

TO: CITY MANAGER
FROM: DIRECTOR PLANNING AND BUILDING
SUBJECT: 8335 MEADOW AVENUE
FRASER RIVER REMEDIAL PLAN
PRELIMINARY PLAN APPROVAL #01-260 & #01-375
BIG BEND DEVELOPMENT PLAN AREA

2002 February 6

OUR FILE: 15.660.4

PURPOSE: To inform Council of applications for Preliminary Plan Approval for required remedial works on the Fraser River foreshore related to the industrial property at 8335 Meadow Avenue in the Big Bend.

RECOMMENDATION:

1. **THAT** this report be received for information purposes.

REPORT

1.0 INTRODUCTION

The Planning and Building Department has received applications for Preliminary Plan Approval (PPA #01-260 & PPA #01-375) for the installation of a ground water pump and treatment system, along with construction works within the Fraser River foreshore area to address contamination originating from the industrial property at 8335 Meadow Avenue. Sketch #1, *attached*, shows the subject property in context with the Big Bend Development Plan.

This report outlines the scope of works associated with a remediation program ordered by the Ministry of Water, Lands and Air Protection (MWLAP) for the subject property.

2.0 BACKGROUND

From 1931 to 1983, the subject property was used by Koppers International Canada Ltd. (Koppers) for a wood preserving operation. In 1980, wood preserving chemicals were observed in the Fraser River adjacent to the site. Environmental investigation of the site found wood-preserving compounds (creosote, copper chromium arsenate, and pentachlorophenol) in the soil and groundwater within the boundaries of the site and adjacent to the site in the near shore sediments of the Fraser River.

Between 1981 and 1983, Koppers undertook a remediation program on the site that included plugging a wood-covered drain to the Fraser River, and soil excavation and sediment dredging that involved off-site disposal of contaminated materials associated with the wood preserving operation, and the capping of materials within the site under the existing warehouse building. Following completion of the site remediation, the property was sold and the present warehouse was constructed with the balance of the site largely covered with asphalt. Sketch #2, *attached*, illustrates the historical locations of the former wood preserving operation in relation to the existing warehouse building on the site. Sketch #3 and #4, *attached*, provide illustrative locations of contaminants within the foreshore and Fraser River fronting the site.

Despite the previous remedial works undertaken to contain contaminants within the site, in 1997 the Ministry of Environment, Lands and Parks (now called the Ministry of Water, Lands and Air Protection - MWLAP) found that contaminants were continuing to leach from the site into the Fraser River. In response, the Ministry issued a remediation order to the parties responsible for the historical contamination of the site – the former property owners and parent companies of Koppers International Canada Ltd. – Atlantic Industries Limited, Beazer East, Inc. and Canadian National. The property is currently owned by Wenzhold Properties Ltd. and Maraba Holdings Ltd. and managed by Canreal Management Corporation, with Schenker International Ltd. as the primary tenant and operator of the warehouse. The current owners and tenants on the property are not responsible for the contamination under the site or within the Fraser River. Schenker's current lease expires on 2002 October 31. At this point, it is uncertain whether Schenker will renew its lease of the building given the uncertainty created by potential impacts of the remedial program on warehouse operations.

In 2001 December, MWLAP, Fisheries and Oceans Canada (DFO) and Environment Canada (EC) issued a consent letter to the ordered parties agreeing to a remedial plan designed to address the contamination issues associated with the property. An application has now been submitted to the Fraser River Estuary Management Program (FREMP) for approval of the scope of works required to implement the remedial plan. As well, Preliminary Plan Approval applications for the foreshore works affecting the adjacent upland industrial site have been submitted to the City for approval.

3.0 SUMMARY OF REMEDIAL PLAN

The remediation program is designed to contain contaminants within the site through the use of sheet pile cut-off walls. Approximately 7,700 cubic metres of contaminated material, to a pre-determined concentration level, within the foreshore and riverbed are to be removed and disposed of off-site. In addition, a ground water pump and treatment system is to be installed to draw contaminated ground water from the site to assist in preventing the groundwater flow of contaminants to the Fraser River. The existing warehouse building would remain on the site as is. The estimated cost of the remedial program is in the order of \$32,500,000 (\$20,000,000 US). The construction program for the remedial works is expected to take about 1 year to complete.

Sketch #5 and #6, *attached*, illustrate key elements of the remediation plan. Key elements of the plan are labeled *Item A through G* include the following:

Item A: the initial installation of a *pump and treatment* system to draw groundwater from the site into a small industrial building on the west side of the existing warehouse for treatment. The groundwater treatment plant uses a combination of processes (separation, filtration and adsorption) to separate contaminants from the groundwater. The treated groundwater is then discharged to the sanitary sewer system, under permit from the GVRD, with the dewatered sludge material shipped off-site for disposal.

Once the full remediation measures are completed, an evaluation of the remediation program will seek to determine whether the pump and treatment system is needed as a permanent feature of the site remediation or whether the facility may be decommissioned. If required on a permanent basis, the pump and treatment system may be relocated from its proposed location on the west side of the existing warehouse to the constructed wharf.

Item B: installation of an *inshore cut-off wall* within the foreshore area fronting the site. The cut-off wall will primarily consist of sheet piles driven into the lower silt level of the riverbed. The purpose of the cut-off wall is to contain contaminants within the site.

Installation of the inshore cut-off wall will involve demolition of existing pier and bulkhead structures and riverbed cleanup. The new upland area created between the cut-off wall and the existing upland property will be restored as a vegetated shoreline riparian area on its western section and reserved for industrial use on the eastern section.

Item C: installation of an *offshore cut-off wall* to contain an area of contaminants within the sub-tidal riverbed.

Item D: installation of an *engineered in-situ cap* in the intertidal foreshore and on the sub-tidal riverbed over contaminated materials remaining within the area bounded by the inshore and offshore cut-off walls.

Item E: construction of *compensatory fish habitat* on the western portion of the site on the engineered cap which will include the planting of riparian vegetation on the area inside (upland) of the inshore cut-off wall, and construction of an inter-tidal marsh covering a total area of 3,150 square metres (33,400 square feet).

Item F: construction of a fixed *industrial wharf* covering an area of 1,190 square metres (12,800 square feet) on the eastern portion of the area within the inshore and offshore cut-off walls to accommodate future water dependent industrial uses of the site. The wharf will be constructed on top of structural fill placed as a cap over an area of contaminants contained within the cut-off walls. The wharf structure will provide a potential location for the possible future relocated pump and treatment system. Once constructed, the industrial wharf would be owned by the Province.

Item G: *dredging of contaminated sediments* from the riverbed to a depth of 2 metres to a pre-determined concentration level (50 micrograms per grams total Polynuclear Aromatic Hydrocarbons – PAH – contour) for off-site disposal. Outside the area of the permanent outer cut-off wall, this process will involve the installation of temporary sheet pile walls around 6 dredge cells prior to dredging. An estimated 7,700 cubic metres (10,000 cubic yards) of contaminated material will be removed from the riverbed and loaded onto barges for transport and remediated off-site to Ministry standards. All dredge works will be undertaken from the river.

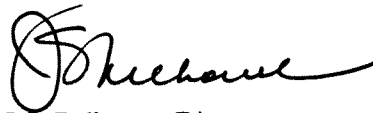
The 6 dredge cells outside the containment area are located in front of the subject property and the neighbouring property at 5600 Riverbend Drive. The south-east portion (approximately 4 acres) of the adjacent property at 5600 Riverbend Drive will be used as a temporary staging area for construction crews and materials associated with the containment and dredge operation. This staging area will be located on this property for the duration of the remedial program estimated to be completed in about 1 year. Future development of the riverfront portion of the 5600 Riverbend Drive property is dependent on the remediation of the foreshore and riverbed area fronting the property, as approval of required shoreline stabilization works for this property are contingent on the removal of contaminants within the foreshore area.

4.0 PROJECT SCHEDULE AND APPROVALS

The remedial project is now proceeding through final environmental approvals. An application has been submitted to the Fraser River Estuary Management Program (FREMP) for approval of required works within the foreshore and Fraser River. Applications have also been received by the City for Preliminary Plan Approval (PPA) for the building to house the temporary pump and treatment system within the upland site, and for works on the foreshore that may affect the upland property. The pump and treatment facility will comply with all applicable City bylaws and Engineering requirements, and the regulations of the prevailing M3 - Heavy Industrial zoning designation of the property. While approval of the foreshore and in river works falls within the jurisdiction of FREMP and the North Fraser Port Authority (NFPA), the PPA application for the foreshore and river works has been submitted to the City for review and approval.

Following Council consideration of this report, staff expect to be able to issue the approval for the PPA applications once all usual requirements have been met. With FREMP, DFO, EC and MWLAP approval, works associated with the remedial project are expected to commence in 2002 February/March, with completion in about a year. Preparation of the staging area on the adjacent property at 5600 Riverbend Drive would precede any construction activity on the foreshore or in the Fraser River.

This report is submitted for information purposes.

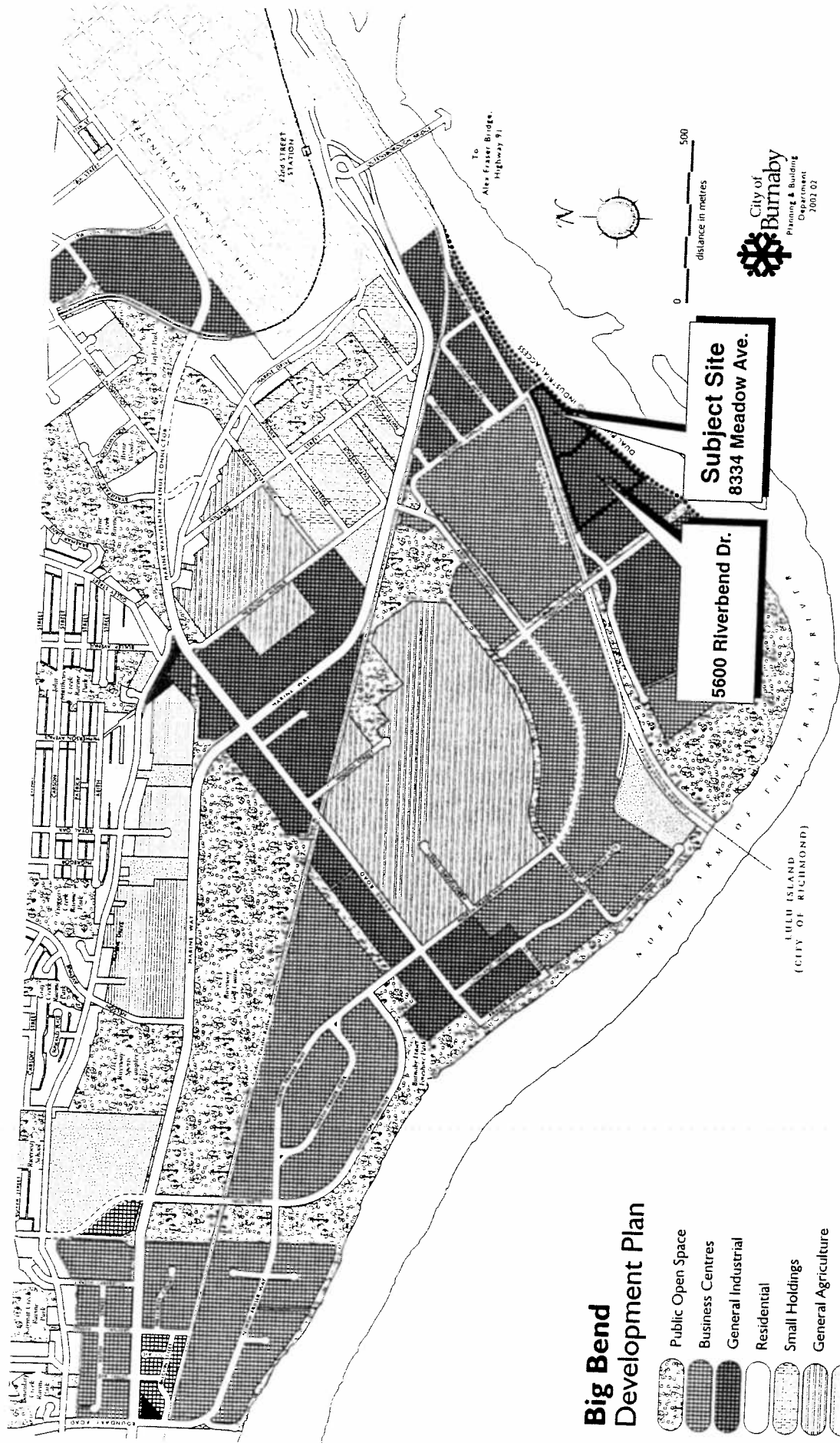


J.S. Belhouse, Director
PLANNING AND BUILDING

BJP.

LP/sla/mw
Attachments

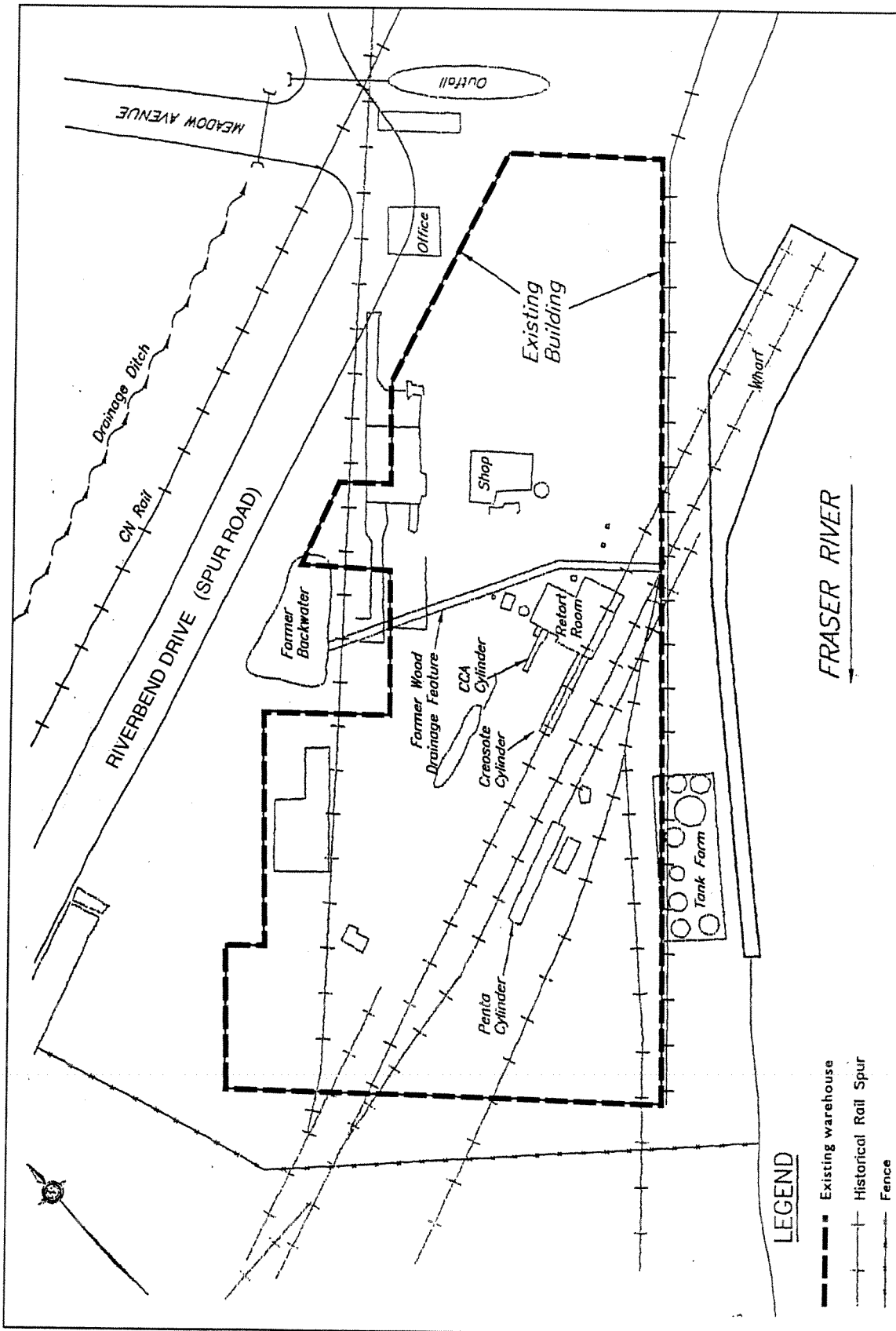
- cc: Director Engineering
- Director Finance
- Director Parks, Recreation and Cultural Services
- Chief Building Inspector



Big Bend Development Plan

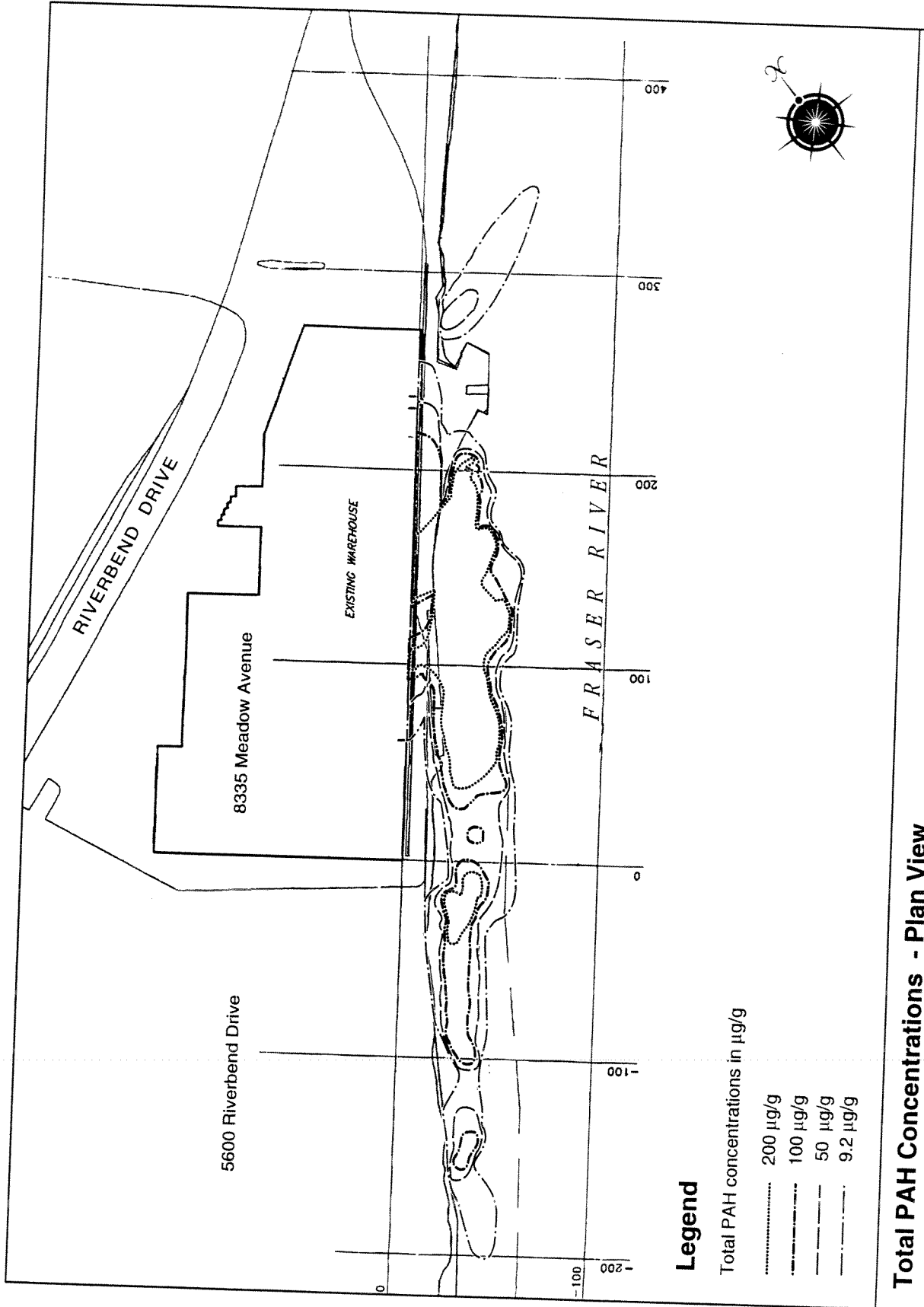
- Public Open Space
- Business Centres
- General Industrial
- Residential
- Small Holdings
- General Agriculture
- Market Gardens
- Institutional
- Commercial

Sketch 1



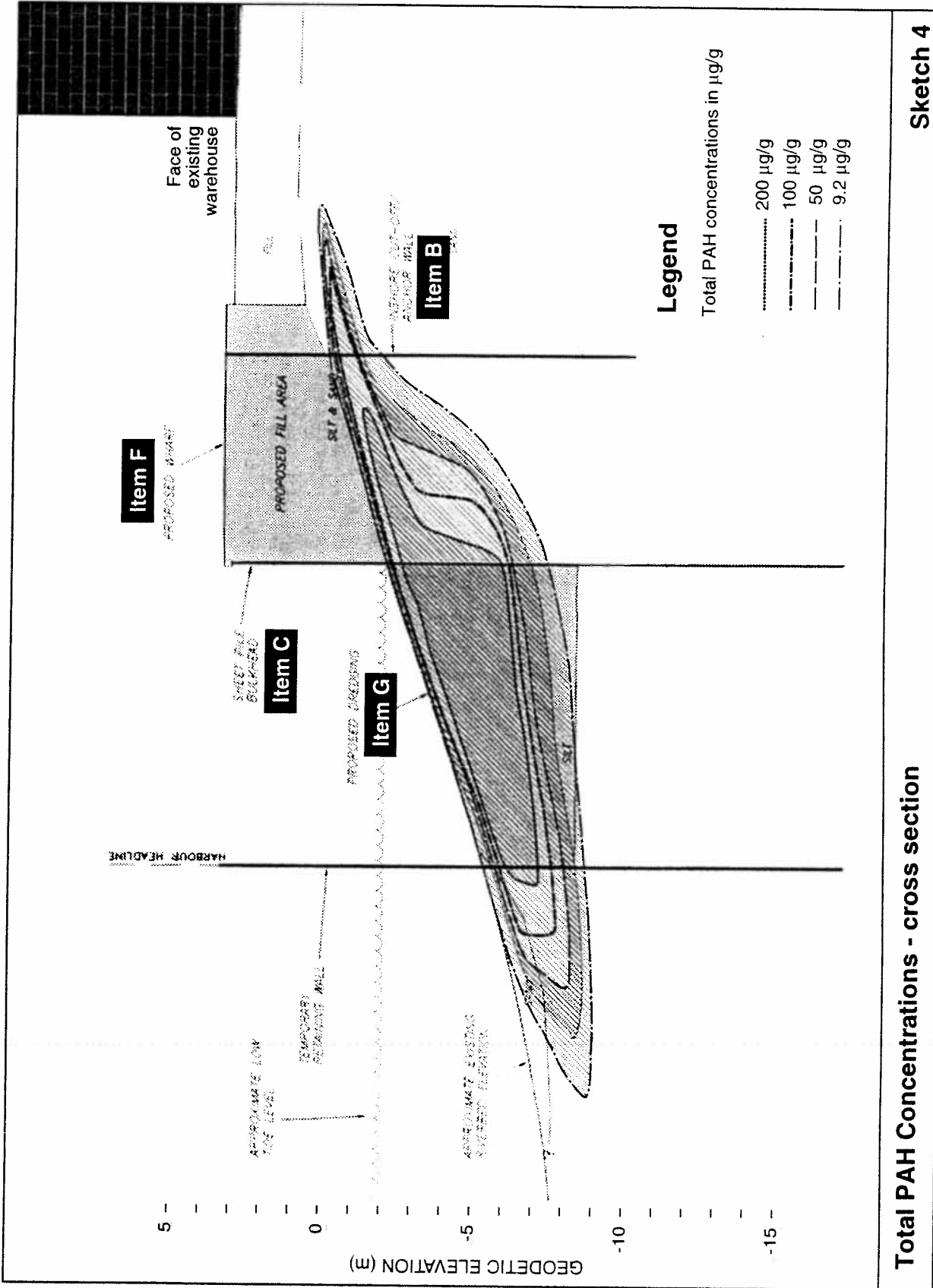
Historical locations of former wood treatment use

Sketch 2



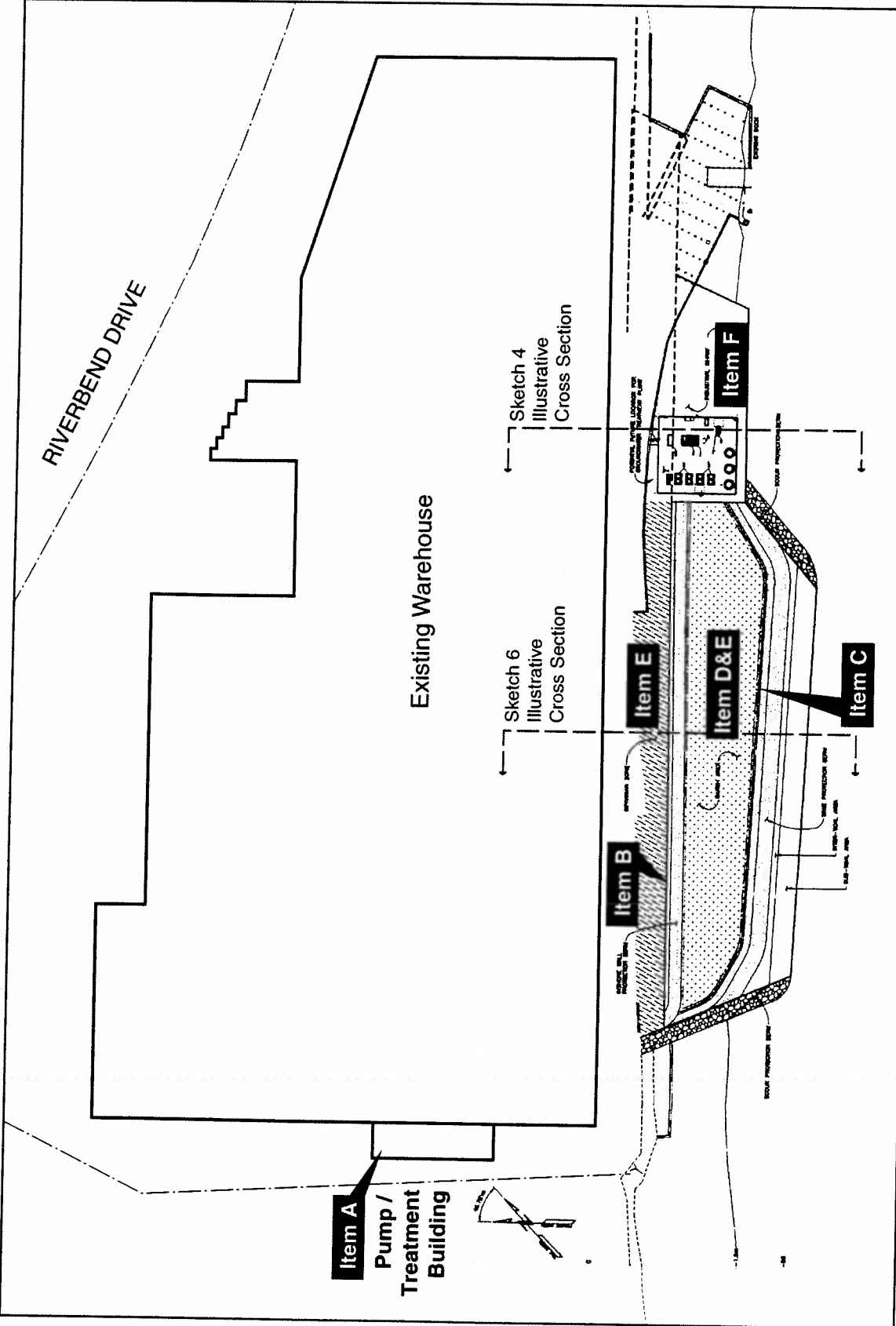
Total PAH Concentrations - Plan View

Sketch 3



Total PAH Concentrations - cross section

Sketch 4



Remediation Plan Layout

Sketch 5

