

ITEM	10
MANAGER'S REPORT #	16
COUNCIL MEETING	96/06/10

TO: CITY MANAGER

1996 June 05

FROM: DIRECTOR PLANNING AND BUILDING

SUBJECT: CHEVRON CANADA LIMITED
BURNABY REFINERY

PURPOSE: To respond to a series of questions raised in Council meetings on 1996 March 25 and April 01 relating to the history, the status, and the overall plan for development of the refinery and the associated buffer green belt.

RECOMMENDATION:

1. **THAT** a copy of this report be forwarded to:
 - B.R.A.C.E. (Care of Angela Homer, 4364 Cambridge Street, Burnaby, B.C. V5C 1N4)
 - The Heights Neighbourhood Association, 50 South Gilmore Avenue, Burnaby, B.C. V5C 4P5
 - Chevron Canada Limited, 355 North Willingdon Avenue, Burnaby, B.C. V5C 1X4

R E P O R T

1.0 Background:

Earlier this year, in response to an information circular distributed by Chevron Canada Limited to some of its immediate neighbours, a considerable amount of concern has been generated with respect to the refinery's presence in the area and future plans. These concerns prompted Council to request a report from staff at the 1996 March 25 meeting, which was followed by a delegation that appeared at the 1996 April 01 meeting and which requested a reply to a series of detailed questions.

The purpose of this report is to outline the questions raised, to provide information based on research of files going back to the early 1970's, and to present information on the oil company's response after considering various concerns expressed by residents of the area. Due to the breadth of topics covered by the questions raised, the sometimes technical nature of some of the

questions, and the fact that many of the present citizens of the area were not residents of North Burnaby when the refinery Modernization and Expansion Program was considered and approved through an extensive process starting in 1971, a summary of the salient points related to the City's approvals in the 1970's is included as an attachment to this report (Appendix 1). It is hoped that the summary will provide an overview of the types of issues addressed at the time when Chevron proposed expansion of its refinery and the terms of Council's agreement in principle to expansion, conditional upon achieving major improvements in matters concerning the land use concept, air quality, water (effluent) quality, boundary definition and buffering, safety, etc. The summary also notes significant decisions with respect to the creation of a green belt buffer adjacent the refinery boundary and a land exchange program designed to facilitate the securing of a continuous park strip with a pedestrian and cycle trail connecting the principal parks in the area.

The following sections of the report deal specifically with the request of Council (Section 2.0) and the questions raised by B.R.A.C.E. (Burnaby Residents Against Chevron's Expansion) in the course of Angela Homer's appearance before Council as a delegation (Section 3.0). In some instances the replies have necessitated obtaining comments from Chevron directly, and where this the case Chevron's input is incorporated and referenced accordingly. In some cases, additional City staff commentary is added and so noted.

2.0 Questions Emerging From Council's Request, 1996 March 25

At the regular Council meeting held on 1996 March 25, Council adopted the following motion with respect to the Chevron site in Burnaby:

"THAT staff prepare a report on the City of Burnaby's agreement with Chevron Canada from 1974 to 1976 regarding road closures, land exchanges and buffer zone."

A series of seven questions were raised for specific responses in this connection.

2.1 "What is the agreement the City has with Chevron?"

Response:

Burnaby's agreement in principle to the refinery expansion program in 1974 recognized the prevailing heavy industrial zoning of the refinery lands and the legal right to use the land in conformance with the Bylaw. In response to Chevron's submission of its Master Plan and the review by Burnaby staff and a number of external agencies, Burnaby approved the modernization and expansion plan in principle, contingent on satisfaction of a wide array of commitments respecting environmental matters and use, and subject to fulfilment of all Bylaw requirements. Implementation took place on a phased basis over the succeeding years and to date not all of the plant construction foreseen in the

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Master Plan has yet been undertaken.

One of the important conditions of Council's approval in principle on January 14, 1974, was the provision of a green belt using buffer zone properties as a local environmental improvement measure. Related to this objective were other specific requirements to assist in achieving this buffer, including:

- "the preparation and execution of a land exchange with the Municipality, possibly including acquisition by Chevron of certain additional properties, so as to create the ultimate consolidated boundary as envisaged;
- "the cancellation and vesting of title to certain redundant portions of road allowance in order to accomplish this,
- "A landscaping and painting program is to be combined with the proposed green belt and screening/buffering zones to better define the boundary and achieve greater harmony with the surrounding area", and
- "the execution of a suitable long-term lease of approximately one-half of the 5.7 acre parcel east of Willingdon Avenue for parks purposes at a nominal sum of \$1.00".

The "ultimate consolidated boundary" referred to above was established effectively as the north boundary of the "Scenic Highway" proposed road allowance, a 100 foot right of way that was initially proposed for road purposes but subsequently intended only for cycle and pedestrian trail purposes.

Chevron worked with staff to fulfill these and the other conditions of approval, and in the course of successive discussions in Council and meetings with area residents and associations a more detailed agreement on the method to secure the greenbelt was developed.

The essence of the agreement reached with Chevron in 1975 is that Chevron would acquire privately-held properties for sale on the open market in the designated buffer area at fair market value, and that first priority would be given to properties along the Scenic Drive alignment. The timetable was acknowledged to be over a long period, recognizing the constraints of Company budget limitations, the availability of properties, and the fact that the Company has no power of expropriation. It was agreed that properties acquired from time to time would be transferred to Burnaby within a reasonable time after purchase, in a vacant and grassed condition as specified by the Parks and Recreation Department and with retention of appropriate existing plant growth.

The mechanics of transfer have generally taken one of the following courses:

- a) transfer to Burnaby as part of a phased land exchange program for City lands and/or redundant road or lane allowances within the ultimate refinery boundary in return for Chevron-owned lands outside the boundary but within the buffer, on an equal area-for-area basis. Two phases have been completed to date: Phase I in 1975, and Phase II in 1991.
- b) Donation by Chevron, without involvement in a land exchange. Properties donated to Burnaby on this basis have not involved any land exchange transaction or "credit", and as a result have qualified for a receipt for corporate income tax purposes in accordance with Revenue Canada's regulations.

Further comments and a tabulation of the actual property transfers and areas involved follow under Item #2.7 below. In accordance with the agreement in principle and the report approved by Burnaby in 1985 in connection with the Phase II exchange, a third and final phase of the land exchange program has been envisioned for a future date, to establish the final boundary of the refinery lands. It is intended that a further report be submitted to Council at a later date to obtain Council's direction as to the completion of that program.

2.2 "What is the overall plan for the area , the buffer area and the refinery area?"

Response:

The refinery lands are governed by the prevailing M1, M3, and M5 zoning districts that apply to different portions, and the Master Plan for expansion has served as the guideplan when individual applications for development approval have been received and reported to Council. The lands are classified as part of the industrial land use framework in the Official Community Plan, and the foreshore and upland portions form part of the area of North Burnaby that is the subject of the Burrard Inlet Foreshore and Upland Area Management Plan currently underway. The residential neighbourhoods south of the refinery tank farm and process area boundaries are viewed as stable and gradually redeveloping single- and two-family residential areas that are not currently designated for alternative use, and that are important to the residential service area of the Heights commercial area along Hastings Street. The plan for the buffer area immediately adjacent the tank farm area is to continue to accommodate the remaining privately-owned single-family dwellings, but it is envisioned that in the longer term, subject to successful negotiations between Chevron and property owners who wish to sell, the lands will all be greenbelt City parkland, linking Montrose, McGill and Confederation Parks, containing a public walking and cycling trail, and providing an attractive and positive interface between the tank farm and the adjacent north slope residential area.

2.3 "How many phases are there in development of the site and what triggers them?"

Response:

The modernization and expansion program has proceeded on an incremental basis, and as noted above, the Company has not yet taken the opportunity to undertake the full extent of development depicted in the Master Plan. There is not a specific, finite number of phases as Chevron could choose to never realize the full potential of the expansion, but it is noteworthy that certain stipulations have been applied to the phasing (for example, it was agreed that there would be no major increases in storage tankage until after the in-line blender was in place, and the crude unit expansion was not permitted until after the sulphur recovery plant and certain other environmental enhancements were in place and operational). The refinery has tended to advance projects for approval in response to perceived market demands or opportunities, mandatory or scheduled product refinements, safety or environmental improvement reasons, or combinations of the above. As Council is aware, staff have reported on a Preliminary Plan Approval application for tank replacement and capacity increase in 1995 which we understand is partly driven by a need for additional tanks for reformulated gasoline and diesel stocks to meet auto emission reduction standards .

2.4 "Is there an approved landscape plan for any part or all of the area?"

Response:

In conjunction with approvals for various projects in the early years of the expansion and modernization program, a major landscaping initiative for portions of the refinery perimeter and areas within the tank farm was completed. Additional landscaping of areas that still required land acquisition and assembly was shown in conceptual form only, and an example is the north side of the 4300 block Eton Street which was consolidated following Phase II of the land exchange.

For Council's information, Chevron has advised this department by letter dated 1996 May 22 that having reviewed the situation concerning that specific area of their site, they have terminated their earlier plan for truck weigh scale and asphalt loading rack relocation in that area. The Company indicates that they are now committed to retaining the current refinery fence line along the lane north of Eton Street, and to leave their property on Eton Street, in the block between Rosser and Madison Avenues, as open green space. This will enable staff to work with Chevron to develop a suitable landscape plan along the lines of the earlier conceptual plan for that area, and it would be our intention to seek a planting plan that complements the eventual development of the rest of the open space buffer on public lands, and that respects the desires of nearby residents to preserve desirable views toward the Inlet and the mountains beyond.

It its May 22 letter, Chevron also renewed its earlier commitment to co-fund engaging a landscape architect to develop a master landscaping plan for the entire Chevron Buffer Zone area. This initiative has been the topic of extensive discussions in recent months with staff of the Recreation and Cultural Services Department, and is the subject of a report tabled by the Parks and Recreation Commission. In the view of this department, it would be very desirable that consideration of that jointly-funded project proceed in order to provide an up-to-date landscape concept plan for the entire greenbelt/buffer area.

- 2.5 "What is the status of the agreement Chevron has with Shell to do some refining for them and will the product be delivered by pipeline or do they plan on loading trucks for Shell at 250 Willingdon?"

Response:

The Company advises as follows:

"Chevron has been processing crude for Shell since the Shellburn Refinery discontinued operations. During 1995, seventy-nine percent of the products delivered to Shell were loaded over the refinery wharf into barges with the remainder shipped by truck."

Staff comment: As will be noted under the response in Section 3.1, Chevron is aware of the neighbourhood's concern with respect to truck traffic, and are examining alternatives.

- 2.6 "Is there any possibility to re-evaluate the decisions made pertaining to the Chevron site in the mid 1970's?"

Response:

Many of the decisions reached in the 1974/1976 period have been acted on and concluded; however, there are certain items like the final phase of the anticipated land exchange program that have not been concluded, and as mentioned earlier, are intended to be the subject of a future report, seeking a Council decision. Matters such as the type of park development in the buffer will also require decisions by Burnaby. In accordance with long-standing Council policy, staff will report to Council any applications for new tanks or significant development work associated with the refinery, and will evaluate these in the context of the Master Plan and the permitted uses and regulations of the Zoning Bylaw. Any replacement or physical expansion of the crude unit beyond the approved nominal design capacity (45,000 barrels per day) would be outside the bounds of the expansion program submitted in 1973 and would be submitted to Council for consideration. If this were to arise, it is expected that Council might wish to study the

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ramifications in a comprehensive manner, taking into account contemporary values and objectives in terms of land use impacts, economic and environmental considerations, traffic, noise abatement, aesthetics, and any other relevant aspects.

- 2.7 **"Provide an inventory of properties acquired by Chevron and how many are yet to be acquired including any timing mechanism as a result of properties that have been acquired; if Chevron has not acquired properties originally planned for, does that inhibit progress of Phase III?"**

Response:

Attached as Sketch 1 is an area map showing property ownership in the buffer area and areas figuring in the Phase I and Phase II exchanges, updated to June 1996. The map is coded in color to allow it to display both ownership and the mechanism (Phase I, Phase II, outright donation, etc.) by which areas of land came into current ownership. (Color maps have been distributed in Council members' packages; they are available for others on request at the Planning Department).

The following Table I provides an inventory of the 91 lots or portions of lots contained within the designated buffer area, in addition to McGill Park and existing dedicated roads and lanes.

As noted, of this total number, Burnaby presently owns 64 lots of which 11 were owned by Burnaby prior to Phase I of the Chevron land exchange, and the balance (53) have been obtained from Chevron -- 19 on a no-cost-to-Burnaby, donation basis under the greenbelt/buffer agreement, and 34 under the first two phases of the land exchange. Four (4) lots are currently owned by Chevron (and presently being held for use in the third and final phase of the proposed land exchange). At this date, 23 lots in the buffer area continue to be privately-owned. Expressed in terms of area, Burnaby currently owns approximately 28,500 m² of the total area of the 91 lots (approximately 40,300 m²), or 72% of the lot area.

Table II provides a summary of the areas of land conveyed under Phases I and II respectively. To conclude the Phase III area-for-area land transaction, if there is agreement to do so, Chevron would require approximately another 4,419 m² of land area (the equivalent of about 8 more standard lots). We are advised by Chevron that until a decision is made on whether or not Council wishes to proceed with Phase III, they are unable to determine whether to transfer the four currently Chevron-owned lots and account for them as "land bank" transfers for which no donation tax credit is applicable, or to donate them in pursuit of the buffer program, in which case a tax benefit is available. As noted above, staff intend to submit a report to Council to obtain direction,

setting out the ramifications and pros and cons of proceeding with completion of the exchange.

Following transfer of the four Chevron-owned properties, a total of 23 private properties will remain in the buffer area for future acquisition by Chevron and transfer to complete the park buffer. As can be noted from Sketch 1, the majority of the remaining properties are not within the alignment of the former Scenic Drive, but tend to be along the Carleton or McGill Street perimeters flanking McGill Park.

3.0 Questions Raised by B.R.A.C.E. Delegation, 1996 April 01

A series of questions was submitted in the course of the delegation by Ms. Homer; staff were requested to submit a report in reply. Several of these questions have required response directly from Chevron.

3.1 "What is the full extent of Chevron's plans?"

Response:

Chevron advises as follows:

"No physical expansion of the refinery land area over that agreed to in 1974 to define the southern boundary between Willingdon and Gilmore Avenues is planned.

Phases I and II of this program have been completed and a consolidated southern boundary has been accomplished but not yet fenced. Chevron's plans to proceed with the boundary defining landscaped berm fencing and parking changes are on hold until these enquiries have been addressed.

Phase III, the proposed closure of Eton Street, has not commenced but Chevron has purchased some buffer zone properties in preparation for this exchange.

Projects to accomplish mandated changes to our fuels qualities (i.e. reformulated gasoline to reduce automotive emissions) are under development and will be submitted for Council endorsement in the same manner as was done for Unleaded Gasoline and Low Sulphur Diesel projects completed during the past ten years. These projects increase the complexity of our processing and enable us to meet new legal requirements, but do not increase crude distillation capacity.

Through the innovative efforts of our work force and the addition of improved control technology we have achieved a sustained capacity of 7470 cubic meters per day (47,000 barrels per day). The foregoing do not require City Planning approvals.

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We hope to be able to reach and sustain 8745 - 9540 cubic meters per day (55 - 60,000 barrels per day) of crude processing using existing equipment, as a result of continuing improvements, innovations developed by our work force and completion of a number of advanced computer control projects. This increase will be necessary to meet our customer's requirements.

While refinery crude runs increased by 33% during the 1990 to 1995 period, refinery air, water and waste discharges have decreased by 40% via several voluntary initiatives. We are aware that increasing truck traffic is a neighbourhood concern and are reviewing alternatives to address the same.

The proposed land use scheme submitted as part of the 1974 council approval included tankage of 128,000 cubic meters capacity (800,000 barrels) to be constructed only after the gasoline blender had been completed and was in service. The subject blender was completed in 1995 and PPA 11332, which awaits reconsideration by Council, requests part of the tankage increment."

Staff Comment: concerning the statement on Chevron plans in paragraph 2 of their response to this questions, as mentioned in Section 2.4 above, the Company has recently advised in writing that they do not intend to proceed with their fencing changes and development in the 4300 block north of Eton, but rather intend to leave that part of the property as open green space.

With reference to the information given concerning the sustained and potential capacity of the refinery, staff would point out that the design capacity of the new crude unit, pursuant to the Master Plan, was rated at 45,000 barrels per day. The size of the crude unit has not been increased, and staff have been assured at each occasion when other parts of the process equipment have been upgraded and reported to Council, that those changes have not increased the throughput capacity of the refinery. The sustained capacity figures now being reported are higher than the initial design capacity of the crude unit, and Chevron officials explain that the increase is due to improved operating techniques, changes in feedstocks, and more advanced computer controls or plant operations, likened somewhat to "tuning up" an automobile engine, which have led to greater plant efficiencies. The officials point out that these innovations and technological enhancements have not required Burnaby approval, as they have not involved new "development" on the land, nor building permits, etc.

- 3.2 **"What is the current storage capacity of the total number of existing tanks? What is the capacity of the tanks now in use? What will be the total storage capacity of the tanks once the current expansion is completed that calls for the construction of 8 new tanks? What will be the final total capacity once all expansion plans are completed? What will be stored in them?"**

Response:

Chevron advises as follows:

"Current refinery storage capacity is 290,000 cubic meters of feedstocks plus products.

Four years from now, upon completion of the requested tank replacements, total storage capacity will be 354,000 cubic meters with capability to segregate both mandated low sulphur diesel and reformulated gasolines so that their environmental benefits can be realized by the public.

The products to be stored in the replacement tanks located at the 355 North Willingdon Avenue site are finished gasolines, diesel fuels, jet fuels, petroleum product blending stocks, and partially processed intermediate stocks. The initial construction will accommodate regular or low sulphur diesel fuel and Lower Fraser Valley reformulated gasolines."

- 3.3 **"What are the current levels and constituents of emissions from the refinery? what will be the level once the 8 new tanks are installed? What will the levels and constituents be once the final expansion is completed?"**

Response:

Chevron advises as follows:

"Following are our refinery permitted air emissions as a percentage of the GVRD 1990 regional emission inventory. Combined emissions are 0.8%, Carbon Monoxide is 0.2%, Particulates are 2%, NOx (Nitrogen Oxides) are 1.5%, SOx (Sulphur Oxides) are 25% and VOC (Volatile Organic Compounds) are 0.2%.

During the past five years refinery air emissions have been voluntarily reduced by 40 percent. The replacement tanks will increase emissions but on completion hydrocarbon emissions will be 65 percent lower than in 1990.

Reducing air emissions continues to be a high priority in completing equipment upgrades.

- In 1984 a high efficiency low emission Fluid Catalytic Cracker was installed. This unit accomplished NOx reductions over earlier technology and reduced particulate (dust) loadings.

- Double sealing systems have been added to several floating roof tanks in a continuing program to reduce VOC emissions.
- Packed joints on rotating equipment (primarily pumps) have been replaced with low hydrocarbon emissions mechanical seals.
- Low emission control valves are being installed to reduce hydrocarbon emissions.
- A vapour recovery system has been operating since 1991 at our truck loading rack. Hydrocarbon emissions haven been reduced by 97 percent compared to pre-vapour recovery levels.
- A high efficiency sulphur recovery plant was installed in 1994. This plant employs the first Canadian refinery application of Super Claus technology to achieve over 98% recovery of sulphur from refinery gas streams.
- Low NOx emission burners have been installed in new boilers and process heaters. Retrofits have also been completed on some existing boilers and process heaters."

Staff Comment: According to information supplied separately by Chevron, the actual quantities of air emissions in tonnes per year from the refinery in 1990 and 1995 were as follows:

	<u>1990</u>		<u>1995</u>	
Carbon Monoxide (CO)	46	tonnes	11	tonnes
Particulates	46		115	
Nitrogen Oxides (NOx)	176		92	
Sulphur Oxides (SOx)	1,416		1,226	
Volatile Organic Compounds (VOC)	1,949		461	
TOTAL OF ABOVE	3,623		1,905	

For the sake of comparison, the sum of the above contaminant emissions from all sources in the GVRD, according to the 1990 GVRD Emission inventory, was reported to be 551,021 tonnes, of which mobile sources (primarily vehicles) constituted over 84%. Point sources including the refineries and other industries accounted for 7.2%.

- 3.4 **"Who established the guidelines for the use and width of the buffer zone? what was the agreement between Chevron and the City with respect to the acquisition of buffer zone properties as they became available for purchase? Why is Chevron not required to purchase them? The width of buffers needs to be reviewed because after Phase 3 is complete a totally inadequate buffer would remain to separate this heavy**

industry from residences. Why are properties not rezoned P3 after they are transferred to the City to protect them from any other use?"

Response:

The location and intended use of the greenbelt/buffer area was determined in 1975 reflecting a proposal submitted by Chevron in connection with its 1973 expansion proposal, and approved by Council. The intended use was for development of a landscaped greenbelt area, and as noted in the response in Section 2.1 above, the agreement acknowledges that Chevron does not have the power of expropriation. Properties are not rezoned P3 directly as they are transferred to City ownership as it was stated in 1975 that rezoning to a category other than R (Residential) was not recommended as this would have the effect of relieving the 200 foot setback for petroleum processing installations which is associated with a residential district boundary.

3.5 "What is the risk assessment of the refinery operation - i.e. in the event of earthquakes, spills in Inlet, fires and explosions? What monitoring devices are in place to detect problems? A recent spill of asphalt in a ravine next to Confederation Park was discovered by a resident hiking in the park. How can we be assured of our safety?"

Response:

Chevron advises that:

"Our Burnaby Refinery has an excellent safety record due to the dedication and training of employees plus very high standards of equipment design and maintenance. Our goal is to operate 'incident free'.

Refining equipment is designed to recognized national standards and industry practice. Standards include seismic protection against earthquake damage. Pressure vessels plus piping are registered with and subject to inspection by the British Columbia government.

In the event that refinery utilities (city water, natural gas, electric power or steam) are interrupted or a mishap occurs, equipment is designed to cease operation safely. Two independent electric power supplies are available to our process area to minimize electric power loss. The refinery flare and relief system are designed to safely burn process equipment contents.

Our operating personnel complete a four year training and development program to become fully qualified operators. In addition, we employ fully qualified trades

people and apprentices to perform preventive maintenance activities. We also employ two fully qualified equipment inspectors. These fully qualified equipment inspectors and experienced employees are our most effective monitors of equipment and facilities.

Emergency response plans are in place to address occurrences and mishaps. These plans have been reviewed with the appropriate regulatory authorities. Emergency response plans are exercised regularly in order to assure readiness."

3.6 "What monitoring of air pollution exists and is it adequate?"

Response:

Ambient air quality monitoring was established in the 1970's by the GVRD, with funding from industry. Regional air quality and the management plan to improve air quality are the responsibility of the GVRD. Air quality monitoring stations have been in place for several years in Confederation and Kensington Parks, and the newest station in the area is located on the north side of Capitol Hill above the Chevron Refinery process area. Chevron funded the installation of this station in 1995 and we understand that they have also agreed to pay its annual operating costs. Detailed air quality reports are published by and available from the GVRD.

3.7 "Why must the asphalt loading rack be relocated so close to the south perimeter of Chevron property, thus increasing noise levels? What assurance do we have that only paving grade of asphalt will be transferred?"

The oil company advises that:

"Chevron produces only paving grade asphalt and discontinued production of odorous 'cutbacks' several years ago.

Our objectives in finding a suitable location for a relocated asphalt loading rack are to promote more efficient loading, minimize late night noise and reduce asphalt truck traffic."

Staff comment: As noted in Section 2.4 above, Chevron has abandoned its plan to relocate the asphalt rack and weigh scale into the vicinity of the 4300 Eton Street, in response to concerns expressed by area residents.

3.8 "Why wasn't the area of land to be fenced (the north side of Eton between Madison and Rosser) rezoned park and included in the buffer? It has been used and enjoyed as green belt by residents for years - why change this now when we are attempting

to increase green belt not decrease it? A map from 1976 showed that this area was to be landscaped - not fenced and paved."

Response:

The area in question, upon which recent concerns have focused, has from the outset been intended as part of the ultimate consolidated refinery site, north of the ultimate refinery boundary established in the 1970's. The designated buffer area was established to the south of that area, and has largely been acquired and transferred to City ownership. The oil company's land in this location is zoned industrially (M1 Manufacturing District), but since its assembly and the demolition of former dwellings and other buildings it has existed in an open, grassed condition which doubtless led many residents, especially those newly resident in the area, to perceive that it was part of the public buffer. It is correct that the conceptual landscape plan in 1976 indicated a landscape treatment for the area and, as noted previously, Chevron now has committed itself to leave this part of the property as open green space. Staff will work with the company toward a suitable plan for landscaping.

- 3.9 **"Has an independent environmental assessment review of Chevron's Burnaby Refinery ever taken place? If so, please provide copies. If not, we feel a full review should take place."**

Response:

Chevron has replied as follows:

"While no independent environmental assessment has been conducted, our goal is to be a recognized leader in environmental and safety issues. Our operating practices are reviewed and improved on an ongoing basis. Selective equipment upgrades are made to minimize the impact of our operations and products on the environment and community.

We strive to comply with all laws and regulations.

Our operations are subject to periodic review via operating permits, independent testing and reports for air and water effluent. Regulators review quarterly reports of our environmental performance to determine compliance with permit terms.

During the 1990 to 1995 period a 40% reduction in refinery air, water and waste discharges has been achieved."

3.10 "What is in the effluent that is pumped into the storm drain sewers? We would like to have facts and figures providing details of this."

Response:

Chevron has provided the following response:

"There are two liquid effluents at our refinery. Surface runoff is routed to Burrard Inlet under permit. Process effluent is treated on site and routed to the GVRD sewer system under permit. A secondary treatment plant is under construction to further upgrade process effluent. Process effluent quality will be among the highest in Canada upon completion of the Secondary Treatment Plant later this year.

Effluent testing results are reported quarterly to the appropriate regulatory bodies."

Staff comment: One of the important early projects under the 1974 approved program was the completion of an effluent water treatment system incorporating stripping facilities, air flotation units, API separator(s), separating and holding ponds and other measures to achieve a standard of process water effluent quality acceptable to the GVS & DD for discharge to the sanitary sewer system and treatment at the Iona Island treatment plant. This work was completed and in service by 1977, and is being further upgraded by addition of the secondary treatment plant as subsequently approved by Burnaby.

3.11 "Were propane tanks that were supposed to be relocated ever moved? What about the safety issues surrounding the storage of propane so close to a residential neighbourhood."

Response:

Chevron advises as follows:

"New Liquefied Petroleum Gas storage areas have been developed in our process area (on Penzance Drive) and have been in use for the past ten years. The asphalt rack and tank replacement proposal being reconsidered by City Council includes additional Liquefied Petroleum Gas storage in our process area and is the first step in phasing out propane tanks located near McGill park. These propane tanks are closely monitored, have high level alarms and fire protection.

Subject to City of Burnaby approval of replacement tankage, the propane tanks will be taken out of service during the next few years."

Staff comment: The removal of LPG storage from the McGill Park area is highly desirable, and the approved Master Plan shows location of additional storage of this type in the process (Penzance Drive) area. A further report to Council on the subject of Chevron's P.P.A. request for replacement tankage is pending, awaiting comment from the GVRD in connection with Chevron's current air permit amendment application.

- 3.12 **"What is the safety of locating a microwave tower on Chevron land near Confederation Park? What about aesthetic considerations?"**

Response:

The safety considerations involved with the placement of a cellular communications freestanding tower on Chevron-owned land near Penzance Drive was the subject of a report received by Council on 1996 May 06. The report, requested by Council following the Public Hearing on Rezoning Reference #37/95, provided information on the federal government's standards contained in Safety Code 6, and concluded that the emanations from the proposed antennae would be well within safe operating levels. As to aesthetic considerations, it has been noted that the tower is sited in an industrial zone adjacent a heavily treed area which will screen the majority of the structure.

- 3.13 **"How will construction and dismantling of tanks take place? How will debris be removed from the site? Where will it be disposed of?"**

Response:

Chevron advises that:

"Dismantling of old tanks will be undertaken by a contractor working under Chevron safety procedures and supervision.

Steel will be removed and recycled per our usual contract procedures. Residual hydrocarbons will be remediated and routed to a secure landfill via established procedures including manifesting of any hazardous wastes. Replacement tanks will be built to industry standards by a reputable contractor. Standards include seismic protection against earthquake damage."

- 3.14 **"Will the floating lid tanks provide adequate pollution control? Should domed tanks be used with vapour recovery systems? If not, provide clear evidence that it is unnecessary."**

Response:

Chevron has responded as follows:

"Replacement tankage will utilize state of the art floating roof designs including primary and secondary roof seals to minimize hydrocarbon emissions. These designs are included in the Canadian Council of Ministers of the Environment environmental guidelines dated June 1995. These guidelines are being utilized by the GVRD.

Vapour recovery systems are not required since the tank roof floats on the product surface.

We restrict domed tank use to products requiring dryness. Two refinery tanks are currently domed and are in MTBE service. MTBE is an ether which is used to enhance gasoline octane and to reduce automotive exhaust emissions. If additional MTBE tankage is required in future, a domed roof design will likely be utilized. We see no significant emissions benefit to the use of domed tanks to store refined petroleum products."

Staff Comment: Staff of the Environmental Services Division have reported that the floating roof design proposed will satisfy the guidelines published by the Canadian Council of Ministers of the Environment (CCME) for design and operation of petroleum tankage for the type of product proposed.

Chevron have emphasized their position that domed tank use would be restricted to storage of products requiring "dryness"(i.e. - exclusion of water contaminant). Burnaby staff have pointed out that the use of domed roof structures coupled with vapour recovery and use of scrubber can be used to reduce atmospheric emissions from the "wetted surface" of tank walls in certain types of tank service (for example, the tanks at the Burnaby Mountain terminal of Trans Mountain Pipeline that are used for the most odorous crude oils were converted some years ago to domed roofs with vapour recovery and scrubber operation, which is believed to have significantly reduced hydrocarbon emissions and odor complaints).

3.15 "Why are new homes allowed to be built in the designated buffer?"

Response:

Owners of private property within the designated buffer area retain their rights to use and enjoy their property subject to the prevailing residential zoning. As has been stressed, owners are under no compulsion to move or sell their property for inclusion in the park buffer, and Chevron has no power of expropriation. Until properties have been acquired

on an open market basis, owners are entitled to receive building permits for renovations, extension, or even new construction.

In the first instance of a new home construction request within the buffer (believed to have been in the early 1980's) staff were directed by Council to release the building permit after ensuring that the property owner was fully aware of the existence of the buffer program and its intent. This has been our practice since that time.

- 3.16 **"Can truck traffic be reduced or eliminated during late evening and night time? Will truck traffic increase? If so, how will more trucks be accommodated at the corner of Hastings and Willingdon when existing truck traffic affects the satisfactory flow of traffic because it has difficulty navigating the corner?"**

Response:

Chevron advised that:

"Local circulation of asphalt truck traffic can be reduced by relocating the weight scale and asphalt loading rack.

No major increase in truck traffic beyond current levels is anticipated. However, some increase will result from normal market growth for our products."

Staff comment: As noted above, the oil company's representative has also stated that they will be examining measures to reduce existing truck volumes.

- 3.17 **"The existing truck loading rack located north of Eton in 4400 block is a legally non-conforming use in an M1 zone. Why should this continue in view of the fact that setbacks in M1 are not adequate for this type of activity? Chevron should re-locate all loading racks, scales, etc. further into their property and the construction and location of the new asphalt loading rack and weigh scale should not be based upon proximity to the existing truck loading rack which is non-conforming."**

Response:

It is confirmed that the existing tank truck loading rack is a non-conforming use under the prevailing M1 zoning. However, as its existence pre-dates the current (since 1965) zoning designation, it enjoys the status of a non-conforming use under the Municipal Act, which means that its use can be continued so long as it is not discontinued for a period in excess of six months. The introduction of the buffer area as an element of the agreement in principle in the 1970's in part was meant to address the issue of pre-existing parts of the refinery's installations that had an inadequate separation from the adjacent

residential development.

As previously mentioned, Chevron has now reconsidered its plan to relocate their asphalt loading rack and weigh scale to a location proximate to the existing loading rack.

3.18 **"What tax breaks did Chevron receive as a result of any land transferred to the City?"**

Response:

The reply from Chevron is as follows:

"Over the years, Chevron has purchased buffer zone properties and received receipts for land gifted to the City of Burnaby. These gifts total \$1,150,000.

The gifts are deductible from income taxes payable in the same way that personal donations reduce personal income taxes payable.

Chevron has received no "tax break" from the City of Burnaby, Province of British Columbia or Canada as a result of the subject gifts."

Staff comment: The receipt for donations of buffer zone properties relate to the 19 lots totalling 8,340.94 m² in area indicated in Table 1, which have not been included in land exchanges. Again, no City tax exemptions have been provided to Chevron in the process (other than, of course, the fact that Chevron ceases to be responsible for property taxes on lands once it transfers them to Burnaby's ownership).

3.19 **"What requirements does Chevron have now for notifying the City about changes in their operation? Are they required to notify the City when they plan any increase in truck traffic?"**

Response:

Before undertaking any new development (change of land use or new construction), Chevron is required to apply for and obtain the relevant City approvals under the respective bylaws (Preliminary Plan Approval, Building, Electrical and Plumbing permits, etc.). As directed by Council, staff provide a report to Council prior to approval of PPA for any new tankage or major new development work in connection with the refinery or tank farm. No notification is required regarding increases in truck or other traffic.

3.20 **"The south border of the refinery was based on the Scenic Drive alignment. The plan for this drive was abandoned, so why does the south border of the refinery need to run along this alignment?"**

Response:

The alignment was established as the ultimate refinery boundary in the early 1970's when there was a long-term plan to construct Scenic Drive, in an effort to delineate a clear, unmistakable well-defined permanent boundary. The agreement was in place when in 1976 Council passed a motion stating that it did not favour the use of the Scenic Drive right-of-way alignment as a roadway for vehicular traffic. At that stage it was concluded that it would be desirable to put the alignment to use as part of a public park trail linkage incorporating pedestrian and cycle trails, and the same reasoning for a clear, defined permanent boundary continued to apply, utilizing the trail route as part of an expanded buffer.

3.21 **"Will there be any compensation to residents affected if Phase 3 goes ahead?"**

Response:

As noted earlier, it is intended that a further report be prepared for submission to Council on the subject of the ramifications of pursuing Phase III of the land exchange program, as foreseen since the early 1970's. A part of that submission would be a discussion of the advantages or disadvantages of proceeding with that program, including impact on traffic patterns, public transit, the buffer, trail continuity, pedestrian safety, etc. It is not intended that any monetary compensation would be involved, although there could be an identified need to make landscaping/screening improvements or street improvements to ameliorate the impacts of the final phase on the properties of surrounding residents, and such improvements would have a financial cost associated with them.

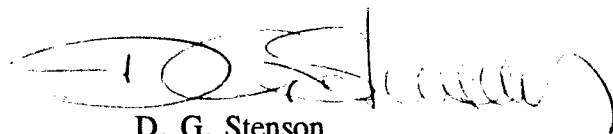
4.0 Conclusion:

This report has attempted to answer the numerous questions raised by Council and area residents in response to a Chevron proposal in the 4300 Block Eton Street. Chevron officials have responded to the strongly expressed concerns by providing information on certain questions, by sending out a newsletter to nearby residents expressing their willingness to listen and review their plans, and to concentrate on improving their communication with local citizens, and by withdrawing their proposal to relocate the fence, create new parking lots and relocate the asphalt loading rack and weigh scale in this area. They have renewed their earlier commitment to co-fund the engaging of a landscape architect to develop a master landscaping plan for the entire buffer area, and have committed to maintaining off-street parking for contractors working at the refinery (occasional or persistent parking by contractors' employees on neighbourhood streets

*CITY MANAGER
RE: CHEVRON CANADA LIMITED, BURNABY REFINERY
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has been an irritant in the local area at times). Further, Chevron advise us that they are planning for the formation of a community advisory panel to enhance communication with their neighbours.

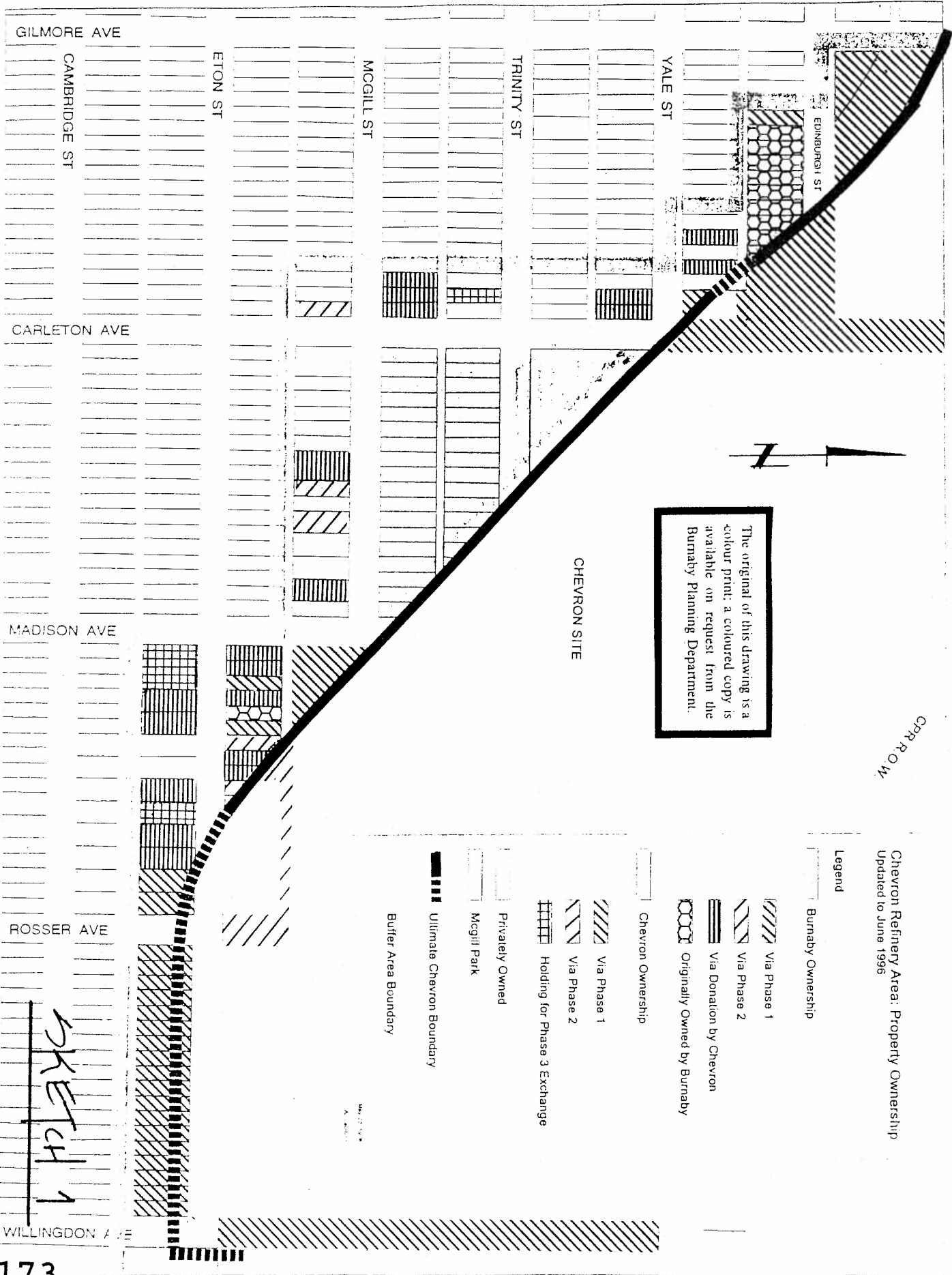
This is for the information of Council.



D. G. Stenson
Director Planning and Building

DGS:hr
Atts.

cc: Chief Environmental Health Officer



The original of this drawing is a colour print; a coloured copy is available on request from the Burnaby Planning Department.

OPR R.O.W.

Chevron Refinery Area: Property Ownership
 Updated to June 1996

- Legend
- Burnaby Ownership
 - Via Phase 1
 - Via Phase 2
 - Via Donation by Chevron
 - Originally Owned by Burnaby
 - Chevron Ownership
 - Via Phase 1
 - Via Phase 2
 - Holding for Phase 3 Exchange
 - Privately Owned
 - McGill Park
 - Ultimate Chevron Boundary
 - Buffer Area Boundary

SKETCH 1

T A B L E I

INVENTORY OF LAND WITHIN THE BUFFER AREA BOUNDARY
(excluding McGill Park and dedicated public road or lane)

(TOTAL 91 LOTS -- TOTAL AREA 40,287.26 m2)

	<u># LOTS</u>	<u>TOTAL AREA</u>
DONATED BY CHEVRON	19	8,340.94 m2
TRANSFERRED TO BURNABY VIA PHASE I	24	10,061.42 m2
plus 3 AREAS OF ROAD DEDICATION	3	4,886.18 m2
VIA PHASE II	7	1,895.38 m2
PRIVATELY-OWNED	23	9,731.86 m2
CHEVRON-OWNED (for use in land exchange under Phase III)	4	2,057.73 m2
BURNABY-OWNED PRIOR TO PHASE I	11	3,313.75 m2
<u>T O T A L S</u>	<u>91</u>	<u>40,287.26 m2</u>

Therefore, as at 1996 May,

of the 91 lots, Burnaby owns----- 64

and of the 40,287.26 m2 owns-----28,497.67 m2

T A B L E I I

LANDS TRANSFERRED TO BURNABY UNDER PHASES I AND II

UNDER PHASE I

CHEVRON LAND	10,061.42 m2
3 AREAS OF ROAD DEDICATION	4,886.18 m2

UNDER PHASE II

CHEVRON LAND	1,895.38 m2
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<u>T O T A L</u>	<u>16,842.98 m2</u>
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LANDS TRANSFERRED TO CHEVRON UNDER PHASES I AND II

UNDER PHASE I

PORTIONS OF CLOSED ROAD	12,513.26 m2
BURNABY LAND (north of Buffer Boundary)	2,217.43 m2

UNDER PHASE II

CLOSED ROAD (Rosser north of Eton) AND LANE (west of Rosser)	1,610.00 m2
BURNABY LAND (portions north of Buffer Boundary)	264.08 m2

<u>T O T A L</u>	<u>16,604.77 m2</u>
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APPENDIX 1

Overview of Chevron Modernization and Expansion Program Consideration and Approval

In early 1971, Council received an initial report on a proposed modernization program for the Chevron Refinery. This industrial use commenced in 1935, and operated at a capacity in the range of 20,000 to 24,000 barrels per day in 1971, under the auspices of M3 Heavy Industrial District zoning. The report was submitted consistent with the standing request of Council that it be advised of any proposed additional tankage installations to refineries in the Municipality. Following discussion, Council sought advice on what means could be used to limit or prevent the expansion proposed.

Advice was obtained from the Municipal Solicitor, the Planning Director and an expert at the B.C. Research Council with respect to obligations to issue permits under the bylaws, and measures to obtain higher standards of environmental control. Qualified approval was given to the modernization project, but Council notified the oil companies in the Municipality that it was investigating ways and means to limit or confine future refinery expansion. Chevron requested approval to stage its project, and deferred some construction at the time. Members of Council and senior staff visited refineries in California and local refineries to gain first-hand knowledge in matters of potential environmental control in modern oil refineries, and in November 1971 modified its stance by informing the oil companies that it was instead investigating "ways and means to set standards for aesthetic or visual pollution and control, and for the level and quality of emissions from the refineries of the Companies as well as possible enforcement procedures". The Municipal Manager was authorized to negotiate the voluntary adoption of San Francisco's Bay Area Air Pollution Control District standards and to engage an expert on pollution standards and control, to assist.

Over the next several months an intensive consultation process with environmental control agencies at all levels of government took place, with participation also by CP Railway, B.C. Hydro, the National Harbours Board and others, to review specifics of an expansion proposal being formulated by Chevron.

In 1973 Chevron submitted its expansion proposal, incorporating a variety of aesthetic, safety, and environmental enhancements emerging from the discussion process. The expansion program foresaw an expansion to a design capacity of 45,000 barrels per day, a number of process facility and tank proposals as well as a wide array of quality and environmental protection initiatives, including voluntary compliance with Bay Area standards or locally-promulgated air quality standards, whichever was more stringent. The staff report to Council observed that the program of modernization and expansion presented an opportunity to achieve improvements in the overall situation involving an aging antiquated plant through the use of modern technology and the imposition of up-to-date controls. Approval in principle was supported, subject to a comprehensive range of environmental and operational conditions, and on 1974 January 14, Council gave its approval in principle.

*Appendix !
Overview of Chevron Modernization and Expansion
Program Consideration and Approval
1996 June 05 Page Two*

Chevron provided its commitment to the various conditions and proceeded toward project implementation on a phased basis, with certain environmental and land-use compatibility measures required before actual construction of the expansion components was permitted to proceed. A rezoning of an area of land to the M5 Industrial District, entering into covenants, land exchanges, the granting of a lease for park purposes and subscription to Bay Area standards were elements of the program that was required and fulfilled.

One of the conditions that was refined and developed more fully through 1974 and 1975, was the creation of the mechanism for achieving the green belt buffer in the area south of the tank farm. By agreement with Chevron, arrangements were made for lands in the buffer, upon acquisition by Chevron, to be transferred to Burnaby's ownership for eventual development of a park strip to buffer the adjacent residential neighbourhood. Periodic status reports were provided to Council during the latter part of the decade, and Chevron pursued both construction projects pursuant to the agreement in principle, and property acquisitions and transfers. In 1985 Council gave its approval to a second phase of the land exchange and this was finalized in 1991. At various times during the course of project implementation, reports have been submitted to Council, prior to the issuance of Preliminary Plan Approval, and there is presently one such matter referred back to staff by Council, awaiting a further report.

DGS: gk