The significance analysis is conducted on a stream by stream basis. Because a stream's tributaries contribute to the health, quality, and significance of the whole stream, individual tributaries are examined collectively. Field data was collected along individual stream segments but the data has been consolidated for purposes of this evaluation. The limitations of this process are that data is averaged and segments of exceptionally high quality or exceptionally low quality may be over looked. The advantage of this process is that streams are examined as a whole and are not fractured into small segments that may include highly conflicting data. It should be noted that water seasonality is based on USGS mapping. Canopy cover is "winter canopy". In areas with a deciduous overstory component, "summer canopy" could be significantly higher.

SIGNIFICANCE CRITERIA

Policy 16-G sets forth the criteria for determining significance of water resources and wetlands. The methodology followed for use of the criteria is described below.

A. Economic Value

Strategy A of Policy 16-G states that sites should be designated significant "if any use of the water resource can be shown to be feasible for use in significantly increasing a specified economic activity or function or substantially increasing the economic value of the land through which the waters flow".

To assess economic significance, we analyzed surface water rights for properties along the streams. A list of surface water rights was obtained from the Oregon Water Resources Department. The list of relevant permits is included as part of the stream profile. The rate or quantity of water being diverted and the use of the water is noted. All uses, including domestic use are assumed to provide an economic benefit to the user.

B. Recreation Value

Strategy B of Policy 16-G states that a water resource should be designated significant if:

1. The resource lies within the boundaries of public park or recreation facility and the resource is an integral part of the facility's recreational activities; or
2. The resource contributes water to a park or recreation facility and diversion or degradation of the resource would significantly diminish the recreational value of the resource.

Park and recreation facilities along stream segments and downstream were documented. The role of the water resource in regard to the recreational activity was noted. For example, boating or fishing activities are water based and diversion and degradation of the water resource would clearly diminish the recreational quality of the resource.

C. Educational Value

Strategy C of Policy 16-G states that water resources should be designated significant if they have been identified as being ecologically or scientifically significant by the Oregon Natural Heritage Program or if the resource is used for public educational purposes.

Sue Vrilakas, botanist and data manager for the Oregon Natural Heritage Program conducted a data system search of the West Hills and Howard Canyon areas for rare, threatened, and endangered plant and animal species. The search, completed on February 22, 1994, identified 34 records in the general vicinity but only four records were within the watersheds for the streams being studied. The existence of the significant sites are noted on the inventory profile sheets but detailed locations are not provided due to the confidential nature of the data.

Ron Klein of the Metro Greenspaces program was contacted regarding public educational activities. Ron provided information on streams that have been used for classes offered by the Portland Audubon Society and for public and private school classes sponsored through the Green City Data grants program.

D. Public Safety

Policy 16-G includes strategy D which states that sites and resources should be designated significant in the following cases:

1. The water resource is within the Watershed Management Unit of an existing or proposed municipal water source; or
2. The water resource is part of the groundwater area for a municipal water supply; or
3. The water resource and surrounding lands are flood storage areas which if altered would increase the frequency or height of floods downstream.

Strategy D also addresses water quality in terms of the significance of the riparian vegetation associated with the water resource.

To document water source information, the cities of Portland, Beaverton, Hillsboro, and Scappoose were contacted. Staff at each city indicated that the study area streams were not part of the respective municipal water supply systems.

In regard to flood storage, field inventories documented whether wetlands were associated with the streams. The number of wetlands and the approximate size of wetlands were noted. Depending on the size of the wetland and the form of the stream channel, wetlands may provide water storage capacity that will reduce the intensity of a storm event. When streams and wetlands provide this function, a determination of significance was made.

In regard to water quality and riparian vegetation, the width of the riparian corridor was documented in the field and canopy cover was noted. The inventory profiles provide the average maximum width of the corridor. If 75% of the stream length had canopy cover that was less than 25%, the riparian vegetation was determined to be insignificant and have little positive influence on water quality. If greater canopy cover was provided, the riparian area was considered significant.

E. Natural Area Value

Strategy E of Policy 16-G addresses the natural area value of the resource. Sites are considered significant if they are designated Class 1 by the Oregon Department of Forestry, if the area is the habitat of a threatened or endangered species or if a Wildlife Habitat Assessment form has been completed and the site scored 45 or more points. A site may also be considered significant if it scores between 35-44 and it provides an essential connection between or enhances adjoining higher rated areas.

As part of the inventory Class 1 waters were documented and noted on inventory forms. If any portion of the stream within the County is designated Class 1, the stream was considered significant.

As noted under Educational Value, above, the Oregon Natural Heritage Program data base was searched for rare, threatened and endangered plant and animal species. Inventory forms identify whether sites were identified. Due to the confidential nature of the data, details are not provided.

Wildlife Habitat Assessment forms were completed for segments along each stream at 2/10ths of a mile intervals. The data is summarized in a table following each of the profile forms. Streams averaging 45 points and above were considered significant resources. If a stream scored between 35-44 points, adjoining areas were examined to determine whether an essential connection between wildlife habitat areas was provided by the stream.

SIGNIFICANCE MATRIX

The Significance Matrix summarizes the findings and research documented on the profile sheets. The matrix is designed so that a yes - no answer is provided when the county significance criteria are satisfied. The conclusion is based on whether the threshold for significance has been met.

SIGNIFICANCE MATRIX – Study Area: McNamee Harborton

CRITERIA:	STREAMS:					
	Burlington	North Angell Bros.	Middle Angell Bros.	South Angell Bros.	Newberry	Miller
ECONOMIC:						
Water Rights Permits	N	N	N	N	N	Y
RECREATION:						
Within Park/Rec. Facility	N	N	N	N	N	N
Contributes water to Park/Rec. Facility	Y	Y	N	N	N	N
EDUCATION:						
Designated significant by the Oregon Natural Heritage Program	N	N	N	N	N	N
Used for public education	N	N	N	N	N	N
PUBLIC SAFETY:						
Within Watershed Management Unit	N	N	N	N	N	N
Groundwater Recharge for Municipal Supply	N	N	N	N	N	N
Flood Storage Function	N	N	N	N	N	N
Riparian Zone Water Quality Benefits	N	Y	Y	N	N	Y
NATURAL AREA VALUE:						
Designated Class 1	N	N	N	N	N	N
Habitat of an Endangered or Threatened Species	N	N	N	N	N	N
Wildlife Habitat Assessment Score						
If > 44 points – considered significant	N	N	N	N	N	Y
If 35–44 points, essential connections are provided	N	Y	Y	N	N	–
CONCLUSION: Significant	Y	Y	Y	N	N	Y

Key:	
Y – Yes	I – Incomplete
N – No	NA – Not Applicable

BURLINGTON CREEK

Stream Profile

GENERAL INFORMATION

Location Study Area: McNamee Harborton

Length Inventoried: 5,400 ft

Estimate of Total Length - main branch and tributaries in Multnomah County (excludes extensions out of County): 5,400 ft

Area of Watershed in Multnomah County: 375 acres

Abutting Land Use Designations (percent of study area stream length):

Rural Residential	Urban Residential R-20	Urban Residential R-10	Commercial Forest	Other
0%	0%	0%	100%	0%

Stream Description:

The headwaters of Burlington Creek have been partially cut and a canopy cover of approximately 30% remains. Overstory is comprised of Douglas fir, Western hemlock, and red alder, the understory is predominantly viney maple with occasional salmonberry. The stream crosses a skid trail and a road (culvert removed, banks planted with willow), both of which appear to be contributing sediment to the stream. Logging slash often covers the stream channel. At 700 feet from its origin the stream flows through a clear cut. No overstory remains in the riparian area, though some shrubs are present, predominantly viney maple with occasional elderberry and salmonberry. The stream then enters a mature conifer stand of Douglas fir and western hemlock (20-30 inch Dbh). Canopy closure is 65-70% and a well established understory. No snags were observed in this section and coarse woody debris was present in low amounts. The stream continues through the forested section for approximately 750 feet. It then passes through a culvert under a road and flows into another clear cut. No overstory remains. Shrub layer is often dense salmonberry and Himalayan blackberry. Logging slash often covers the stream channel. As the stream proceeds east the banks become steep, often in excess of 45 degrees. Numerous slope failures are evident and the stream has large sediment deposits. Just west of the powerline the stream flows through a 48 inch culvert under a road. The fill for the crossing is approximately 200 feet wide and 100 feet high. The stream passes under a train trestle and enters a wide, flat bottom area (approximately 100 feet by 300 feet). The overstory is predominantly red alder with a few small red cedar. The shrub layer is salmonberry and Himalayan blackberry. The stream becomes braided in this area with the main channel against the north slope. A house sits atop the north bank and a dirt road has been cut down the south. The stream then enters a culvert and flows under Highway 30.

The stream is 85% riffle and 15% pool. Its substrate is a combination of silt, sand, gravel, cobbles, boulders, with silt and cobbles being predominant. Evidence of recent scouring and sediment transport and deposit was observed. Bank failures were frequently observed and the upper two road crossings appeared to have substantial erosion. The channel is incised for most of its length. Water temperature was 8.5 degrees Celsius.

ECONOMIC

DWR Water Rights Data: No recorded permits as of 2/16/94

RECREATION

Park/Recreational Facility: None adjacent to stream. Stream discharges to Burlington Bottoms, a publicly-owned parcel managed by Oregon Department of Fish and Wildlife, purchased for wildlife mitigation by Bonneville Power Administration. The hydrology and hydraulics of Burlington Bottoms was the subject of an August 27, 1993 report by WH Pacific for the Oregon Department of Fish and Wildlife. The report examined hydrology of the 417 acre wildlife habitat mitigation site and the influence of streams and the relationship to the Columbia River. The watershed studied is approximately 900 acres in size. Streams studied as part of this analysis include, McCarthy Creek, Burlington Creek, North Angell Brothers Creek and Middle Angell Brothers Creek. Based on the WH Pacific report, McCarthy Creek and Middle Angell Brothers Creek do not contribute to flows to Burlington Bottoms. McCarthy flows directly to the Multnomah Channel and Middle Angell Brothers Creek has been diverted south through United Junction. Burlington Creek and North Angell Brothers Creek both drain into Burlington Bottoms.

EDUCATIONAL

Oregon Natural Heritage Program - significance designation: None recorded as of 2/2/94

Public Educational Use: None identified

PUBLIC SAFETY

Within a Watershed Management Unit: No

Groundwater Recharge for a Municipal System: No

Flood Storage Area:

Number of wetlands/ approximate size: One small wetland at lower end of stream at Highway 30.

Flood Storage Capacity: Limited to stream channel generally steeply incised with limited widening of channel.

Riparian Corridor: see attached table

Average Width: 96

Range of Width: 40-300

Benefit to Water Quality: Based on low canopy cover, the riparian corridor has little benefit to water quality.

NATURAL AREA

Class I Stream Designation:

% of stream within county designated as Class I: 0%

Threatened and Endangered Species data: No recorded observations as of 2/22/94

Wildlife Habitat Assessment: see attached table

Average score: 33.4 (n=5)

Range of scores: 24-57

MULTNOMAH COUNTY SIGNIFICANT STREAMS STUDY

STUDY AREA:

McNamee Harborton

WILDLIFE HABITAT ASSESSMENT

STREAM NAME	SITE NO.	Water:				Food:			Cover:			Additional Values:				TOTAL SCORE
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	
Burlington Creek	1	4	3	3	2	4	6	2	1	1	2	0	2	2	0	32
Burlington Creek	2	4	3	0	2	3	3	1	1	2	1	0	4	0	0	24
Burlington Creek	3	4	3	0	2	3	3	1	1	2	1	0	4	0	0	24
Burlington Creek	4	4	3	7	2	7	5	2	8	6	4	2	3	4	0	57
Burlington Creek	5	4	3	2	2	4	2	2	2	3	2	0	0	4	0	30
AVERAGES		4.0	3.0	2.4	2.0	4.2	3.8	1.6	2.6	2.8	2.0	0.4	2.6	2.0	0.0	33.4

RIPARIAN CORRIDOR

STREAM NAME	SITE NO.	Width Rip. Corridor*		Extent of Overhead Canopy:			
		Left (ft)	Right (ft)	0-25%	25-50%	50-75%	75-100%
Burlington Creek	1	20	20	X			
Burlington Creek	2	30	30	X			
Burlington Creek	3	20	20	X			
Burlington Creek	4	150	150			X	
Burlington Creek	5	20	20	X			
AVERAGES		48	48	80%	0%	20%	0%

*Width of riparian corridor in feet (in segment) looking downstream.

NORTH ANGELL BROS. CREEK

Stream Profile

GENERAL INFORMATION

Location Study Area: McNamee Harborton

Length Inventoried: 4,500 ft

Estimate of Total Length - main branch and tributaries in Multnomah County (excludes extensions out of County): 4,500 ft

Area of Watershed in Multnomah County: 350 acres

Abutting Land Use Designations (percent of study area stream length):

Rural Residential	Urban Residential R-20	Urban Residential R-10	Commercial Forest	Other
0%	0%	0%	100%	0%

Stream Description:

Its origin has been clear cut on the south side and a mixed conifer deciduous forest is on the North. It then flows into an area where both sides of the stream have been clear cut and only a few overstory trees remain; however in several areas buffer strips up to 100 feet wide have been maintained. The buffers are primarily red alder but some Douglas fir and western red cedar are also present. These buffers are very open and many of the conifers have been removed. Dense salmonberry and himalayan blackberry are in the stream channel. At 4/10's of a mile from the headwaters the stream goes under ground and flows under a road (culvert has been removed, re-surfaces and enters another mixed conifer/deciduous forest). Overstory is primarily red alder and big-leaf maple with western red cedar, western hemlock, and Douglas fir becoming more common upslope. The stream is joined by a second stream from the south and forms a delta of transported sediment and debris against the embankment of a powerline access road. Water is ponded in this area and drains subsurface under and through a grated culvert that is 90% blocked by silt and debris. The culvert's outlet is unknown. Immediately east of the road is what appears to be channel overgrown with himalayan blackberry but no water was observable.

The stream is 70% riffle and 30% pool. Its substrate is a combination of silt, sand, gravel, cobbles, boulders, and bedrock. Evidence of recent scouring and sediment transport and deposit was observed. Several small debris torrents were also observed. The channel is incised for most of its length.

ECONOMIC

DWR Water Rights Data: No recorded permits as of 2/16/94

RECREATION

Park/Recreational Facility:

None adjacent to stream. Stream discharges to Burlington Bottoms, a publicly-owned parcel managed by Oregon Department of Fish and Wildlife, purchased for wildlife mitigation by Bonneville Power Administration. The hydrology and hydraulics of Burlington Bottoms was the subject of an August 27, 1993 report by WH Pacific for the Oregon Department of Fish and Wildlife. The report examined hydrology of the 417 acre wildlife habitat mitigation site and the influence of streams and the relationship to the Columbia River. The watershed studied is approximately 900 acres in size. Streams studied as part of this analysis include, McCarthy Creek, Burlington Creek, North Angell Brothers Creek and Middle Angell Brothers Creek. Based on the WH Pacific report, McCarthy Creek and Middle Angell Brothers Creek do not contribute to flows to Burlington Bottoms. McCarthy flows directly to the Multnomah Channel and Middle Angell Brothers Creek has been diverted south through United Junction. Burlington Creek and North Angell Brothers Creek both drain into Burlington Bottoms.

EDUCATIONAL

Oregon Natural Heritage Program - significance designation: No recorded observations as of 2/22/94

Public Educational Use: None identified

PUBLIC SAFETY

Within a Watershed Management Unit: No

Groundwater Recharge for a Municipal System: No

Flood Storage Area:

Number of wetlands/ approximate size: None

Flood Storage Capacity: limited to stream channel and area immediately adjacent to channel

Riparian Corridor: see attached table

Average Width: 78

Range of Width: 55-150

Benefit to Water Quality: There exists sufficient canopy cover and woody debris in stream to improve water quality.

NATURAL AREA

Class I Stream Designation:

% of stream within county designated as Class I: 0%

Threatened and Endangered Species data: No recorded observations as of 2/22/94

Wildlife Habitat Assessment: see attached table

Average score: 41.5 (n=4)

Range of scores: 35-53

MULTNOMAH COUNTY SIGNIFICANT STREAMS STUDY

STUDY AREA:

McNamee Harborton

WILDLIFE HABITAT ASSESSMENT

STREAM NAME	SITE NO.	Water:				Food:			Cover:			Additional Values:				TOTAL SCORE
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	
"Angell Brothers" – north	1	6	3	8	2	6	6	2	6	4	3	2	2	3	0	53
"Angell Brothers" – north	2	4	3	3	2	4	7	2	4	4	1	1	3	4	0	42
"Angell Brothers" – north	3	4	3	3	2	4	6	2	2	2	2	0	2	3	0	35
"Angell Brothers" – north	4	4	3	4	2	4	6	2	2	2	2	0	2	3	0	36
AVERAGES		4.5	3.0	4.5	2.0	4.5	6.3	2.0	3.5	3.0	2.0	0.8	2.3	3.3	0.0	41.5

RIPARIAN CORRIDOR

STREAM NAME	SITE NO.	Width Rip. Corridor*		Extent of Overhead Canopy:			
		Left (ft)	Right (ft)	0–25%	25–50%	50–75%	75–100%
"Angell Brothers" – north	1	75	75			X	
"Angell Brothers" – north	2	30	25		X		
"Angell Brothers" – north	3	40	20		X		
"Angell Brothers" – north	4	40	20		X		
AVERAGES		46	35	0%	75%	25%	0%

*Width of riparian corridor in feet (in segment) looking downstream.

MIDDLE ANGELL BROS. CREEK Stream Profile

GENERAL INFORMATION

Location Study Area: McNamee Harborton

Length Inventoried: 2,000 ft

Estimate of Total Length - main branch and tributaries in Multnomah County (excludes extensions out of County): ~ 6,000 ft

Area of Watershed in Multnomah County: 360 acres

Abutting Land Use Designations (percent of study area stream length):

Rural Residential	Urban Residential R-20	Urban Residential R-10	Commercial Forest	Other
0%	0%	0%	100%	0%

Stream Description:

The creek originates in a mixed conifer/deciduous forest from several small drainages. It consolidates into one channel and flows through the forested area for 2/10's of a mile when it enters a 3-5 year old clear-cut. The majority of the overstory in the riparian area was removed. Several red alder and big-leaf maple remain. Dense salmonberry and vine maple line the channel. Logging debris is common in the narrow floodplain and in the channel. At approximately 6/10's of a mile the stream enters another mixed conifer/deciduous forest. Activity at the Angell Brothers gravel pit prevented this section from being surveyed due to liability concerns. The stream leaves the forested area and flows off a vertical cut wall into a culvert below and is then transported via a culvert to a settling pond. It is again culverted and flows under Highway 30.

ECONOMIC

DWR Water Rights Data: No recorded permits as of 2/16/94

RECREATION

Park/Recreational Facility:

None adjacent to stream and according to a 1993 report this stream has been diverted south away from Burlington Bottoms. The hydrology and hydraulics of Burlington Bottoms was the subject of an August 27, 1993 report by WH Pacific for the Oregon Department of Fish and Wildlife. The report

examined hydrology of the 417 acre wildlife habitat mitigation site and the influence of streams and the relationship to the Columbia River. The watershed studied is approximately 900 acres in size. Streams studied as part of this analysis include, McCarthy Creek, Burlington Creek, North Angell Brothers Creek and Middle Angell Brothers Creek. Based on the WH Pacific report, McCarthy Creek and Middle Angell Brothers Creek do not contribute to flows to Burlington Bottoms. McCarthy flows directly to the Multnomah Channel and Middle Angell Brothers Creek has been diverted south through United Junction. Burlington Creek and North Angell Brothers Creek both drain into Burlington Bottoms.

EDUCATIONAL

Oregon Natural Heritage Program - significance designation: No recorded observations as of 2/22/94

Public Educational Use: None identified

PUBLIC SAFETY

Within a Watershed Management Unit: No

Groundwater Recharge for a Municipal System: No

Flood Storage Area:

Number of wetlands/ approximate size: None

Flood Storage Capacity: Limited to stream channel and area immediately adjacent to channel

Riparian Corridor: see attached table

Average Width: 80

Range of Width: 80-80

Benefit to Water Quality: Riparian vegetation remaining from clear cut is sufficient to improve water quality.

NATURAL AREA

Class I Stream Designation:

% of stream within county designated as Class I: 0%

Threatened and Endangered Species data: None recorded as of 2/22/94

Wildlife Habitat Assessment: see attached table

Average score: 37.5 (n=2)

Range of scores: 31-44

MULTNOMAH COUNTY SIGNIFICANT STREAMS STUDY

STUDY AREA:

McNamee Harborton

WILDLIFE HABITAT ASSESSMENT

STREAM NAME	SITE NO.	Water:				Food:			Cover:			Additional Values:				TOTAL SCORE
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	
"Angell Brothers" – middle	1	4	3	2	2	4	5	2	2	1	2	0	2	2	0	31
"Angell Brothers" – middle	2	4	3	4	2	4	4	3	4	4	3	3	3	3	0	44
AVERAGES		4.0	3.0	3.0	2.0	4.0	4.5	2.5	3.0	2.5	2.5	1.5	2.5	2.5	0.0	37.5

RIPARIAN CORRIDOR

STREAM NAME	SITE NO.	Width Rip. Corridor*		Extent of Overhead Canopy:			
		Left (ft)	Right (ft)	0–25%	25–50%	50–75%	75–100%
"Angell Brothers" – middle	1	40	40		X		
"Angell Brothers" – middle	2	40	40		X		
AVERAGES		40	40	0%	100%	0%	0%

*Width of riparian corridor in feet (in segment) looking downstream.

SOUTH ANGELL BROS. CREEK Stream Profile

GENERAL INFORMATION

Location Study Area: McNamee Harborton

Length Inventoried: ~4,000 ft

Estimate of Total Length - main branch and tributaries in Multnomah County (excludes extensions out of County): ~4,100 ft

Area of Watershed in Multnomah County: 205 acres

Abutting Land Use Designations (percent of study area stream length):

Rural Residential	Urban Residential R-20	Urban Residential R-10	Commercial Forest	Other
0%	0%	0%	100%	0%

Stream Description:

The headwaters and approximately 6/10's of a mile along the upper stream have been clear cut in the last 5 years. Logging slash and material from slope failures almost entirely cover the stream channel. Slopes in this area are 25-35 degrees. No overstory remains in the riparian area. Salmonberry, Himalayan blackberry, and trailing blackberry are the dominant vegetation. At approximately 4/10 of a mile from the headwaters a recent clear cut has no vegetation regeneration. At approximately 6/10 of a mile the stream flows into a mixed conifer/deciduous forested area. This area has not been recently disturbed and has a developing understory and groundcover layer. Canopy cover is approximately 45%. The stream crosses under the powerline corridor and then passes under a road through a culvert. The stream flows off a cliff at highway 30 and is culverted.

The stream is 95% riffle and 5% pool although direct observation in the upper section was difficult due to the amount of debris in and covering the channel. Stream bottom is primarily silt with some gravel, cobbles and boulders present, and subject to repeated flushing. Cobbles and gravel make up a larger part of the substrate in the lower reaches. The channel in the upper reaches is incised and undercutting the bank.

ECONOMIC

DWR Water Rights Data: No recorded permits as of 2/16/94

RECREATION

Park/Recreational Facility: None adjacent to stream or downstream

EDUCATIONAL

Oregon Natural Heritage Program - significance designation: No recorded observations as of 2/22/94

Public Educational Use: None identified

PUBLIC SAFETY

Within a Watershed Management Unit: No

Groundwater Recharge for a Municipal System: No

Flood Storage Area:

Number of wetlands/ approximate size: None

Flood Storage Capacity: Limited to stream channel and adjacent steeply sloped banks.

Riparian Corridor: see attached table

Average Width: 52

Range of Width: 20-150

Benefit to Water Quality: Insufficient canopy cover and riparian width to positively influence water quality

NATURAL AREA

Class I Stream Designation:

% of stream within county designated as Class I: 0%

Threatened and Endangered Species data:

Wildlife Habitat Assessment: see attached table

Average score: 24,3 (n=4)

Range of scores: 9-46

MULTNOMAH COUNTY SIGNIFICANT STREAMS STUDY

STUDY AREA:

McNamee Harborton

WILDLIFE HABITAT ASSESSMENT

STREAM NAME	SITE NO.	Water:				Food:			Cover:			Additional Values:				TOTAL SCORE
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	
"Angell Brothers" – south	1	4	3	0	2	3	4	2	0	0	0	0	2	1	0	21
"Angell Brothers" – south	2	4	3	0	2	3	4	2	0	0	0	0	2	1	0	21
"Angell Brothers" – south	3	4	3	0	2	0	0	0	0	0	0	0	0	0	0	9
"Angell Brothers" – south	4	4	3	5	2	4	5	2	6	6	2	2	2	3	0	46
AVERAGES		4.0	3.0	1.3	2.0	2.5	3.3	1.5	1.5	1.5	0.5	0.5	1.5	1.3	0.0	24.3

RIPARIAN CORRIDOR

STREAM NAME	SITE NO.	Width Rip. Corridor*		Extent of Overhead Canopy:			
		Left (ft)	Right (ft)	0–25%	25–50%	50–75%	75–100%
"Angell Brothers" – south	1	10	10	X			
"Angell Brothers" – south	2	10	10	X			
"Angell Brothers" – south	3	10	10	X			
"Angell Brothers" – south	4	75	75			X	
AVERAGES		26	26	75%	0%	25%	0%

*Width of riparian corridor in feet (in segment) looking downstream.

NEWBERRY CREEK

Stream Profile

GENERAL INFORMATION

Location Study Area: McNamee Harborton

Length Inventoried: 3,000 ft (The lower 3,000 feet of the creek was not surveyed due to lack of access permission)

Estimate of Total Length - main branch and tributaries in Multnomah County (excludes extensions out of County): 6,000 ft

Area of Watershed in Multnomah County: 470 acres

Abutting Land Use Designations (percent of study area stream length):

Rural Residential	Urban Residential R-20	Urban Residential R-10	Commercial Forest	Other
0%	0%	0%	100%	0%

Stream Description:

The headwaters of Newberry Creek were clear-cut approximately 10 years prior to this report. No overstory remains except for scattered red alder and western red cedar. The area was replanted and is low to moderately stocked with 7-8 year old Douglas fir saplings. Other vegetation includes small, 2-4 inch, clumps of big-leaf maple, 1-2 inch alder, Himalayan blackberry, trailing blackberry and various grasses. Coarse woody debris is scarce. Two roads cross the creek with intact culvert systems. At approximately 2000 feet from the headwalls is a new clear-cut (sometime in the two years prior to this report). Access permission for this section was denied. What follows is a visual estimation from upslope. No overstory remains, and re-growth of other vegetation has not occurred. Coarse woody debris is low to moderate. Occasional snags were left upslope, a pileated woodpecker was observed using one. The stream leaves the clear cut and flows through an second growth stand of medium saw timber (18-24 inches Dbh) composed of Douglas fir and Western hemlock. The lower 1000 feet of the stream also was not surveyed due to access restraints.

Several drainages combine to form the main channel. These small drainages have predominantly clay substrate and a narrow 1-2 foot wide channel 1-2 feet deep. At their confluence the channel is more defined although often covered with logging slash. Channel substrate has more gravel and occasional cobbles, however; several large deposits of silt were observed. The stream is almost 100% riffle/run.

ECONOMIC

DWR Water Rights Data: No recorded permits as of 2/16/94

RECREATION

Park/Recreational Facility: The stream does not flow through or into any park or recreational facility

EDUCATIONAL

Oregon Natural Heritage Program - significance designation: None recorded as of 2/22/94

Public Educational Use: None identified

PUBLIC SAFETY

Within a Watershed Management Unit: No

Groundwater Recharge for a Municipal System: No

Flood Storage Area:

Number of wetlands / approximate size: None

Flood Storage Capacity: Limited to stream channel and area immediately adjacent to channel.

Riparian Corridor: see attached table

Average Width: 20 ft

Range of Width: 20 ft

Benefit to Water Quality: The lack of overhead canopy can cause increased stream temperature and peak flows which increase sediment flow into the stream.

NATURAL AREA

Class I Stream Designation:

% of stream within county designated as Class I: 0%

Threatened and Endangered Species data: No recorded observations as of 2/22/94

Wildlife Habitat Assessment: see attached table

Average score: 28 (n=3)

Range of scores: 25-30

MULTNOMAH COUNTY SIGNIFICANT STREAMS STUDY

STUDY AREA:

McNamee Harborton

WILDLIFE HABITAT ASSESSMENT

STREAM NAME	SITE NO.	Water:				Food:			Cover:			Additional Values:				TOTAL SCORE
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	
Newberry Creek	1	4	3	2	2	3	4	2	2	3	2	2	0	1	0	30
Newberry Creek	2	5	3	1	2	4	4	2	1	3	1	2	0	1	0	29
Newberry Creek	3	6	3	1	2	3	2	1	1	2	1	2	0	1	0	25
AVERAGES		5.0	3.0	1.3	2.0	3.3	3.3	1.7	1.3	2.7	1.3	2.0	0.0	1.0	0.0	28.0

RIPARIAN CORRIDOR

STREAM NAME	SITE NO.	Width Rip. Corridor*		Extent of Overhead Canopy:			
		Left (ft)	Right (ft)	0-25%	25-50%	50-75%	75-100%
Newberry Creek	1	20	20	X			
Newberry Creek	2	20	20	X			
Newberry Creek	3	20	20	X			
AVERAGES		20.0	20.0	100%	0%	0%	0%

*Width of riparian corridor in feet (in segment) looking downstream.

MILLER CREEK Stream Profile

GENERAL INFORMATION

Location Study Area: McNamee Harborton

Length Inventoried: 10,200 ft (includes portions of Forest Park)

Estimate of Total Length - main branch and tributaries in Multnomah County (excludes extensions out of County): 10,200 ft, but only 1700 feet are under county jurisdiction

Area of Watershed in Multnomah County: 408 acres, but only 200 acres are under County jurisdiction

Abutting Land Use Designations (percent of study area stream length):

Rural Residential	Urban Residential R-20	Urban Residential R-10	Commercial Forest	Other
10%	0%	0%	90%	0%

Stream Description:

Miller Creek runs adjacent to and through Forest Park. Only 1700 feet are under the jurisdiction of Multnomah County and include two reaches which are not contiguous. This made it impractical to survey only individual segments so the entire stream was surveyed. Habitat and stream morphology are similar throughout.

The headwaters of Miller creek are located just east and south of the Newberry road - Skyline drive intersection. The creek flows through a fenced pasture for the first 500 feet in a 10-20 foot deep canyon. The stream then flows into a mixed conifer/deciduous forest. Canopy closure is currently 30% (canopy cover would be significantly higher during full leaf-out) and species include western red cedar, Douglas fir, and red alder. The shrub layer is moderate and is made up of salmonberry and vine maple. As the stream flows east it is joined by several tributaries and the overstory composition changes to predominantly deciduous (red alder and big-leaf maple). The tree density varies from sparse to moderately dense. Conifers become more prevalent upslope to the south. The shrub layer becomes denser. At approximately 4000 feet the shrub layer has been cleared on the north bank. Coarse woody debris is relatively abundant in the stream channel but lacking upslope and no snags were observed.

The stream flows through a canyon of changing topography, in some areas it has a wide flat flood plain with braided side channels and in others it is a narrow steep walled gorge. The middle of the stream experienced multiple bank failures predominantly on the south side, some very recent and others several years old. The substrate is clay/silt at the headwaters and becomes gravel/cobble with boulders downstream. The stream is approximately 30% pool and 75% riffle. It flows under highway 30 through a square concrete tunnel.

ECONOMIC

DWR Water Rights Data:

<u>Permit Number</u>	<u>Location</u>	<u>Use</u>	<u>Rate/Quantity</u>
S10604	SWNE 33 2N1W	Power (PW)	.2500 CFS
S1060	SWNE 33 2N1W	Domestic (DO)	.2500 CFS
S15929	NWNW 4 1N1W	Domestic (DI) (Inc. Lawn & Garden)	.0100 CFS

RECREATION

Park/Recreational Facility: The majority of the stream flows through Forest Park.

EDUCATIONAL

Oregon Natural Heritage Program - significance designation: None recorded as of 2/22/94

Public Educational Use: None identified, but the stream flows through Forest Park, so educational opportunities are available for that portion.

PUBLIC SAFETY

Within a Watershed Management Unit: No

Groundwater Recharge for a Municipal System: No

Flood Storage Area:

Number of wetlands / approximate size: Multiple small seeps.

Flood Storage Capacity: Flood storage is limited to stream channel and area immediately adjacent to the channel. The stream does have side channels in some areas that would store some quantity of main channel overflow.

Riparian Corridor: see attached table

Average Width: 142 ft

Range of Width: 90-200 ft

Benefit to Water Quality: There exists sufficient canopy cover and woody debris in the stream to maintain water quality.

NATURAL AREA

Class I Stream Designation:

% of stream within county designated as Class I: 0%

Threatened and Endangered Species data: No recorded observations as of 2/22/94

Wildlife Habitat Assessment: see attached table

Average score: 51 (n=10)

Range of scores: 41-59

MULTNOMAH COUNTY SIGNIFICANT STREAMS STUDY

STUDY AREA:

McNamee Harborton

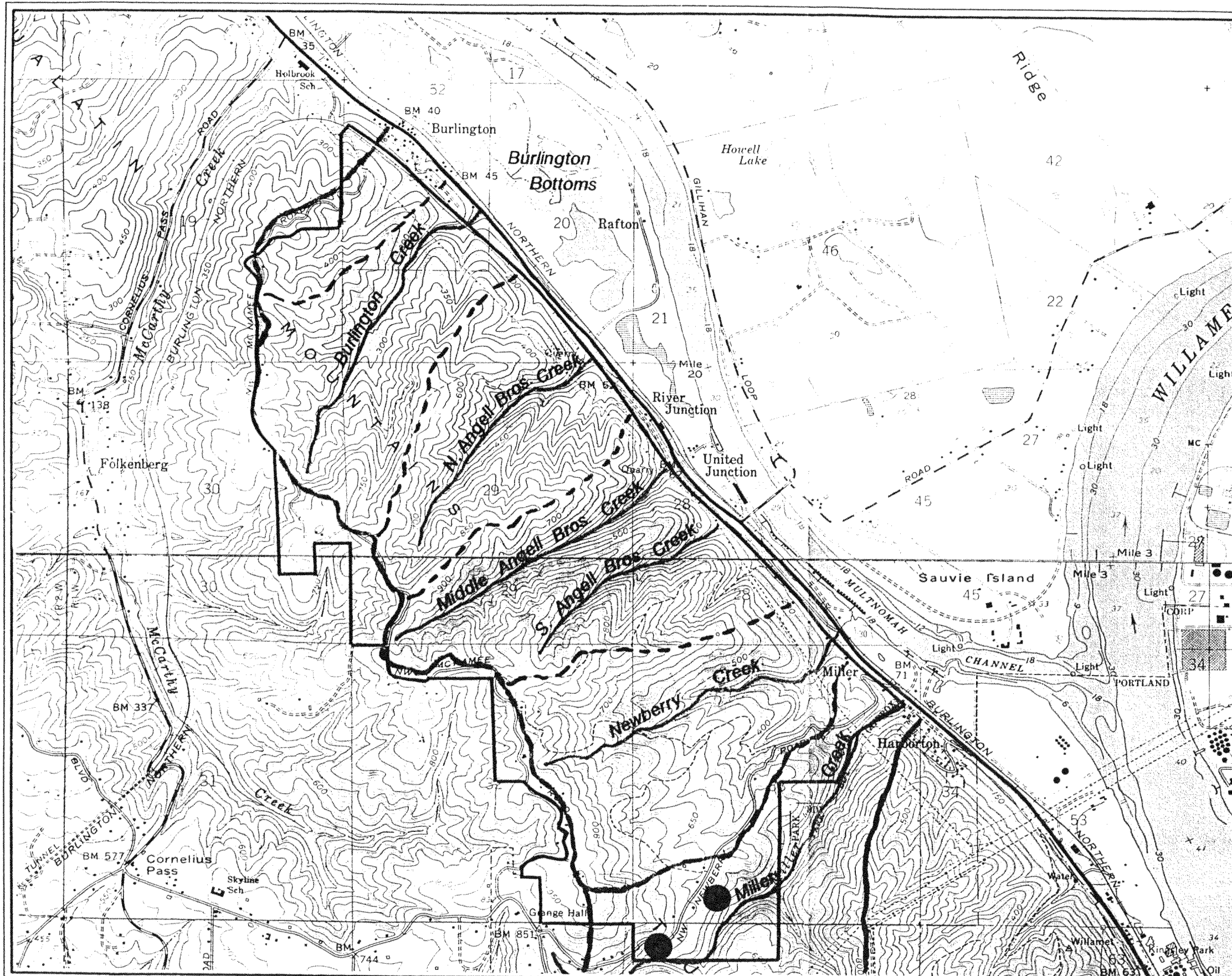
WILDLIFE HABITAT ASSESSMENT

STREAM NAME	SITE NO.	Water:				Food:			Cover:			Additional Values:				TOTAL SCORE
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	
Miller Creek	1	8	6	8	3	4	4	2	5	4	4	4	3	4	0	59
Miller Creek	2	8	6	8	3	4	4	2	4	4	3	4	4	3	0	57
Miller Creek	3	8	6	8	4	4	4	2	4	4	2	3	4	2	0	55
Miller Creek	4	8	6	8	3	4	4	2	4	4	2	3	4	3	0	55
Miller Creek	5	8	6	8	3	4	4	2	4	4	2	3	4	3	0	55
Miller Creek	6	4	3	8	3	4	4	2	3	4	2	4	4	3	0	48
Miller Creek	7	4	3	8	3	4	4	2	4	4	2	4	4	3	0	49
Miller Creek	8	4	3	8	3	4	4	2	4	4	2	4	4	3	0	49
Miller Creek	9	4	3	8	2	4	4	2	3	3	3	2	2	3	0	43
Miller Creek	10	4	3	8	2	3	3	2	3	3	4	2	2	2	0	41
AVERAGES		6.0	4.5	8.0	2.9	3.9	3.9	2.0	3.8	3.8	2.6	3.3	3.5	2.9	0.0	51.1

RIPARIAN CORRIDOR

STREAM NAME	SITE NO.	Width Rip. Corridor*		Extent of Overhead Canopy:			
		Left (ft)	Right (ft)	0-25%	25-50%	50-75%	75-100%
Miller Creek	1	75	100	X			
Miller Creek	2	70	75	X			
Miller Creek	3	50	70	X			
Miller Creek	4	75	75	X			
Miller Creek	5	50	60	X			
Miller Creek	6	50	40	X			
Miller Creek	7	65	50	X			
Miller Creek	8	65	50	X			
Miller Creek	9	100	100		X		
Miller Creek	10	100	100		X		
AVERAGES		70.0	72.0	80%	20%		

*Width of riparian corridor in feet (in segment) looking downstream.

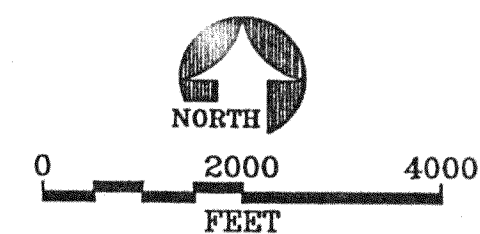


Significant Streams Study for Multnomah County

McNAMEE-HARBORTON AREA

LEGEND

- Water rights permit
- Study area boundary
- Watershed boundary
- ~ Stream segment inventoried



Base map from U.S.G.S. 7.5-minute
quadrangles (Linnton, Sauvie Island,
Portland, Hillsboro, and Dixie Mountain)

7935258 March 1994

FIGURE

Urban Streams Council

a program of
The **Wetlands** Conservancy

6/13/94

ESTHER LEV

Submittal

June 13, 1994

Multnomah County Board of Commissioners
Multnomah Planning Commission
1120 SW 5 th Avenue
Portland, Oregon 97201

To The Multnomah County Board of Commissioners and Planning Commission;

The Urban Streams Council a program of The Wetlands Conservancy, a non-profit land trust, is pleased that Multnomah County is taking steps to recognize the significance and protect the streams of Multnomah County. We see this Goal 5 process as an opportunity to look at the ecology and health of entire watersheds in the county rather than just the stream itself. We are disappointed that the Chapter 3 Stream Resources of The West Hills Reconciliation Report limits the Goal 5 stream analysis to the stream channel itself, and identifies the adjacent riparian area as the area of impact. The riparian zone is a critical portion of the stream channel ecology, lack of vegetation and in turn shade over the creek, increased sediments from erosion, flows and contaminants entering the stream all negatively impact the health of the stream and in turn fish and wildlife habitat values. A healthy riparian zone will promote higher fish and wildlife habitat, water quality and quantity values.

The Goal 5 process requires clear delineation of the resource area and designation of the area impact. In order to identify the resource area boundary of the stream system, the entire stream must be visited in order to identify and quantify the amount and health of the riparian area. We are concerned with the quantity and quality analyses of the stream inventories. In addition, we feel that it is critical that the riparian zone be designated as part of the resource area and that the area of impact is the entire watershed. Within a watershed activities several miles from the stream, such as development, agriculture, logging and mineral aggregate if done improperly can have irreversible negative impacts on the health of the stream. The activities within the headwaters or upper reaches of a watershed can impact the entire stream corridor. It is difficult to separate out reaches of a stream corridor, as some portions being significant and others insignificant, as the streams functions as an entire system. In many cases, the areas that were determined insignificant have a high restoration potential which would increase the values and significance of the site within the next five to ten years. It is impossible to cut out a section of stream and have the up and downstream portions function as a healthy stream. In addition to improving the fish and wildlife habitat and water quality values, restoration opportunities within a watershed promote opportunities for neighbors, residents of the watershed and schools to be involved in rehabilitation of an important resource with their community.

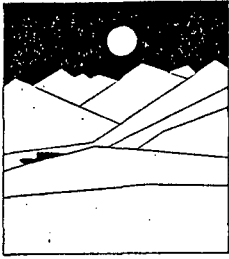
Page III-9 states that wetland values were not considered as part of the stream resources inventory. Wetlands within these stream corridors are critically linked hydrologically to the streams, and often provide increased wildlife habitat and water quality values. Conflicting use impacts within the watershed, will negatively impact the wetlands in the same ways as the stream corridors. We do not understand how these two resources can be separated from one another.

The County recommendation is to apply the current SEC zoning to the significant stream areas. We feel that the current SEC standards are not strong enough to protect these valuable streams resources. We would encourage a minimum of 100 foot vegetated buffer

from the top of the stream bank to any residential, forestry, mineral and aggregate and agricultural uses. We also encourage the County to promote restoration opportunities within the watersheds whenever possible. We thank you for the opportunity to comment on the West Hills Reconciliation Report, and would be happy to work with Multnomah County on reviewing future documents and developing restoration strategies.

Thank you,

Rosemary Furfey
Rosemary Furfey
Board President
The Wetlands Conservancy



**OREGON
NATURAL
RESOURCES
COUNCIL**

MAIN OFFICE

YEON BUILDING, SUITE 1050
522 SOUTHWEST FIFTH AVENUE
PORTLAND, OREGON 97204
503-223-9001

*Protecting Oregon's lands,
waters and natural resources*

TO: Honorable Chair Stein and Multnomah County Commissioners

FR: Lyn Mattei, ONRC Land Use Director *Lyn Mattei*

DT: June 13, 1994

RE: Multnomah West Hills and Howard Canyon Reconciliation
Hearing, June 13, 1994

The Oregon Natural Resources Council has been involved in Multnomah County's Goal 5 Periodic Review process for at least two years. We commend the County for the major efforts it has made to comply with the Department of Land Conservation and Development's (LCDC's) complicated, sometimes unreasonable, and seemingly punitive compliance directives. We are pleased that the County's May 23, 1994 Reconciliation Report recommends protection of the major wildlife corridor which is part of Forest Park. We find, however, that the Report is lacking in the following areas:

1. Agricultural Uses

Agricultural uses in the West Hills and especially Howard Canyon need affirmative regulation to maximize protection of riparian areas and to minimize sedimentation, erosion, turbidity, high temperatures, and non-point pollution in adjacent streams. Reliance on the Soil Conservation Service to regulate rural agricultural activities is misplaced and inadequate. Rural stream identification and protection need to be a priority.

2. Fish and Wildlife Resources

The Reconciliation Report's ESEE analysis for Howard Canyon apparently omits any consideration of ESEE consequences for wildlife. This is unacceptable. In addition, the Report fails to include fisheries resources in its ESEE analysis of uses that conflict with mining. Fish and wildlife resources are critical natural resources expressly included under Goal 5 and must be factored into any ESEE analysis of aggregate uses.

Proposed stream protection in both the West Hills and Howard Canyon are inadequate. At a minimum, the County should adopt protection at least as strong as that provided under Clinton's new forestry plan. In the alternative, the

County could even adopt the weaker stream protection rules which will go into effect in September 1994 under our Forest Practices Act regulations.

3. Burlington Bottoms

Burlington Bottoms is a significant wetland of local and regional concern and is recognized as a wildlife mitigation area of state-wide concern. The wetlands area was purchased and enhanced by Bonneville Power as a major mitigation site. BPA gave Burlington Bottoms to the County to protect and maintain, and the County turned it over to Metro.

Although the County has been entrusted with the maintenance and protection of Burlington Bottoms, its designation in the impact area found in the reconciliation Report eliminates almost all protection for this critical wetland. Although we are happy that the County has decided to protect the wildlife corridor adjacent to Forest Park, this does not justify the sacrifice of Burlington Bottoms. As proposed, the wetland will be degraded and probably eventually destroyed by excess sedimentation and polluted runoff from Angel Brothers Quarry activities. No mining activity should be allowed in the North Angel Brothers Creek watershed or in any other watershed that empties into Burlington bottoms.

Thank you for your time and consideration.

June 13, 1994

Arnold Rochlin
P.O. Box 83645
Portland, OR 97283-0645
(503) 289-2657

Testimony on West Hills Reconciliation Report

UNRESPONSIVE STAFF RESPONSES

Aggregate, Section IV

Page IV-49, Issues 1(a), 1(b), and 1(c) concerning **state requirements to consider other resource sites in evaluation location, quantity and quality**. Staff says the issue is that these factors "should be compared against other know resource sites." But the issue is that staff deliberately ignored quarries operating across the Columbia County line from the Angell Brothers quarry. Staff's answer on each issue is that they looked at the resources in Multnomah County. The law requires that, at a minimum, you must consider sites in Multnomah County. It neither allows nor encourages you to close your eyes to the most relevant resources in terms of quantity, quality and location, just because they're across the line. Why should you want to ignore this important information. It's notable that the authors of the Wildlife Habitat report showed more sophistication on the quarry issue than your aggregate expert. See pages V 43-47. They considered quarries in all of the surrounding areas, and their findings are significant. The same data used for the wildlife habitat report was rejected for the aggregate analysis because it's inconsistent with predetermined support for quarry expansion.

Page IV-49, Issue 1(d) and IV-50, Issue 2(a) concerning **impact area of the proposed aggregate mining expansion**. Staff alleges that I said the impact area is not defined. I said it was illegally defined. Staff considers only noise impact, ignoring other factors, to 1200 foot perimeter as the impact area. Rafton-Burlington Bottoms wetland would be profoundly affected by stream impacts. Other resources that would be affected beyond 1200 feet are the Multnomah Channel and the wildlife habitat corridor. Staff does not explain why the wetlands and the other resources identified by the public are excluded from the impact area. They ignored the scenic impact on Sauvie Island and they ignored the wildlife impact area identified in the report you commissioned.

Page IV-49, Issue 1(e) concerning **slope stability**. Staff implies that the issue was raised as a safety issue. It in fact concerns the quality of the site. A deep overburden requires that cuts be made at shallow angle and creates other increased mining costs for moving and storing overburden .

Page IV-50, Issue 2(b) concerning **traffic impacts**. I did not say that "traffic impacts were not considered". I said that staff wrongly rejected Highway 30 as a conflicting use. Staff responds by saying "traffic impacts were considered and determined not to [be] a conflict based on information received for the Oregon Department of Transportation." Staff's conclusion is based on information supplied by Angell Brothers, that there will be a maximum of 250 trucks a day (p. IV-9, ¶3-5). It's interesting that, in responding on another issue, the contention that the existing approved quarry site has a 60 year supply of aggregate, p. V-85, Issue 11, the staff rejects reliance on the Angell Brothers statement that rock crushing is limited to 810,000 tons per year. I'm willing to reject all of Angell Brothers assurances. But it is not tolerable for staff to accept them when they support expansion and reject them when they show no need for expansion.

Page IV-51, Issue 2(h), concerning **DEQ and DOGAMI standards**. Staff claims that it never intended to say that DEQ and DOGAMI standards assure no impact. But it did. In the undated resource analysis of Aggregate Resource Site #4, C 1-94, the staff said:

"The Rafton/Burlington Bottoms is a "3C" Goal 5 resource site. The existing mining operation is conducted in compliance with state regulations that insure no adverse impact that site [sic], as would be the case for any expanded operation." (p.16)

and,

"There would be no environmental effect on the Rafton/Burlington bottoms by an expanded mining activity since any expansion must be conducted under environmental control measures that result in no conflicts with the identified wetland resource." (p.20-21)

Streams, Section III

Page III-45, Issue 6, concerning criticism for **omitting the watersheds from stream impact areas**. Staff says "Impacts to streams beyond the riparian zone are much reduced, and unless practiced at a large scale are in fact negligible." This is a gross error caused by bias or ignorance. It takes very little development to destroy watershed function. Staff obviously assumes that watershed function is affected in proportion to impervious surface. But the effect is actually far greater than mere reduction of absorbing soil. The staff has chosen to ignore the Booth and Reinelt paper attached to my May 11, 1994 comments on the Significant Streams Studies of 4/8/94 and 4/28/94.

Page III-46, Issue 7, concerning **affect of quarry on watershed**. The staff response needs to be quoted to see the implications of word choices. Key words are underlined:

"Staff does not believe that the Angell Brothers mining operation will necessarily lead to the permanent total destruction of any watershed in which they quarry. Staff believes that the regulatory state agencies are able to do their job to control impacts and require for [sic] a good reclamation plan for the Angell Brothers quarry. For staff to take a position based upon the opposite conclusion (what is that?) would be to take a cynical position on the issue which is not appropriate."

The word "necessarily" is used as a cover; that is, staff can say we didn't say it wouldn't destroy watershed, only that it wouldn't necessarily destroy it. "Total" watershed destruction would, of course, occur only if a watershed is totally mined. I concede that if only 70% or 90% of a watershed is mined, there will be some watershed function left. State agencies, of course, "are able" to regulate effectively. But we have seen the evidence that regulation cannot be relied on. No criticism is intended or implied. Regulators are like police. They may be doing a good job when then apprehend a criminal though they had no power to prevent a particular crime and its impact. If the prosecution and penalties are sufficient, they may have an important deterrent effect. But a prudent person doesn't leave the door unlocked out of respect for the police.

Page III-50, Issue 15, concerning **property values**. In criticizing the report for considering only those effects of regulation that lower property values, and not considering how values are enhanced by regulation, I used an extreme example of prohibiting a steel mill in a residential zone. The staff belittles my comments because there isn't an actual proposal to allow steel mills in the stream impact area. The staff reply is an insult to the intelligence of the members of the commissions. The point is, that regulation that preserves healthy streams increases the value of riparian property. Where it supports an argument for

the economic importance of allowing development on streams, the staff is happy to talk about increased property values. "According to Rick Walker, a residential appraiser with Palmer Groth and Pietka, a stream will generally increase the value of any nearby dwelling." (page III-19). I'm sure Mr. Walker does not mean a stream that's dry all summer and that floods in the rainy season enhances value as a healthy stream does.

Wildlife Habitat, Section V

Note: Unlike the issues discussed above, the staff responses in this part of the report attempt to seriously address the issues and do not belittle or evade them. The staff shows respect and here deserves respect.

Page V-85, Issue 11, concerning **recoverable aggregate, number of years supply will last, value**, etc. In general, the staff here shows more sophistication regarding the quarry issues than is shown in the aggregate report. But there are some shortcomings. As discussed above, if we are to rely on Angell Brothers' statement in their application that maximum truck traffic will be 250 a day, why are we not to rely on maximum rock crushing of 810,000 tons a year? Values of extractable rock, whether the low of \$42 million or absurdly higher figures of nearly \$100 million, omit recovery costs, including wages, insurance, equipment, taxes, and other expenses. The economic significance of the resource for the ESEE analysis, is its *in situ* value, not its value after mining crushing and loading on a truck. As Mr. Parisi, Angell Brothers' counsel, frankly and helpfully pointed out in his Letter to the Planning Commission of October 12, 1992, calculations of value of aggregate in the ground must include a factor for the years that it would take to extract it. If the expansion area contains \$40 million dollars worth of aggregate, it has a different present value if it takes 5 years to extract or 100 years. In the former case, it would be worth nearly "face value", while in the latter case, it would be worth only a small fraction of the \$40 million. Its as if someone were to offer you \$40 million in cash, or offered to dole out \$40 million in annual installments over 100 years. Obviously the cash is worth far more because you could immediately invest it and, without touching the principal, get income that would exceed the principal payments from the 100 year dole. The result is that Mr. Parisi's estimate of \$42 million value of recoverable rock should be reduced to a small fraction of that, probably under \$10 million.

Page V-91, Issue 20, concerning **value of residential lots**. The staff response is exemplary. It examines the criticism, finds it to be valid, and uses it to improve the report.

Scenic Resources, Section II,

Page II-22, Location, Issues 1 and 2, concerning **scenic drives and "not seen" area**. The issue, as I presented it, was that the Board of Commissioners designated the east face of the hills as a significant scenic resource. Much public testimony included views of the hills as seen from roads and from viewing points within the hills themselves. These views of the hills must now be the subject of the ESEE analysis. Neither staff nor the Planning Commission has a right to exclude them without Board action. Staff has opposed the scenic designation entirely, from the beginning, and now seeks to minimize it. Staff does not make policy, and the Board should make that clear.



June 13, 1994
Friends of Retaining Channel Environment
Inc. (F.O.R.C.E.)
13010 N.W. Marina Way
Portland, Oregon 97231

Multnomah County Planning Commission and Board of County Commissioners
c/o 2115 S.E. Morrison
Portland, Oregon 97231

Dear County Commission/Commissioners:

We are a group of Multnomah County citizens who are members of a non-profit group, F.O.R.C.E., whose primary focus is the preservation of the unique scenic and natural features of Multnomah Channel and surrounding areas. We are writing in response to the Multnomah County ESEE analysis of the Angell Brothers Rock Quarry site, and we would to oppose their recommendations to allow expansion the operation beyond the current site. Our opposition is based on the following concerns:

1. SCENIC DEGRADATION OF THE WEST HILLS

Multnomah County recently designated the east face of the West Tualatin Hills as a scenic resource. Doubling the size of the Angell Brothers site will cause a scenic blight in one of the most visible and prominent areas of the West Hills, visible from Sauvies Island, Highway 30 and Washington state. We agree with the Multnomah County staff findings from the November 16, 1992 hearing before the Multnomah County Commissioners regarding the Angell Brothers expansion plans, which concurs that a proper reclamation plan would not be feasible for an expanded operation. The County stated:

- a. The proposed Angell Brothers reclamation plan would not "allow the property to be used as envisioned by the comprehensive plan and the underlying district."
- b. The County remained unconvinced that, despite the applicant's evidence, that the site could be successfully reclaimed for forestry uses.
- c. "The applicant did^{not} show that its reclamation plan includes a timetable for continually reclaiming the land," as is required. "The applicant claimed it was impossible to develop such a timetable."
- d. "The applicant did not show that reclaimed surfaces will blend into the natural landforms of the immediately surrounding terrain."

For these above reasons, any plans to expand the Angell Brothers site would severely compromise the scenic qualities of the West Hills and surrounding areas, and these problems are not capable of being mitigated. An expansion should therefore be disallowed.

2. ENVIRONMENTAL IMPACTS

We believe that any expansion of mining activities at this site will severely affect water quality of Multnomah Channel, and degrade low lying wetlands below the site. The November 16, 1992 findings by Multnomah County regarding the Angell Brothers expansion confirmed the following problems:

- a. "The applicant did not show that sedimentation and erosion would comply with DEQ standards" and the applicant provided "no proof that it will comply with those standards."
- b. In fact, the County found "that the applicant will not meet the standards established in its existing waste water permit."
"Discharges of turbid water into Multnomah Channel, which already occur commonly, are likely to increase in frequency and magnitude."

We disagree that the degradation of North Angell Brothers Creek would have a minimal impact on the significant wetlands on Rafton-Burlington Bottoms. A similar wetlands habitat beneath the current Angell Brothers site has slowly filled in over the past 15 years as a result of runoff from current mining activities. This turbid runoff occurs in spite of current "environmental control measures", which are inadequate to protect either water quality or existing wetlands. To further protect water quality, the DEQ is proposing damming of the creek that flows into this wetlands, which will further destroy the wetland habitat. It is impossible to move the quantities of soil necessary to mine on these hillsides, without creating massive turbid runoff during the winter rainy season. This silty runoff will deposit inevitably into Burlington Bottoms or adjacent wetlands, and then into Multnomah Channel. An expansion of the mining site will only exacerbate current problems.

Overall, we feel that adequate measures to preserve scenic values, water quality, and wildlife/wetlands habitat are not possible given expanded mining operations at this site. We urge that the County reconsider the current ESEE analysis at the Angell Brothers Site to exclude expansion of mining activities.

Sincerely,



Mark Valeske, President
F.O.R.C.E.

June 13, 1994
Jodeanne Bellant MD
14956 N.W. Mill Road
Portland, Oregon 97231

Multnomah County Planning Commission and Board of County Commissioners
c/o 2115 NE Morrison
Portland, Oregon 97231

Dear County Commission and Commissioners:

I am writing to express concern regarding the current Multnomah County ESEE analysis, which would allow the Angell Brothers Quarry to expand their quarry operations to approximately double the current area. The Multnomah County Report and Findings regarding the Angell Brothers Site from November 16, 1992 outlined some serious problems with such an expansion, and noted numerous unmitigatable conflicts with other Goal 5 resources. I and many of my neighbors seriously oppose any mining expansion at this site, and we believe that it is in the best interests of Multnomah County to do likewise.

Currently, as houseboat neighbors located directly below the quarry site, we are exposed to high levels of dust and noise from the current quarry operations. Blasts from the site have disrupted our residences and dust from quarry operations coats our cars and homes, and presents an airborne health hazard, especially to residents with respiratory ailments. Expanding this operation will increase these detrimental effects on our community, as well as on neighboring homes and homesites in the West Hills.

We are also concerned regarding the safety of increased truck traffic on Highway 30. There have already been several fatal and near fatal accidents involving dump trucks traveling to or from Angell Brothers onto Highway 30 in the recent past. Reports from the Department of Transportation indicate that there is approximately one fatality or injury per month due to accidents on Highway 30 between the Sauvie Island Bridge and the Angell Brothers Quarry. Numbers of moorage residents, including myself, have been nearly rearended or side swiped by trucks exiting the Angell Brothers Road. Increasing truck traffic to this site would increase the public hazard along this already dangerous section of Highway 30.

The environmental impact of expanding this quarry site are substantial, and are not adequately protected by this ESEE analysis.

The Burlington Bottoms wetlands is a significant site which would be negatively impacted by silt runoff from the North Angell Brothers stream. Other wetlands not on the Burlington site, but on our adjacent moorage property, have already been negatively impacted by current operations, and would be further impacted with an expansion. The current silt runoff from quarry operations is carried by a stream that empties onto our upriver wetland property and the small but cumulative negative effects of quarry operations are clearly evident there. This wetland has been filled with silt from quarry operations over the past 13 years that I have lived on the moorage. Silt now flows directly into Multnomah Channel because the holding capacity of the land has been surpassed. Our once identical downriver wetlands still maintain standing water for most of each year. Because of this problem, the quarry cannot currently meet DEQ requirements for water quality; in no way could they meet them for an expanded site.

Expanded quarry operations will affect runoff into the two streams which feed our downriver wetlands and the wetlands of Burlington Bottoms. Hydrologists project, conservatively, that stream and silt flows would increase by 2 to 20 times current values with the original expanded quarry operation (283 acres). Settling ponds to control such an increase in runoff would require an 100 acre lake that was 7 feet deep (an impossibility for this site). It is obvious to me that expanded quarry operations would mean increased silt run off and consequently the demise of the downriver wetlands on our property and on Burlington Bottoms. These off-site effects were not adequately addressed in the ESEE analysis, and deserve more thorough investigation.

Lastly, I would like to reiterate some of Multnomah County's concerns on how an expansion of mining activities at the Angell Brothers site would negatively impact scenic values and may increase geologic hazards to neighboring properties. These items are quoted from the November 16, 1992 Multnomah County Decision on the Angell Brothers application for expansion of their mining site:

1. "The applicant has not produced a proposed reclamation plan that will allow the property to be used as envisioned by the comprehensive plan and the underlying district". "Despite the applicant's evidence, the Planning Commission remains unconvinced the site could be successfully reclaimed for forestry"
2. "The applicant did not show that its reclamation plan includes a timetable for continually reclaiming the land." "The applicant claimed it was impossible to develop such a timetable. The code does not excuse compliance with this requirement".
3. "The applicant did no show that reclaimed surfaces will blend into the natural landforms of the immediately surrounding terrain."
4. "The applicant did not show that the proposed operation will not result in the creation of a geologic hazard to surrounding properties".

It seems, based on Multnomah County's own review of testimony and on the Angell Brothers application, that a legal, adequate reclamation plan is impossible and expansion plans in this steeply forested site cannot rule out the creation of geological hazards. To allow any expansion under such circumstances, seems illogical and irresponsible.

In sum, please review the ESEE analysis carefully, and don't accept its approval of an expanded mining operation at the Angell Brothers site. Expanded mining at this site will impart too many negative impacts to scenic values, water quality, wetland and wildlife habitat, and neighboring properties. These impacts are potentially unmitigatable, by the County's own admission, and should never be allowed to occur.

Sincerely,



Jodeanne Bellant M.D.



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BOARD OF
COUNTY COMMISSIONERS

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MULTNOMAH COUNTY
OREGON

Multnomah County Board of Commissioners
c/o The Clerk of the Board
1120 S.W. Fifth Avenue
Portland, OR 97204

Multnomah County Planning Commission
c/o Scott Pemble, Director
2115 SE Morrison
Portland, OR 97214

June 17, 1994

Re: "West Hills Reconciliation Report", May 23, 1994

Dear Commissioners:

We appreciate the opportunity to submit these additional comments to the file for the "West Hills Reconciliation Report".

At the June 13, 1994 joint hearing of the Multnomah County Board of Commissioners and the Multnomah County Planning Commission, it came to our attention that the Oregon Department of Fish and Wildlife (ODFW) has submitted two conflicting opinions to the file regarding the level of protection necessary for the North Angell Brothers Creek, which drains into the downstream Goal 5 wetland, Burlington Bottom.

A May 19, 1994 letter concluded that ODFW does not believe the North Angell Brothers Creek warrants a determination of "significance", i.e. no protection, while a June 9, 1994 letter (attached) from Sue Beilke, Burlington Bottom Project Coordinator for ODFW, recommended protection of the entire length of the North Angell Brothers Creek, including enhancing the habitat of the lower section.

ODFW's Habitat Conservation Division did not advise Metro, nor the owner (Bonneville Power Administration) of the site visit they conducted to Burlington Bottom on May 4, 1994, on which the May 19, 1994 letter was based.

Metro's testimony and written comments (provided at the June 13 public hearing) regarding protection for the North Angell Brothers Creek were based on the reasoning of Sue Beilke's June 9, 1994 letter and my personal involvement in the Burlington Bottom management planning team. The two year cooperative management planning effort coordinated by Ms. Beilke for ODFW, involved the expert advice of several other resource agencies including Bonneville Power Administration (the current owner of Burlington Bottom), The Nature Conservancy and U.S. Fish and Wildlife Service. The Burlington Bottom Management Plan/Environmental Assessment document is in its final preparation phase prior to federal National Environmental Policy Act (NEPA) review. The joint management plan/environmental assessment reflects hundreds of hours of expert knowledge and recommends appropriate protection measures, including protection and enhancement of watersheds contributing to the Burlington Bottom wetland.

Technical appendices to the document include a hydrological report (W&H Pacific, 1993), which confirms that there is high erosion potential associated with the clear cut section of the North Angell Brothers Creek. A well-reputed Portland Hydrologist, Jon Rhodes prepared a statement (September 1992) regarding the quarry expansion (entered into the file at the June 13 joint hearing) that predicts significant risk to the longevity and ecological health of Burlington Bottom from increased streamflow, erosion and sedimentation of the North Angell Brothers Creek.

ODFW's May 19 letter stated that ODFW manages the Burlington Bottom wildlife mitigation area, which is not true. In a recent discussion between Metro planner Jane Hart and Burlington Bottom Coordinator for BPA Charlie Craig (pers. comm. 6/10/94), Mr. Craig said that ODFW is under contract with BPA for Sue Beilke to prepare the joint Burlington Bottom Management Plan/Federal Environmental Assessment document. However, no contract or agreement exists at this time between BPA and ODFW for management of Burlington Bottom. BPA has yet to determine a strategy for who will manage the wildlife habitat mitigation area, but ODFW and Metro are being considered.

As mentioned previously, BPA is the owner and responsible for management of Burlington Bottoms as a wildlife habitat mitigation area. We have inquired whether they were consulted or notified of the West Hills Goal 5 review process which has implications for Burlington Bottom. Their response was that they were unaware that this process had been initiated. It is recommended that their comments be requested. Charlie Craig is the appropriate contact. He can be reached at 231-6964.

For the reasons stated above, we believe our June 13, 1994 letter recommending no quarry activities in the watersheds that drain into the Burlington Bottom wetland are based on sound, thorough and credible scientific studies and judgement. We believe we have proposed the minimum requirements to achieve protection of the North Angell Brothers Creek and the downstream Burlington Bottom and hope that you will incorporate them into the West Hills Reconciliation Report.

Thank you again for considering our comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Charles', with a stylized flourish at the end.

Charles Ciecko
Director
Metro Regional Parks and Greenspaces

enclosure

CC: Steve Oulman, Department of Land Conservation and Development
Robert Walker, Bonneville Power Administration
Jill Zarnowitz, Oregon Department of Fish and Wildlife
Neil Mullane, Oregon Department of Environmental Quality
Rena Cusma, Metro
Judy Wyers, Metro
Merrie Waylett, Metro

June 09, 1994

RECEIVED
JUN 13 1994

Multnomah County Planning Division
Dept. of Environmental Services
Division of Planning and Development
2115 SE Morrison Street
Portland, OR 97214

Multnomah County
Zoning Division

To Multnomah County Planning Staff:

I am writing in regard to the West Hills Reconciliation Report and the resource protection and conflict resolutions for wildlife habitat contained in this report. As the project coordinator for the Burlington Bottoms area, I am concerned about the proposed Angell Bros. quarry expansion and it's effects on fish and wildlife habitat in the surrounding area. Burlington Bottoms was purchased by the Bonneville Power Administration in 1991 for mitigation of wildlife habitat lost due to the construction of hydroelectric facilities on the Willamette and lower Columbia Rivers.

As a result of this purchase, important fish and wildlife habitat will be protected. In conjunction with protecting this area, it is also important that wildlife habitat in the surrounding lowlands and uplands also be protected, since many species utilize not one but many areas to meet their habitat requirements. Protecting habitat also is important in maintaining the diversity of plants and animals that are present. Allowing the quarry expansion in the North Angell Bros. Creek would conflict with habitat protection since it would destroy habitat and have negative impacts on water quality for the Burlington Bottoms area.

Approving the quarry expansion would also conflict with the intentions of Goal 5, which: requires cities and counties to develop comprehensive plans that will 1) ensure open space; 2) protect scenic and historical areas and natural resources; and 3) promote healthy and visually attractive environments in harmony with the natural landscape. Allowing the Angell Bros. Quarry to expand into the area that includes the North Angell Bros. Creek, which you have found to be "significant", would be:

1) in conflict with the requirements of Goal 5, since it would not protect the area's natural resources. The North Angell Bros. Creek that is said in the report to be of low quality downstream would be further degraded, thus having a detrimental impact on water quality, particularly to Burlington Bottoms. Since the upstream portion of this creek has been found to be of "high quality", it would be far better to give protection to the entire creek and enhance the lower area, thus protecting and enhancing habitat for wildlife and fish, and maintaining the "significance" of the stream as a whole.

Page 2 continued

2) in conflict with maintaining an environment that is in harmony with the land. The results of allowing mining expansion would not be in harmony with the land, and would destroy valuable wildlife habitat in this area. Though claims are made that the area could eventually be reclaimed, this has not been proven to be accurate as evidenced in past cases, and does not compensate for the loss of habitat and the degradation of water quality in the present.

The expansion of the Angell Bros. Quarry is not justified economically, as stated in your report, and when weighed against what it would do to the resources it certainly cannot be allowed. Your report states that the 3-C resource areas, including the Rafton/Burlington Bottoms area, "must be protected by limiting conflicting uses, of which mining is one". If we as stewards of the land do not protect our natural resources, who will?

Sincerely,

A handwritten signature in cursive script, reading "Sue Beilke".

Sue Beilke
Burlington Bottoms Project Coordinator
Oregon Department of Fish and Wildlife