July 1, 1994

OFFICE OF THE ZONING AND SUBDIVISION EXAMINER
KING COUNTY, WASHINGTON
700 Central Building
810 Third Avenue
Seattle, Washington 98104

DECISION ON AN APPEAL OF THRESHOLD DETERMINATION

SUBJECT: Department of Development and Environmental Services File No. C92G0001

PALMER JUNCTION GRAVEL PIT

34900 SE Hudson Road, east of Black Diamond

SUMMARY OF RECOMMENDATIONS:

Division's Preliminary:	Deny appeal
Division's Final:	Deny appeal, modify DNS
Examiner:	Grant appeal, subject to phased review

PRELIMINARY REPORT:

The Environmental Division's Preliminary Report on Item No. C92G0001 was received by the Examiner on November 5, 1993.

PUBLIC HEARING:

In conjunction with reviewing the Environmental Division's report and examining available information on file with the application, the Examiner conducted a public hearing on the subject as follows:

The hearing on Item No. C92G0001 was opened by the Examiner at November 18, 1993 at 9:20 a.m., in Hearing Room No. 2, Department of Development and Environmental Services, 3600 - 136th Place S.E., Bellevue, Washington, and adjourned at 4:30 p.m. The hearing reopened at the same location on the following dates: January 7, 1994 at 9:15 a.m., adjourning at 4:45 p.m.; January 12, 1994 at 10:40 a.m., adjourning at 4:40 p.m.; February 18, 1994 at 9:20 a.m., adjourning at 4:25 p.m. On April 28, 1994, the hearing reopened at 1:30 p.m., and closed at 4:40 p.m. Participants at the public hearing and the exhibits offered and entered are listed in the attached minutes. A verbatim recording of the hearing is available in the office of the Zoning and Subdivision Examiner.

FINDINGS, CONCLUSIONS & DECISION: Having reviewed the record in this matter, the Examiner now makes and enters the following:

FINDINGS:

1. Schrod-Mar, Inc. has applied for a grading permit to mine approximately 13 million cubic yards of gravel on an 80-acre portion of a 320 acre site within the QM zone. The applicant's January 25, 1993 environmental checklist describes the overall project as follows:

> "The proposal is for the expansion of currently operating gravel pit. The current permit is for the processing of approximately 2 million cubic yards of material over a 40 acre (1/16th section) parcel. Expanded operations would occur in three phases, and would yield an additional 32 million cubic yards of material over an additional 220 acres for a 260 acre total area of operations. This area is a portion of the total 320 acre currently zoned for quarrying/mining."

Recent grading permits which have been issued for the currently operating 40 acre portion of the

site are based upon the production of 150,000 cubic yards of gravel per year. At this rate of extraction the Phase 1 area, which is expected to produce 13 million cubic yards of material, would take 86 years to mine, while the entire site producing 42 million cubic yards would take 213 years to complete. However, the applicant's attorney at the public hearing represented that Phase 1 would take from 20 to 40 years to complete, in which case the maximum rate of gravel production could reach a total of 650,000 cubic yards per year.

2. The 320 acre QM zone which encompasses the Schrod-Mar application lies generally between SE Courtney Road on the north and the Green River on the south. Schrod-Mar leases the property from Meridian Minerals and uses the gravel produced on site for the manufacture of asphalt, employing a portable asphalt batch plant which has been on the property since 1987. While the southern boundary for the zone and property is located approximately 300 feet north of the Green River, actual site operations are confined to the portion of the property which lies further north above SE Hudson Road about 600 feet from the river. The gravel deposit is located within a terrace above the Green River, and generally north of SE Hudson Road. In its natural state the overall property is wooded, but major portions of it have been logged within the last 5 to 10 years. Adjacent residential uses lie generally to the east of the property along Hudson and Courtney Roads and to the west along the Cumberland-Kanaskat Road.

3. The first phase application is limited to the 80 acres which lie adjacent to the existing operation along SE Hudson Road. Phase 1 operations anticipate extending the pit to the north and to the east. For review purposes, the County also requested a schematic drawing of potential future phase expansions over the entire site. This schematic shows future phases of the pit further expanding east to the site boundary and north to Courtney Road. These projected future phases are all contiguous to proposed Phase 1 and the existing pit except for the portion projected for the northwest corner of the property. It is separated from current operations by a ravine and a stream. Except for this one feature, there are no site-imposed physical barriers or restrictions which dictate the configuration of mining operations.

4. A threshold determination of nonsignificance was issued for Phase 1 of the Schrod-Mar pit expansion on July 13, 1993. In general, the DNS appears to be predicated upon the King County Grading Section's review of the project and its conclusion that the expanded pit would produce impacts comparable to those presently existing on the property. Gravel mining at this location goes back at least to 1953, and QM zoning was adopted for the site on December 16, 1974 under the authority of Ordinance No. 2249. There is no evidence that environmental review was performed in 1974 when the QM zoning was adopted, or that any comprehensive environmental review has occurred since 1974 in conjunction with the issuance of operating permits.

5. An appeal of the threshold determination was filed on July 23, 1993 by Lester Pedersen on behalf of himself and area neighbors. Mr. Pedersen's appeal letter alleges that the project will cause contamination to the Green River and adjacent wetlands, and will cause a variety of air quality impacts resulting from asphalt plant fumes, rock crusher dust and truck traffic. It also alleges impacts from noise and impacts to roads and traffic, forest foliage, aesthetics, streams and property values. Other contemporaneous comment letters were received from neighborhood residents raising issues with respect to land use and ground water impacts as well as reiterating some of the concerns identified by Mr. Pedersen. Finally, at the public hearing held on this appeal an additional issue was raised by the Muckleshoot Indian Tribe concerning the overall geologic stability of the area. Based on the public policy underlying SEPA that environmental amenities and values shall be given full consideration in decisionmaking, the scope of the hearing was expanded to include review of groundwater and geologic issues. Sufficient opportunity was afforded to the applicant and to the Environmental Division staff to prepare responses to new issues beyond the scope of the Pedersen appeal letter.

6. SE Hudson Road serves the site and is a two-lane rural road which is only paved as far as the Schrod-Mar pit and then becomes a steep gravel road further east. While there are a handful of residences located east of the site on the graveled portion of the road, most road traffic is generated by trucks serving the pit. In recent years there have been problems between the applicant and the County concerning Schrod-Mar's placement of gravel stockpiles within the road right-of-way. This problem now seems to have been alleviated and appears to result directly from the fact that the current pit area is too small to adequately accommodate stockpiled materials. As the pit expands, however, this shortage of workspace should disappear as greater floor area will be created.

7. At its western terminus Hudson Road intersects the Cumberland-Kanaskat Road at an oblique angle. Because of this angle, area residents report that trucks turning left (or south) onto Cumberland-Kanaskat are required to cross the centerline in order to make the turn, as do trucks approaching from the south toward Hudson Road. Residents also testified that this turn can be dangerous because of sight distance limitations to the south due to Cumberland-Kanaskat Road curvature.

   It is not clear to what extent sight distance issues were analyzed by the King County Roads and Engineering Division in its review of this application. Exhibit 110, a letter dated November 17, 1993 from Traffic Engineer Lloyd Neal to appellant Lester Pedersen, suggests that while the Division looked at accident records for this intersection and found no pattern of incidents, it did not review sight distances because the road was built prior to enactment of the King County Road Standards and is not subject to being reviewed under current requirements. The Neal letter implies, but does not state, that current entering sight distance standards are not met at this intersection.

8. Analysis of the significance of entering sight distance problems at the Cumberland-Kanaskat Road depends necessarily on some perception of the level of traffic use anticipated from the pit proposal. Unfortunately, the information which has been generated on the traffic volume issue seems to be scant and contradictory. The applicant's environmental checklist contains the following statement with respect to traffic impacts:

   > "The proposal would generate approximately 100 truck trips, average, per day for 12 hours per day, 6 days per week. Peak volumes would occur during the early hours of operation. Volumes will fluctuate seasonally, with higher volumes during construction season, offset by lower volumes during the winter months."

   This information is carried forward into the determination of nonsignificance issued by the Environmental Division, which notes that "the proposal will generate an average of approximately 100 round-trip truck trips per day". However, this data does not seem to have informed the analysis of traffic generated by the King County Roads and Engineering Division. In response to an inquiry from Mr. Pedersen, Mr. Neal in Exhibit 110 offers the following comment:

   > "You state that the application, if approved, will generate truck traffic at the rate of 15 trips per hour (one every four minutes) rather than an existing two per hour (one every 30 minutes). Subsequent to receiving your second letter, my staff contacted the applicant directly to confirm the difference in trip generation between the existing and proposed operations. The applicants state that though the site may expand, the operation will not, and that existing trip rates you provided are incorrect."

9. The problem with Mr. Neal's response is that the figures quoted by Mr. Pedersen are derived from the checklist and confirmed by the DNS. 100 round trip truck trips each day over a 12 hour day averages 8.3 round trips or more than 16 one-way trips each hour. If these vehicles are standard truck-trailer combinations, an average of 100 round trips per day generates a total volume of material exported from the site in excess of 600,000 cubic yards per year, which corresponds to the 20-year timeframe projected for Phase 1. While the percentage of asphalt mix which is comprised of gravel is not described in the record, the checklist traffic data suggests that the level of operation anticipated involves mining at least twice the 150,000 cubic yards of gravel per year projected under existing grading permits.

10. The level of noise impacts is also an issue that has been raised by the appellants. In particular, residents who live west of the site report that the rock crusher and the asphalt plant, under some circumstances, are sufficiently loud as to interfere with normal conversation. These impacts seem to be worst when the prevailing wind is blowing from east to west and in the early morning hours. The applicant commissioned an acoustical study which was issued on November 19, 1993, subsequent to the DNS and about the time the public hearing opened. Although this study has been submitted to the Seattle-King County Department of Public Health for review, no substantive analysis is available. A December 21, 1993 memorandum from Curt Horner, Supervisor of the Chemical and Physical Hazards Program of the Health Department, raises certain formal objections which prevent further analysis from being performed. Mr. Horner states that the study "has been presented in such a way that it is extremely difficult to read" and objects that the discussion of ordinance standards refers to the 1963 King County Code rather

than the current version.

Beyond Mr. Horner's objections, there are other problems with the noise study. First and foremost, it models future pit noise as a comparison with existing pit noise. Because the current pit will be shortly exhausted and in the future no noise from pit operations will exist unless an expansion is approved, analysis of the impacts of the proposed expansion also should be modeled against a reference consisting of no pit operations at all. Moreover, absent Health Department review, County staff is not in a position to evaluate the noise studies' assumptions regarding the proper location of source emissions and receptor properties. Further, the report accords a substantial attenuation effect to on-site stockpiles, which are by nature shifting phenomena. Finally, the effectiveness of attenuation barriers is not analyzed in terms of prevailing westerly wind patterns or early morning temperature inversions. The effects of these meteorological phenomena are dismissed by the noise consultant on the basis of their improbability. In all, the foregoing questions and criticisms make it impossible to accept the recent noise study in its present form as authoritative on the issue of noise impacts.

10. One of the primary concerns of the appellants which was described in detail by nearly every neighborhood resident who testified involves the air pollution impacts of the Schrod-Mar gravel pit operation. Two principle sources of emissions were identified: the rock crusher, which produces dust when material is processed; and the asphalt batch plant which, it is alleged, emits an oily mist. Area residents claim that both discharges settle on their properties and variously interfere with breathing, clog equipment and discolor painted surfaces. The most vocal complainants live to the west of the pit site and identify more intensive impacts when winds from the east are blowing emissions across their properties. With respect to the oily mist from the asphalt plant, the testimony of neighborhood residents was that such emissions were worse in the early morning hours than later in the day. The applicant denies that the impacts experienced by the area residents are caused by the gravel pit operations. The applicant points out that stockpiles are wetted, spray bars have been installed on the rock crusher conveyor system, and emissions from the site are monitored by the Puget Sound Air Pollution Control Agency. As described by the applicant, dust emissions from the asphalt plant are processed through a scrubber, and the vapors are essentially steam.

12. The universality of descriptions by residents west of the site that emissions are experienced on windy days indicates at a minimum that under adverse meteorological conditions air quality impacts from the plant do exist. The fact that the residential testimony is consistent in describing such impacts as increasing after the asphalt plant was installed in 1988 demonstrate that at least some of the impacts originate with that facility. Early morning photographs taken by Carol Isakson within Exhibit 61 show that the dust emitted from the site at times is substantial and carries to off-site locations. Testimony that the oily deposits are encountered early in the day suggests that the asphalt plant is least efficient when operating from a cold start and, when normal operating temperatures are reached, the emissions probably become negligible.

13. Environmental Division review of air quality impacts seems to have been minimal. The staff report submitted by the Division states that "review of the SEPA record indicates that the SEPA planner reviewing the project had no information to indicate the presence of an asphalt drum mix plant on the site. However, further investigation after the determination was issued, leads to the conclusion that the proposed pit expansion will not induce any additional impact from the asphalt facility over and above what may be occurring now."

In general, the staff relies upon the fact that the site is monitored by PSAPCA to assure that air quality impacts from the site are not adverse and significant. The record demonstrates that PSAPCA has visited the site on a regular basis for inspections, with a citation issued in 1991 which resulted in an improved spraying mechanism installed on the crusher conveyor belt. Nonetheless, in the absence of information indicating how PSAPCA measures air quality impacts and how those measurements relate to SEPA standards, it is not possible to draw firm conclusions about the environmental effect of PSAPCA monitoring. In view of the testimony offered by the appellants, it seems clear that under windy conditions and in the early morning hours emissions from the site reach off-site properties to the west.

14. The Palmer area has an average rainfall in excess of 90 inches per year, and the ridge above the gravel pit site is laced with streams. While a number of these streams appear to infiltrate once the gravel deposit is reached, two extensive systems traverse the general neighborhood at the west and east ends of the site. Of particular concern is the stream which crosses the northwest

corner of the site just beyond the limits of Phase 1. It consolidates a number of upstream branches and provides a perennial flow of good quality which serves as a drinking water supply for the residents of Palmer. An intake along this creek exists a short distance north of Hudson Road and pipes water to 16 households. Mapping done by the appellants suggest that a branch of this creek may impinge upon the northern boundary of Phase 1. While the applicant's proposed site plan provides a 100-foot buffer on each side of the main stem of this creek, mining impacts to upstream subsidiary branches could reduce flows and introduce sediment into the system.

15. A second creek channel which has been a principle focus of the appellants' testimony lies near the southeast corner of the site, where it crosses under Hudson Road in a culvert to a channel which empties to the wetland south of the road. This channel is fed by a ravine on the hillside above the road some few hundreds of feet east of the current pit. The testimony of neighborhood residents was that this creek formerly ran year-round but mysteriously dried up in about 1991. They suggest that the creek was diverted by the applicant to the pit and that this diversion has affected the hydrology of the large wetland south of the road. The applicant's consultants have viewed the ravine and contend that from its morphology it looks to have always been an erosional gully rather than a perennial stream.

The past character of this channel feature cannot be conclusively determined from the present record, but its loss seems unrelated to an analysis of the current project. In the first place, the stream is no longer present; therefore, its disappearance cannot be described as an impact of the current proposal. Moreover, there is no evidence of actual diversion of the stream to the existing pit operation. In view of the fact that the hillside above this gully has been recently logged, it seems more probable that the water course was diverted in the process of logging road construction. Finally, although the stream may have contributed to maintenance of wetland hydrology at the east end of the wetland south of Hudson Road, the primary hydrological sources for this wetland are the regional groundwater table and seepage directly from the Green River. Therefore, the disappearance of this stream is probably not a direct result of gravel pit mining, and the loss of flows is insignificant in terms of the overall wetland hydrology.

Finally, there was some testimony regarding the existence of a spring near the southeast corner of the proposed Phase 1 pit expansion area which supplies water to the Delap residence on Hudson Road. Such spring lies near the eastern end of the Phase 1 expansion area and might be subject to impact during the later stages of that segment of the development. The remaining streams shown on the DNR mapping on the eastern flank of the property appear to be outside of the proposed Phase 1 expansion area. However, these tributaries may lie at least partially within the outer boundaries of the site and within later phase development areas.

16. The wetland study performed for the Schrod-Mar project, like the noise study, was completed subsequent to the issuance of the DNS. The study, as amended by subsequent staff review, indicates that there are three small wetlands onsite north of Hudson Road between the base of the slope and the road right-of-way. These wetlands are located a substantial distance east of the existing pit floor and are proposed to be separated from the Phase 1 expansion by a retained berm.
The principle wetland studied is a large feature which lies directly south of Hudson Road and is connected to the Green River. It lies within a former section of river channel or an ox bow. This wetland is perhaps ten acres in size, is forested, possesses year-round standing water and provides significant wildlife habitat. While it has not been fully delineated, it likely would merit a Class 1 rating under the King County wetland system. In addition to its hydrological contact with the Green River, this wetland is also fed by the regional groundwater table which lies below the current pit floor and seeps beneath Hudson Road into the wetland. Jon Hansen, a King County Wetland Ecologist, testified to investigating the Schrod-Mar site and observing three significant seeps feeding the wetland from the Hudson Road embankment. While these seeps showed signs of minor sediment deposition, the effect of such sediment collection on the wetland is regarded as insignificant. It is the consensus of expert testimony that if overland flows from the pit and the adjoining roadway are directed away from the wetland and pit excavations stay above the groundwater table, no adverse impacts to the wetland hydrology or water quality will be encountered. In actuality, as the pit floor expands further to the north, the likelihood of adverse impacts to the Green River wetland decreases rather than increases.

17. Surface water runoff from pit operations is proposed to be infiltrated on site, with the pit floor operating as a retention pond. In addition, a series of settling ponds are located at the southwest corner of the site below Hudson Road. Process waters from the asphalt scrubber and the gravel

wash system are piped to these ponds. After sediments settle out, these waters are pumped back into the processing system. In addition, drainage from stockpiles which currently lie near the Hudson Road right-of-way is also directed to the settling pond complex. This pond system existed on the site prior to Schrod-Mar's arrival, and the appellants have emphasized the fact that no overall drainage design exists. The drainage system seems to have been developed piecemeal according to the requirements of the time, but in the view of the Grading Section staff it has been appropriately modified to contain runoff on-site and functions adequately. While there have been past instances in which muddy runoff from the Hudson Road right-of-way has been allowed to escape off-site, such problems appear to have been corrected. Although no overall drainage design has been engineered for this project, in view of the site's highly permeable soils and as a consequence of ongoing adjustments to its structure, the drainage system appears to function satisfactorily for existing pit operations.

18. One of the primary concerns expressed by residents located northeast of the property was that easterly expansion of the gravel pit might interrupt the groundwater table which supplies residential wells along Courtney Road. It was suggested that such interruption would cause rapid drainage of groundwater away from these wells and their resultant desiccation. Existing well logs show that eight domestic wells lie within a half mile of the northeast corner of the Schrod-Mar property and the water tables for these wells lie between Elevations 940 and 1110. The current ground levels for Phase 1 near the northeast corner of the site are between Elevations 1150 and 1200, with the proposal being to mine this area to approximately Elevation 900. Since Elevation 900 is below the static water tables for the eight wells identified in the Courtney Road area, the concern is that such mining may interrupt the groundwater table and drain the wells.

19. In response to these concerns, the applicant's consultants, GeoEngineers, conducted a hydrogeologic study in the northeastern portion of the site. This study found that the residential wells within the Courtney Road area were at erratic levels of depth, indicating that the sources being tapped were not all within a single water-bearing stratum. Based on geologic mapping, the consultants concluded that the Courtney Road wells are within a massive landslide formation and the well sources lie within localized perches. By contrast, the pit expansion area on the Schrod-Mar site is within a highly permeable outwash deposit wherein the water table is located within the lower portion of the deposit immediately above the underlying till layer. Such being the case, the wells in the Courtney Road area do not represent the level of the regional groundwater table, and the outwash can be mined to within a reasonable distance above the till layer without piercing the water table. Only one of the two monitoring wells drilled by GeoEngineers encountered water and that was at Elevation 941. Based on the fact that the on-site pit well is at Elevation 830 and the wetlands south of Hudson Road are at approximately 840, Geo-Engineers projected an approximate groundwater table through pit cross-sections which suggest that most of Phase 1 can be excavated without encountering groundwater. Based on this data, if a requirement is imposed on grading permits which prohibits mining to within 5 feet of the groundwater table, adequate protection is provided to the wells in the Courtney Road area from impacts attendant to the mining of most of Phase 1.

20. The material proposed to be mined by Schrod-Mar consists of stratified Vashon drift which was deposited by streams during the retreat of the most recent glacier some 10-15,000 years ago. As such, it is a recent geologic feature. However, the 1984 geologic base maps for this area indicate two features which call into question the area's stability. First, there is a fault variously described as either the Lemolo or the Green River Fault which is inferred to exist either within the Vashon drift itself or directly to its north. Within the immediate vicinity of the Schrod-Mar site the maps all show this feature as implied; i.e., it is beneath the surface of the current geologic material. While the existence of this fault has generated a great deal of discussion and speculation, in the final analysis little is known about it. In particular, it is not really known whether the fault is recent or ancient in origin. Lacking such knowledge, it is impossible to say with any certainty whether the fault is active. However, in the absence of surficial evidence of the fault having recently moved, the most likely explanation is that the Green River Fault is of tertiary origin and 20 or more millions of years old. If such is the case, it is probably not to be regarded as a destabilizing feature.

21. The second and more serious feature of concern is a large landslide approximately one mile square in area which lies directly to the northeast of the site. It is agreed that this slide represents the failure of bedrock material from McDonald Ridge above the Green River Valley. What is in dispute is the age of the slide. If it is a recent, deep-seated and active feature as contended by geologist Patrick Reynolds of the Muckleshoot Tribe, then it may be younger than the Vashon

drift located at its base and the drift materials may act to buttress the toe of the slide. Mr. Reynolds' analysis is that if the drift material at the toe of a recent slide is mined, the buttress effect is reduced and the slide may be destabilized. Mr. Reynolds' concerns are exacerbated by the prospect that most of the timber stands which lie on the face of the slide are slated for logging within the next 10 years, a fact which will increase the snow pack and the percolation of water into the slide mass. The increase of water pressure within the slide mass could lessen its shear strength and increase its probability of failure. Mr. Reynolds supports his contention that the slide is of recent origin with an analysis of aerial photographs which he believes demonstrates a pattern of internal slope failures and a generally immature hydrologic regime. While the process of slide failure may continue to be minor in nature, the fact that the Puget Sound region is predicted to be due for a major earthquake presents the possibility that a destabilized mass could be subject to a catastrophic triggering event which is capable of impelling slide materials into the spawning grounds of the Green River.

22. Mr. Reynolds' interpretation is sharply opposed by that of Dr. Donald Tubbs, the applicant's consultant, who views the slide as being a feature considerably older than the deposition of Vashon outwash materials. In his opinion the slide is inactive subject to minor shallow distortions and not dependent upon the Vashon outwash deposits for stabilization at its toe. Dr. Tubbs sees no field evidence of recent slope movements and believes the slope has reached an angle of repose at approximately 15 degrees within and adjacent to the Vashon outwash deposit. He contends that even if the slide is a recent feature Phase 1 mining can occur without creating an effective slope greater than 15 degrees and therefore no increase in slope failure risk will be produced.

23. In general, the site-specific field data is sporadic and incomplete, and there is no objectively verifiable basis upon which to prefer either Dr. Tubbs' or Mr. Reynolds' interpretation. There is a history of relatively recent slides occurring along McDonald Ridge further east of the Palmer Junction site, which at least indicates a potential for slope failure. A major landslide occurred above Hanson Dam in the recent prehistoric past which caused the Green River channel to move some 1,000 feet south of its former location. Also, in 1991 a slide occurred within a logging area on McDonald Ridge which was precipitated by a road cut across the slope face.

24. For the most part, however, the argument has centered upon differing interpretations of the existing base maps for the area. Central to Mr. Reynold's analysis is his contention that both the 1984 DNR and USGS maps show the slide mass cross-cutting the Vashon drift at their intersecting boundaries. If these cross-cutting relationships exist, Mr. Reynolds argues that this fact establishes that the slide mass is the younger of the two formations. Dr. Tubbs has no answer for this argument except to suggest that the base maps are inaccurate. He also points out that the DNR map shows a pocket of landslide material lying south of the Vashon outwash, thus suggesting that the outwash lies on top of the slide.

25. Certainly, the disparities between the two 1984 maps suggest that the mapping information is at best approximate. However, to the extent that the maps are accurate, Mr. Reynolds appears to have the better of the argument. Both maps show cross-cutting relationships between the slide mass and the Vashon drift, albeit on opposite sides of the drift formation. The DNR map suggests a cross-cutting relationship on the eastern edge of the slide mass while the USGS map suggests such relationship more clearly on its western boundary. Dr. Tubbs' argument that the isolated portion of slide mass south of the Vashon drift demonstrates continuity between the larger mass and the smaller remnant is more difficult to accept. This is because the DNR map also shows a long, narrow slide mass lying along a valley directly to the west of the major slide area in question. This narrow finger points directly at the slide remnant which Dr. Tubbs has identified. A more likely interpretation is, therefore, that the slide remnant shown on the DNR map is the extension of an older slide event which occurred within the valley to the west.

26. The explanatory table provided by the DNR map also supports the hypothesis that the slide mass is to be regarded as younger than the outwash deposit. The table lists geologic formations in sequence according to relative age, and the landslide entry is shown as being more recent than the outwash. Because the McDonald Ridge slide mass is within an area which appears to have been personally investigated by the map's author, Mr. Phillips, and the descriptive note for the slide mass table entry specifically refers to this geologic formation, it is reasonable to conclude that Mr. Phillips believed the slide mass in question to be of more recent origin than the outwash deposit. Nonetheless, in view of the inconsistencies between the two base maps and the inconclusive nature of the field data, the actual age relationship between the landslide mass and

the outwash deposit remains speculative and subject to argument.

27. Finally, the appeal has raised a handful of issues which are relatively minor in nature and do not require extensive discussion. The aesthetic impact of the pit has been asserted to be a negative factor. While the total extent of the proposed pit expansion is major, no evidence has been submitted that it interferes with anyone's view corridor. In general, the pit's location on the hillside above the Green River insulates it from imposing direct view impacts upon neighboring properties. Mr. Pedersen has also alleged that the pit will have an adverse impact on surrounding property values, but again no evidence has been introduced to support this allegation and it involves a type of impact not normally reviewed within a SEPA threshold determination. Finally, impacts have been alleged with respect to the project's conflict with surrounding residential land uses. This impact would appear to be moot to the extent that the property has been designated for mining use since 1974 and the project merely implements the long-standing zoning for the site.

28. It is clear from the Environmental Division staff report and supporting testimony that the independent review of the proposal conducted under SEPA authority was cursory at best. Essentially, the SEPA staff relied upon the analysis of the Grading Section that operations were going to continue as before and that current site and operational controls were performing adequately. According to the Environmental Division staff report, on-site wetland hydrology yet remained to be studied and the SEPA planner was not even aware of the existence of the asphalt batch plant. In discussing the impacts of the project and their significance, the staff report relates in almost every instance that the level of operations is not expected to increase and therefore the impacts simply continue to be the same. However, such an assertion is only meaningful to the extent that relevant impacts have been previously identified and studied. If such impacts have not been quantified, then a statement that the proposal only continues such impacts has no analytical value. In the instant case, while the review conducted by the Grading Section may be competent with respect to analyzing the ongoing operational impacts of the existing pit, clearly such localized analysis does not address the broader cumulative impacts of expansion over a site which potentially encompasses 320 acres.

CONCLUSIONS:

1. The basic standard to be applied to the SEPA threshold determination appeal is that the SEPA record must demonstrate the actual consideration of relevant environmental impacts. With respect to those relevant impacts actually considered, the decision of the SEPA official is entitled to substantial weight on review and shall not be overturned unless clearly erroneous based on the record as a whole.

2. One of the purposes of SEPA is to provide a comprehensive review of the long-term environmental impacts of a proposal. We find no justification in the record for the Environmental Division's decision to limit environmental review at this time to the 80 acres designated by the applicant as Phase 1, even though it is likely that the mining of the entire site will occur over decades of time. WAC 197-11-055(2)(a)(i) provides for the current consideration of an entire proposal to the extent that "proposed future activities are specific enough to allow some evaluation of their probable environmental impacts". The line dividing Phase 1 from the overall project area is purely arbitrary in nature. There are no physical constraints which separate Phase 1 from the remainder of the site. The proposed gravel mining and asphalt manufacturing activity is expected remain constant throughout the site. We see nothing, therefore, which prevents present consideration of the cumulative impacts of development of the entire site from occurring at this time. Mining of the entire 320 acre site is a single course of action which needs to be reviewed within a single environmental document. In this manner the long term impacts of the proposal over its lifetime can be identified and quantified. The type of phasing proposed by the applicant, if taken as a basis for SEPA review, merely avoids the discussion of cumulative impacts and arbitrarily segments a single course of action into smaller components. While such phasing may make sense from a development standpoint, from the perspective of environmental review under SEPA the entire site subject to surface mining by the applicant should be subject to current review.

3. The record does not demonstrate actual consideration of the environmental impacts of the overall proposal to expand the Palmer Junction Pit by the King County Environmental Division prior to July 23, 1993, the date the determination of nonsignificance was issued. At most there

was reliance upon the review conducted by the Grading Section and its conclusion that the new operations proposed were simply an extension of the existing site. While this review may be sufficient to evaluate the impacts of operations within the vicinity of the existing pit, it clearly is inadequate with respect to analyzing the long-term cumulative impacts of project expansion beyond the immediate area of the existing facility. Further, a conclusion that future impacts will be no greater than existing impacts provides useful information only if the existing impacts have been fully identified and quantified. In view of the fact that the history of permitting at this location discloses only minimal review of environmental impacts prior to the filing of the current application, we conclude that no actual consideration of environmental impacts adequate for SEPA review purposes has ever occurred with respect to this project, and that the determination of the responsible official is not entitled to substantial weight on review.

4. The record discloses the existence of potential adverse environmental impacts in the areas of air quality, noise, ground and surface water, and geologic stability. A potential for impacts to traffic and roads also remains a possibility due to the fact that the staff review performed for this application appears to have been based upon traffic estimates which are approximately one-quarter of those levels disclosed in the environmental checklist.

5. Of the impacts identified, the ones which appear to be most clearly significant based on the record before us are those concerning geologic stability, ground and surface water, and air quality. While the local expansion of the immediate pit area may not raise serious questions as to geologic stability, clearly such issues need to be evaluated for the site as a whole. The present state of geologic information is not adequate to firmly establish whether the gravel deposit on the Palmer Junction site is buttressing the toe of the landslide which lies on the slope above it. In the absence of such definitive information, the interpretations provided both by Mr. Reynolds and Dr Tubbs each can be viewed as plausible depending on the emphasis one chooses to accord to the various items within the documentary and field records. While we suspect that Dr. Tubbs' analysis may eventually prove to be correct, due to the existence of a major earthquake risk in the Puget Sound region and in view of the potentially catastrophic impacts that a large slope failure would have on the fisheries resources of the Green River, we conclude based on present information that the risk of geologic failure remains sufficiently probable to require a clear and conclusive resolution. For SEPA purposes, therefore, the issue of geologic instability constitutes a probable significant adverse environmental impact.

6. In a like manner, impacts to ground and surface water resources do not seem to be a major issue in the immediate vicinity of the existing pit, but serious questions linger as one moves toward the periphery of the site. In particular, the stream system which provides a water supply to the Palmer community and lies within the northwest corner of the property needs to be assessed in terms of the conditions and buffers necessary to adequately protect that valuable drinking water resource. In the northeast corner the hydrogeologic study done by GeoEngineers establishes that the on-site groundwater table should be below the projected bottom of the Phase 1 pit at most locations. However, the study indicates that at the furthest extent of mining proposed by the applicant the pit bottom conceivably could intersect the groundwater table. This possibility either needs to be further clarified or restrictions need to be placed on mining activity which assure that no groundwater interception in the northeast sector could occur. Based on existing well and stream water resource uses, the impacts of gravel mining on the viability of such water resources is potentially significant unless adequate studies are performed.

7. With respect to air quality impacts, the record demonstrates that under certain conditions significant adverse impacts occur. These circumstances include atmospheric conditions, particularly winds blowing from east to west and occasional temperature inversions. In addition, there is the probability that emissions from the asphalt plant are worse in the early morning when the equipment begins operation from a cold start. The fact that rock crusher dust and asphalt plant emissions are regulated by the Puget Sound Air Quality Control Authority probably means that serious equipment malfunction should not occur. However, there is nothing in the record which affirmatively demonstrates that compliance with PSAPCA standards precludes the possibility of significant air quality impacts to surrounding properties. The overwhelming testimony of the appellants and other neighborhood residents is that such impacts do in fact occur.

8. The question of whether traffic and noise impacts from the proposal are significant cannot be clearly determined from this record. While the raw data from the noise study suggest a relatively low level of noise impact within the neighborhood from Phase 1 operations, the assumptions and

structure of the study are inappropriate and need to be revised. As noted above, the assumptions underlying the traffic review are in significant conflict with the data provided in the environmental checklist, and staff conclusions regarding traffic impacts therefore may be subject to reconsideration. In summary, while impacts from noise and traffic may not be described on this record as individually significant, within the context of review of the impacts of the entire site as a whole such factors require reconsideration and further analysis. Given the large amount of acreage which is subject to surface mining by this applicant and the absolute quantitative long-term effects of the proposal as a whole, these and other impacts become significant within the framework of providing an adequate comprehensive review of the entire 320 acre site.

9. While we conclude that the kind of phasing proposed by the applicant and accepted by the Environmental Division is inappropriate because it completely excludes from present consideration the overall long-term environmental impacts of mining the entire site, a more responsive phasing of environmental review may occur within a context which both allows long term total impacts to be evaluated but also recognizes that a limited short-term expansion of the current operation is feasible. To suggest that the review performed by the Grading Section staff is limited in value to the immediate vicinity of the existing pit is not to conclude that such review ought to be disregarded altogether. The record indicates that if the current pit is expanded at the rate currently allowed by existing grading permits, such expansion may occur over the next few years without creating unacceptable adverse environmental impacts. While the totality of impacts for the entire site needs to be studied within an EIS, there is at the same time no compelling reason to shut down current operations while such analysis is being performed. Accordingly, this decision will authorize phased environmental review. The first phase allows short-term expansion of the pit at its current location while more extensive environmental review of the long-term impacts of the entire site is pursued. Conditions have been attached to this decision which implement such phasing.

10. The Environmental Division has failed to identify, quantify or analyze the long-term cumulative environmental impacts of the proposed expansion of the Palmer Junction gravel pit. The conclusion of the Environmental Division expressed in its determination of nonsignificance issued July 23, 1993, that the probable adverse environmental impacts of the Palmer Junction gravel pit expansion proposal lack significance is not based on the actual consideration of environmental impacts and is clearly erroneous based on the record as a whole. An environmental impact statement is required to address and analyze the long-term cumulative environmental impacts of expansion of the existing Palmer Junction gravel pit.

DECISION:

The appeal is GRANTED, subject to the phased review provided within the order below.

ORDER:

The Palmer Junction gravel pit expansion proposal is subject to phased environmental review as follows:

PHASE 1.

For purposes of environmental review, Phase 1 shall be defined as encompassing those portions of the site lying north of Hudson Road within the southwest 1/4 and the west 1/2 of the southeast 1/4 of Section 11, Township 21, Range 7 East. The period of Phase 1 operation shall terminate on December 31, 1996. The mining and processing of sand and gravel for the manufacture of asphalt may continue pursuant to currently approved grading permit conditions and levels of operation within Phase 1 as defined herein, subject to the following further conditions of mitigation:

1. A berm shall be maintained north of Hudson Road from approximately Elevation 900 south to the right-of-way.

2. No mining shall be conducted at a depth greater than 5 feet above the ground water table.

3. A drainage plan shall be submitted showing pond sizes, flow patterns and infiltration rates, and oil/water separators shall be installed and maintained to treat runoff from the asphalt truck loading area.

PHASE 2.

Any permit approval for gravel mining and asphalt manufacturing operations conducted outside of the locations defined above as within Phase 1 and all operations at any location occurring after December 31, 1996, shall require the prior performance of an Environmental Impact Statement. Such EIS shall at a minimum address the impacts of the proposal on area geology, ground and surface water resources, noise, traffic and air quality.

ORDERED this 1st day of July, 1994.

_____

Stafford L. Smith, Deputy
Zoning and Subdivision Examiner

TRANSMITTED this 1st day of July, 1994, to the following parties of record:

Richard Allen
Richard Aramburu
Mike Archibald
Brian Beaman
Richard & Teri Beede
Dan Borracchini
David & Marcia Christman
Valerie Cunningham
Linda Delap
Kathrin Gardow
Jack Glanham
Teresa Harrison
Kevin Higgins
Carol Isakson
Doreen Johnson
Howard W. Kehrer
David Kircher
William Kombol
George Kresovich
Pat Locke
Rod Malcom
Ted Mittelstaedt
Robert Newman
Janice Parker
Larry Parker
CMC Heartland Partners
Lester Pederson
Plum Creek Timber
Raedeke & Associates
Mike Ramsey
Ridgeway Residence
Patrick Reynolds
Fred Rice
Howard & Pauline Rice
Peter C. Schroeder
Clinton Sharp
William Strom
Donald Tubbs
Lori Walker
Allan & Bella Whitehouse
Ken Williams/Group IV
Donald Winsor
Michael Yantis Associates

TRANSMITTED this 1st day of July, 1994, to the following:

Riley Atkins, Environmental Division
Luanne Coachman, Environmental Division
Ann Dold, Environmental Division
Kathy Fendt, Environmental Division
Jon Hansen, Land Use Services Division
Dave Haining, Environmental Division
Curt Horner, Seattle-King Co. Health Department
Joan Middleton, Dept. of Development and Environmental Services
Lloyd Neal, Public Works
Paulette Norman, Public Works
Barbara Questad, Environmental Division
Randy Sandin, Land Use Services Division
James Tracy, Land Use Services Division
Larry West, Land Use Services Division
Fred White, Land Use Services Division

MINUTES of the November 18, 1993, January 7, 1994, January 12, 1994, February 18, 1994, and April 28, 1994 public hearing on Department of Development and Environmental Services File No. C92G0001 - PALMER JUNCTION GRAVEL PIT (SEPA):

Stafford L. Smith was the Hearing Examiner for this matter. Participating in the hearing were Kathy Fendt, Fred White, Larry West, Jon Hansen, representing DDES; George Kresovich, Richard Aramburu, William Strom, Richard Allen, Donald Winsor, Lester Pedersen, Donald Tubbs, Brian Beaman, Ken Williams, Fred Rice, Alan Whitehouse, Patrick Reynolds, Janice Parker, Kevin Higgins, Rod Malcom, Peter Schroeder, and Carol Isakson.

The following exhibits were offered and entered into the record:

November 18, 1993:

Exhibit No. 1	Department of Development and Environmental Services Preliminary Report for the November 18, 1993 public hearing
Exhibit No. 2	Site plan
Exhibit No. 3	General location map
Exhibit No. 4	Threshold Determination dated July 13, 1993
Exhibit No. 5	Environmental Checklist dated November 1991 (revised December 1992)
Exhibit No. 6	Review chronology prepared by Barbara Questad, Environmental Planner
Exhibit No. 7	Appeal letter received July 23, 1993, with separate attached letter received from one of the appellant group
Exhibit No. 8	Tahoma/Raven Heights Area Zoning Map
Exhibit No. 9	Tahoma/Raven Heights Community Plan Policies regarding Resource Lands
Exhibit No. 10	1993 Certificate of Registration from Puget Sound Air Pollution Control Agency with attached Order of Approval dated June 16, 1993
Exhibit No. 11	SEPA Traffic Review Form from Paulette Norman, Traffic and Planning Section, dated March 2, 1993
Exhibit No. 12	Letter from Lloyd Neal, P.E., Traffic Engineer, to Lester Pedersen, dated October 20, 1993
Exhibit No. 13	Memo from DOT dated July 16, 1993
Exhibit No. 14	Composite site plan (oversize sheets taped together)
Exhibit No. 15	Current grading permit boundary map
Exhibit No. 16	Comment letter dated July 25, 1993 from neighborhood residents
Exhibit No. 17	KCC 21.40.020 regarding QM zone
Exhibit No. 18	Letter dated November 17, 1993 from Schrod-Mar to Kathy Fendt
Exhibit No. 19	Summary of Wetland Reconnaissance and Delineation
Exhibit No. 20	Acoustical Study for Palmer Gravel Pit
Exhibit No. 21	Photo taken July 23, 1993 by Carol Isakson, of subject gravel pit with area of seeps marked by Fred White
Exhibit No. 22	Map portion of Exhibit No. 15 above
Exhibit No. 23	Aerial photo of Palmer Junction Gravel Pit, taken September 30, 1993
Exhibit No. 24	Aerial photo of site vicinity, taken September 30, 1993
Exhibit No. 25	Aerial photo of site vicinity, taken September 30, 1993
Exhibit No. 26	Aerial photo of site vicinity, taken September 30, 1993
Exhibit No. 27	Aerial photo of site vicinity, taken September 30, 1993
Exhibit No. 28	Aerial photo of site vicinity, taken September 30, 1993
Exhibit No. 29	Aerial photo of site vicinity, taken September 30, 1993
Exhibit No. 30	Aerial photo of site vicinity, taken September 30, 1993
Exhibit No. 31	Aerial photo of site vicinity, taken September 30, 1993
Exhibit No. 32	3-D site plan model of Palmer Junction Gravel Pit by Lester Pedersen (oversize)
Exhibit No. 33	Map of subject site, with streams noted, on mounted board, by Department of Natural Resources
Exhibit No. 34	Original Department of Natural Resources map (same as #33, but with no markings)
Exhibit No. 35	USGS map of Green River District, prepared for DNR, with yellow and

	orange highlights
Exhibit No. 36	Compilation drawing of well log data
Exhibit No. 37	Well logs of neighboring sites
Exhibit No. 38	Video presented by William Strom regarding Snohomish County gravel pit blow-out
Exhibit No. 39	Jar of dust swept from Don Winsor's shed, February 1993
Exhibit No. 40	Photo of dust on snow at Winsor property, taken January 1993
Exhibit No. 41	Current grading permit conditions

January 7, 1994:

Exhibit No. 42	Lester Pedersen's summary analysis of issues on appeal
Exhibit No. 43	Assessor map mounted on oversize board, with stand-up assemblage attached
Exhibit No. 44	Written statement of Janice Parker
Exhibit No. 45	DNS water composite map mounted on oversize board, with markings of streams and slide
Exhibit No. 46	Weather data (3 pages)
Exhibit No. 47	Palmer Weather Station 65-year weather data
Exhibit No. 48	Valley Daily News article on weather, November 1990
Exhibit No. 49	Two (2) DNR memos re landslide, May 1, 1990 and July 31, 1990
Exhibit No. 50	Video by Kevin Higgins of wetland area from Hudson Road to Green River, taken December 12, 1993
Exhibit No. 51	Map showing location of Erickson/Nixon well
Exhibit No. 52	Video of wetland taken by Don Winsor January 5, 1994
Exhibit No. 53	Letter dated November 18, 1993 from Ted Mittelstaedt to Examiner
Exhibit No. 54	Photo taken July 24, 1993 by appellants
Exhibit No. 55	Photo taken October 26, 1993 by appellants
Exhibit No. 56	Statement of Alan Whitehouse January 7, 1994
Exhibit No. 57	Two (2) photos of gutters on Rice home
Exhibit No. 58	Further statements of Alan Whitehouse, January 7, 1994
Exhibit No. 59	Wind gauge readings on Winsor property
Exhibit No. 60	Four (4) photos of residue on Winsor property
Exhibit No. 61	Four (4) photos of residue on Isakson property
Exhibit No. 62	Photo of Isakson window sill, November 1993
Exhibit No. 63	Don Winsor's written statement, January 7, 1994
Exhibit No. 64	Written statement of Fred Rice, January 7, 1994
Exhibit No. 65	List of wildlife observed on or near subject site
Exhibit No. 66	List of appellant's proposed mitigations
Exhibit No. 67	Documentation by Carol Isakson re: size of subject pit
Exhibit No. 68	Muckleshoot Tribe documentation presented at January 7, 1994 hearing

January 12, 1994:

Exhibit No. 69	Letter dated December 27, 1993 from Robert Newman (DOE) to Lester Pedersen
Exhibit No. 70	Letter dated January 6, 1994 from Pat Locke (DOE) to Lester Pedersen
Exhibit No. 71	Notice of King County Code Violation dated November 10, 1993
Exhibit No. 72	Aerial photograph of entire 320-acre parcel, with zoning boundaries marked (oversize board)
Exhibit No. 73	Video on modern asphalt plants, drum facility version
Exhibit No. 74	Excerpt from CMI News, 1984
Exhibit No. 75	Copy of letter dated September 14, 1993 from Carol Isakson to Dick Gribbon, with attachments
Exhibit No. 76	Resume of Brian Beaman
Exhibit No. 77	Report prepared by Brian Beaman (GeoEngineers)
Exhibit No. 78	Resume of Donald Tubbs
Exhibit No. 79	Map of geology of McDonald Ridge near Kanaskat, from USGS survey 1984 open report
Exhibit No. 80	Enlargement of landslide area

February 18, 1994:

Exhibit No. 81	Letter dated February 8, 1994 from Lester Pedersen to Examiner, with attachments
Exhibit No. 82	USGS preliminary geologic map of Snoqualmie Pass 1:100,000 Quadrangle, 1984
Exhibit No. 83A	Photo of stream taken by Carol Isakson, February 14, 1994
Exhibit No. 83B	Photo of pit taken by Carl Isakson, July 25, 1993
Exhibit No. 83C	Photo of pit taken by Carol Isakson, February 14, 1993
Exhibit No. 83D	Photo taken inside pit by Carol Isakson, February 14, 1993
Exhibit No. 83E	Photo taken in southeast corner of pit by Carol Isakson, February 14, 1993
Exhibit No. 83F	Photo of berms taken by Carol Isakson, February 14, 1993
Exhibit No. 83G	Photo of settling pond taken by Carol Isakson, February 14, 1993
Exhibit No. 84	Transparency: map of general vicinity by DNR, 1984
Exhibit No. 85	Transparency: USGS preliminary map of Snoqualmie Pass 1:100,000 Quadrangle, 1984
Exhibit No. 86	Transparency: site plan map of Palmer Junction Gravel Pit
Exhibit No. 87	Transparency: slope profile map
Exhibit No. 88	Transparency: slope profile map
Exhibit No. 89	Transparency: Figure 5 from GeoEngineers report
Exhibit No. 90	Transparency: USGS topographic map of Snoqualmie Pass 1:000,000
Exhibit No. 91	Transparency: geology of McDonald Ridge near Kanaskat (USGS 1984)
Exhibit No. 92	Paper entitled "Seismotectonic Map of Puget Sound Region" by Howard Gower, etc, 1985
Exhibit No. 93A-B	Two (2) transparencies: Map keys for Exhibit No. 92
Exhibit No. 94	Transparency: Seismotectonic map of Puget Sound region
Exhibit No. 95	Transparency: Figure 3 from Exhibit No. 92, depicting hypocenters of deep earthquakes
Exhibit No. 96	Transparency: Figure 4 from Exhibit No. 92, diagram of regional seismic activity
Exhibit No. 97	Transparency: Washington Division of Geology and Earth Resources Circular 84, showing epicenters of earthquakes near Seattle
Exhibit No. 98	Transparency: Washington Division of Geology and Earth Resources Circular 84, showing earthquake hypocenters in Washington and Oregon
Exhibit No. 99	Three (3) transparencies: Paper entitled "Characteristics of Slope Failures Induced by 4/13/49 and 4/29/65 Puget Sound Washington Earthquakes" by Chleborad and Schuster, with map
Exhibit No. 100	Three (3) transparencies: Paper entitled "Landslides in Washington and Oregon" by Schuster & Chleborad, with map
Exhibit No. 101	Transparency: Map and text from paper by R.D. Miller on landslides
Exhibit No. 102	Two (2) transparencies: Text and graphs from paper by D.W. Tubbs on landslides in west central King County
Exhibit No. 103	Transparency: Figure 2 from paper by Gallster on Howard Hanson Dam, general site geology and plan of Howard Hanson dam

April 28, 1994:

Exhibit No. 104	Photo of one of the seeps in the big wetland
Exhibit No. 105	Copy of existing grading permit and attached conditions
Exhibit No. 106A-B	Grading permit application for site dated 1991, with grading plan maps (#3550-749)
Exhibit No. 107	Memo of Understanding between King County Parks, Planning & Resources Department and Washington State Department of Natural Resources
Exhibit No. 108	Memo dated January 15, 1993 from Fred White, showing routing and tracking of grading permit application
Exhibit No. 109	Memo dated December 21, 1993 from Curt Horner to Randy Sandin
Exhibit No. 110	Letter dated November 17, 1993 to Lester Pedersen from Lloyd Neal, King County Roads
Exhibit No. 111	Letter dated August 6, 1993 to Fred White from David Kircher, Puget Sound Air Pollution Control Agency

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