STAFF REPORT TO PLANNING COMMISSION
by the Portland Office of Transportation
on the I-5/Eastbank Freeway Options Study
for a Public Hearing on July 26, 1988

INTRODUCTION

This report is organized as follows:

1. Summary of Staff recommendation.
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3. Description of the Study Committee and Process.
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RECOMMENDATION

Staff recommends that the dual-track study approach outlined in the January 1988 resolution be initiated, since it appears that a feasible alternative has been identified. The City should request that ODOT:

1. Carry forward the East Marquam Project so that it is able to be constructed, with a final decision in Spring 1989.
2. Undertake further exploration of the ODOT Modified Alternative, to resolve operations and funding questions before the Spring 1989 decision point.

If the ODOT Modified Alternative is determined feasible, it should be constructed. If not, the current East Marquam Project should go to construction.

BACKGROUND

In the 1950's, the City faced the original decision on where to locate the Eastbank Freeway. After reviewing issues raised by various alternatives, including routes set back from the riverfront, the Planning Commission and Council selected the current location on the river. In the early 1970's, concerns about the vitality of the central eastside industrial area resulted in a revitalization strategy and a policy decision to support continued industrial activity in the area. To meet the transportation objectives the City and ODOT jointly developed and obtained funding for the East Marquam Project, to add and modify ramps in the area.

As that project was funded and proceeded through final approval stages in the mid 80's, the City began the development of the Central City Plan. As adopted, the plan reconfirmed the policy of continued industrial activity. It also included a new policy calling for greater public use of the riverfront.

Among the action items of the Central City Plan, the Planning Commission recommended that a relocation options study be completed immediately, in order to examine the location question without losing the funding for the East Marquam Project.

Last December and January, Senator Jane Cease convened a committee representing groups interested in the freeway and and the areas in which it lies. That group agreed on guidelines for the study and composition of a study oversight committee. This January, the City and ODOT provided funding and adopted the guidelines and committee makeup for the freeway options study. The committee completed its study by its June 30th deadline and has made its recommendation, which is now presented for action by the City and State.

THE STUDY

The Committee's eight members, as specified by Council, included Sen. Jane Cease as non-voting chair, two members from Central Eastside Industrial Council, two from Riverfront for People, and one each from the Planning Commission, Southeast Uplift and the Advisory Committee on Design and Construction for the Oregon Convention Center.

The charge to the Committee was to make a recommendation as to whether or not a feasible alternative which responds to specified criteria warrants further exploration. If the Committee found such a feasible alternative, their recommendation was to be provided to the City and State for a decision on whether to proceed with further exploration of the alternative. This exploration would take place on a dual track, i.e., simultaneously with the final steps leading to potential East Marquam construction beginning in April 1989.

By April 1989, funding limitations mean that the City and State must either proceed with East Marquam project construction or drop that project, along with its funding. In order to fund the entire East Marquam Project before the expiration of the Interstate Completion Program, construction funds must be allocated in 1989 to avoid significant disruption to the construction of other Oregon projects.

COMMITTEE'S PROCESS AND RECOMMENDATION

In the four months from February 29 to June 27, 1987, the committee held 16 meetings with the project consultants, including a well attended public forum on May 23rd. In April, the consultants presented three alternatives for transportation, economic and land use effects, with input from Metro on projected travel demand. After reviewing the consultants' conclusions, the Committee formulated its final report, which was unanimously adopted on June 27th. The text is attached as Exhibit D.

DESCRIPTION OF THE ALTERNATIVES

North End/South End

Since improvements have been sought for the entire two-mile section of I-5 between the Marquam and Fremont Bridges, the study was set up to include the part north of I-84 as well as the south portion. However, the committee's consultant work identified two alternatives for this north area, one reramping the current freeway and another depressing the entire north section. These two designs can be combined with any of the southern options. Therefore, this report will concentrate on the portion south of I-84.

East Marquam Interchange

The East Marquam Project was identified as Alternative 1 in the Options Study. This project includes three phases: The Water Avenue ramps, Banfield access and McLoughlin ramps. See page 12 in the Executive Summary for plans.

The Water Avenue ramps phase includes widening the lanes on the east end of the Marquam Bridge, improving the Water Avenue exit from I-5 and providing a new on-ramp from the Water/Salmon intersection to I-5 Southbound.

The Banfield access is primarily the construction of a two-lane off-ramp from I-5 northbound to I-84.

The McLoughlin ramps connect I-5 on the north to McLoughlin Blvd. on the south. They are elevated structures which pass over the Hawthorne Bridge and the Southern Pacific mainline rail right-of-way (most other rail lines in the area are being removed).

Committee Recommended Alternative

The Committee Recommended Alternative was described in their recommendation as an alignment which "should follow generally the alignment as outlined in Alternative #2". This alignment is depicted on pages 17 and 18 of the Executive Summary. The consultants plan for this alternative, on which the cost estimates and other impacts are based, includes a "split diamond" for the Morrison/Belmont

interchange. This split diamond interchange is typified by the interchange at I-205 and S.E. Stark/Washington. It consists of off and on-ramps which parallel the freeway and which intersects a one-way couplet of surface streets, with signals at each of the four intersections. Since each intersection involves a pair of one-way's, the turning movements are simple and the traffic carrying capacity is high.

A key element in the capacity is the length of each of the four legs between the signals. These must be adequate length to store the vehicles which stack up between signal changes at peak hours. ODOT and Metro have expressed concerns that this split diamond will not have adequate capacity without lengthening the distance between the signals, spreading the ramps farther apart, widening the right-of-way. Due to these technical staff concerns, the Committee's recommended alternative does not specify that the split diamond be part of their design. This lack of specificity in the Committee's recommendation has implications for land use, costs, access and the decision making process as a whole. These implications are discussed in the analysis.

ODOT Modified Alternative

ODOT has recently developed a modification of its East Marquam project and will present that modification to the Planning Commission. The significant changes are these:

1. The curve of the freeway between the Marquam and Morrison Bridges is realigned eastward.

2. About eight acres of land currently owned by ODOT becomes riverfront land.

3. The local ramps between the Marquam Bridge and central eastside are connected to the Morrison/Belmont ramps rather than to Water Avenue.

The McLoughlin ramps and the new Marquam Bridge to I-84 ramp are provided as in the East Marquam design, with one significant change, that is, the southbound I-5 to McLoughlin Blvd. ramp is depressed or at grade, rather than elevated.

This modification was presented to the Committee at its final meeting. The Committee did not take action on it. ODOT anticipates that this modified plan could be constructed within the timeframe for the existing East Marquam funding. An additional $15-$20 million appears needed beyond the approved federal funding. At this time, ODOT is recommending that the City support continued development of this alternative.

ANALYSIS OF THE ALTERNATIVES

The following questions will be addressed for each of the alternatives, the East Marquam Project, the Committee Recommended Alternative and the ODOT Modified Alternative.

1. How is access provided to the various Central City Plan Districts?

2. How is the freeway system affected?

3. How are transit corridor plans affected?

4. How does each alternative affect the central eastside industrial area?

5. How is access provided to the Waterfront?

6. What are the visual impacts?

7. What are the timing implications?

8. What are the finance implications?

9. How will the land west of the freeway be used?

10. What have other agencies advised?

The Central City Plan describes a vision for the central city. To implement that vision, it provides a concept plan, with policies and action items. In order to further plan for the central eastside, improving transportation facilities, expanding waterfront access, and preserving the industrial area, the Central City Plan specifies (in Action Item T1) objectives for this study of the Eastbank Freeway. The Cease committee reviewed these objectives and modified them for adoption in the City Council Resolution setting up the study. The following analysis is based on the objectives and guidelines in both the Central City Plan and the Resolution, as well as other adopted City policies. (See the Exhibits for the study guidelines stated in the Central City Plan and the Resolution).

1. How is access provided to the various Central City Plan districts?

The Central City Plan and the Resolution both specify that the central eastside should have north and southbound access, to and from I-5. The resolution also states that access from McLoughlin Boulevard to I-5 should be provided in order to relieve traffic on Union and Grand and that any project should consider the transportation service and impacts of the freeway in the areas around the Convention Center and the OMSI site. The Committee has recommended, with support from PDC and representatives of Central City Plan area businesses, that good access should be provided to the Central Business District, Central Eastside, Convention Center, Lloyd Center areas and OMSI site.

East Marquam Project

This alternative provides the central eastside complete access to and from I-5, north and southbound. It also provides the McLoughlin to I-5 connection. Its Morrison Bridge interchange, using free flow ramps, does not add any congestion points to the bridge, allowing that facility to remain a primary auto access for downtown. This is consistent with the Arterial Streets Classification Policy (ASCP), which designates the Morrison Bridge as the primary facility for private vehicles and the Hawthorne and Steel Bridges as the primary downtown bridges for transit.

The Committee Recommended Alternative

Due to the unresolved questions on the split diamond, it is not now possible to make a definitive evaluation of the access provided by this alternative. However, it is possible to base a tentative evaluation on the assumption that the split diamond will be used in this alternative. In this case, central eastside access to and from I-5, north and southbound will be provided through that interchange. However, adding two signalized intersections to each ramp on the east end of the Morrison Bridge will reduce the capacity and attractiveness of that bridge for downtown auto traffic. Hence, some of this traffic will disperse to other bridges. In addition, Union and Grand would carry some of that traffic to/from other bridges, which works against the Central City Plan objective of relieving traffic on Union and Grand.

Another aspect of this access issue is the timing. There have been past committments by the City to improve central eastside access, and to provide the McLoughlin/I-5 connection as a link between the Sunrise Corridor and the City. The Committee's recommended alternative cannot begin construction for at least ten years, according to the study consultants. This delays fulfillment of the city's committments to the central eastside community.

ODOT Modified Alternative

This alternative provides the same access opportunities as the East Marquam project. There is some potential negative effect on eastbound Morrison Bridge traffic, caused by the introduction of a traffic signal on the east bridge off-ramp, where the new I-5 southbound access intersects that Belmont Street ramp. This congestion point could reduce the attractiveness of the Morrison Bridge for eastbound use. (It would not affect the eastbound Morrison Bridge to I-84 ramp).

Another potential negative impact in this alternative is increased congestion at the Union/Grand intersections with Morrison/Belmont. This is due to the use of Morrison and Belmont, for Marquam Bridge traffic, rather than Water Avenue, as exists now and would continue with the East Marquam project.

Conclusion

The East Marquam Project most surely meets the guidelines on access. The ODOT Modified Alternative presents some potential problems with respect to policy emphasis on the Morrison Bridge for downtown auto access. The Committee Recommended Alternative with its four intersections, affecting all Morrison Bridge traffic, appears in conflict with policy and operations standards.

2. How is the freeway system affected?

The Central City Plan states that the project should improve the safety and efficiency of this stretch of I-5. The resolution states that the project should improve safety on the Marquam Bridge and eliminate narrow lanes, provide a well-functioning freeway, improve access from the Marquam Bridge to I-84, and provide the McLoughlin/I-5 Connection. In reaching regional consensus on transportation projects, Clackamas County and Portland have agreed that the McLoughlin ramps are a critical link between the "Sunrise Corridor" and Portland as the center of the region. Portland has committed to promptly pursue the construction of this connection.

East Marquam Project

The East Marquam Project meets all these objectives; they were the guidelines for its original design. It can meet the commitment to prompt construction without delay.

Committee Recommended Alternative

If the split diamond interchange design is used, it will provide for maximum efficiency of the freeway, but at a cost to the local street system noted above.

This alternative will delay construction of the McLoughlin ramps by ten years.

ODOT Modified Alternative

This alternative meets all the objectives, and can be constructed promptly.

Conclusion

The three alternatives meet the access objectives for the regional freeway system, but the Committee Recommended Alternative will involve delay in meeting them.

3. How are transit corridor plans affected?

Both the Central City Plan and the Resolution stated that the project should address the development of a trolley or light rail connection between the Convention Center and OMSI sites. In addition, the Central City Plan contains an action item (T4) recommending, in a six to 20-year timeframe, the planning and construction of "an inner city transit loop (possibly on Grand Avenue)," as an "essential component in improving the vitality and attractiveness of Portland's central eastside," and "to enhance the character of the Union and Grand corridors."

In addition to these recently adopted policies, the ASCP designates the Hawthorne and Steel Bridges as the Major City Transit Streets for eastside access to the downtown.

East Marquam Project

This alternative accommodates the development of the north/south transit spine along Union/Grand, and does not conflict with the Hawthorne Bridge's transit designation.

The Committee Recommended Alternative

This alternative also fully accommodates the development of rail on Union/Grand. However, its effects on Morrison Bridge auto capacity, resulting in traffic rerouting to other bridges, appears to conflict with the transit designation of the Hawthorne Bridge.

During the study, there was some discussion of providing for a transit alignment between the river and the freeway. This would not be possible with the committee's recommended alignment. Staff notes that the Union/Grand corridor transit alignment provides better access for greater, more transit supportive densities than would a riverfront alignment.

ODOT Modified Alternative

This alternative accommodates the north/south transit spine along Union/Grand, and does not conflict with the transit emphasis for the Hawthorne Bridge.

Conclusion

All three alternatives have similar implications for the ultimate rail transit alignment. ODOT's original East Marquam design and their Modified Alternative are consistent with and supportive of adopted city transit policies and objectives. If the Committee Recommended Alternative results in shifting auto traffic to the Hawthorne Bridge, then it is in conflict with the ASCP.

4. How does each alternative affect the Central Eastside Industrial area?

The Central City plan states as objectives that the integrity of the industrial sanctuary be preserved, and that the study examine alignments no farther east than Third Avenue. The Resolution includes a guideline that the project should preserve the integrity of the central eastside industrial area.

None of the alternatives is farther east than Third Avenue.

East Marquam Project

This project will not trigger land use changes from industrial to commercial in the area. The consultant's report (Executive Summary, page 33) states "By improving access to the area compared to the present, each alternative would encourage further commercial development. However, there is sufficient capacity in the form of underutilized properties to accommodate most demand for new commercial space within CEID commercial corridors if the freeway remains in its present alignment."

Committee Recommended Alternative

The Committee's recommendation includes a provision that as final design occurs, the city, PDC and others "should encourage economic vitality of the Central Eastside Industrial area by supporting efforts to create productive businesses and jobs in character with the existing manufacturing and distribution functions and land use designations."

PDC has offered two comments on this issue, in its analysis of the Committee Recommended Alternative.

1. Acquisition of additional right of way will take property off of the tax roles, thereby reducing tax increment funds which would otherwise be available for the Central Eastside urban renewal program. The ability to fully realize the riverfront and new development opportunities which may be provided by a realigned freeway depends to a large extent upon this same development financing resource. The development Commission may, however, need to reassess the feasibility of urban renewal in this district if such an extensive right of way acquisition program is pursued.

2. The potential alignment could result in the direct displacement of at least 38 businesses and approximately 600 jobs. We are concerned that these firms may be lost from the City and State at a time when both Portland and Oregon are making the retention and attraction of business to this region their top priority.

The consultant's report (Executive Summary, page 36) concludes, "In short, almost any relocation option will conflict to some degree with the industrial sanctuary policy." This is based on their judgement that redevelopment of the riverfront land will be non-industrial, in keeping with the riverfront amenities and the resulting increases in land values there. This issue is discussed further under question 9.

Transportation staff notes that an alignment just west of First Avenue will reduce by more than one-third the size of the industrial area from Burnside to Hawthorne, west of the commercial spine at Union/Grand. The Central City Plan recently expanded that spine and allowed increased density there. This provision for commercial intensification is supportive of the growth-focusing goals of the comprehensive plan. Achievement of those goals, including preservation of an industrial job base, would be undermined by a freeway relocation which would bring pressure for commercial redevelopment closer to the riverfront.

ODOT Modified Alternative

This alternative has only slightly greater impacts than the East Marquam project. It likely will require the acquisition of one industrial building at Water and Belmont.

Conclusion

Of the three alternatives, the Committee's recommendation presents some conflict with the preservation of the central eastside as industrial, while the other two are supportive.

5. How is access provided to the Waterfront?

The Central City Plan and the Resolution both state an objective of providing access to the Eastbank Esplanade at frequent intervals over or under the freeway. The Resolution specifies that it be access for bikes and pedestrians. In addition to access to the esplanade, the Central City Plan further encourages the recapture of the east bank by expanding and enhancing the space available for nonvehicular uses. This analysis looks at how much land is available and how it is accessed.

All alternatives provide vehicular access to waterfront areas at Clay Street and to the south through the OMSI site. The East Marquam project and ODOT Modified Alternative provide opportunities for vehicular access also at Madison, because their McLoughlin ramps are either elevated or depressed at this location.

East Marquam Project

This alternative does not increase the area devoted to nonvehicular use. It does include improvements to the existing Eastbank Esplanade which will increase public access to the waterfront. The improvements include making the slope to the river more gradual and easier to cross, dropping the improved path partway down that slope for noise and visual buffering from the freeway, widening the path and providing for benches and other furniture at stopping places. These improvements will be implemented by ODOT within the project cost, and were planned by the Portland Parks Bureau.

Committee Recommended Alternative

This alternative has the McLoughlin ramps at grade, posing a barrier for any access north of Clay to the riverfront parcel(s). This alternative results in about 21 acres of land between the freeway and the river.

The committee has recommended that access to the riverfront area be safe and convenient, "to create a sense of safety and activity and encourage a use level which will avoid many of the negative problems of isolated areas, such as vandalism or drug use." The recommendation further states that planning should be initiated "to determine the vision and ultimately the uses that the area created should allow and what public and private investment in the area should take place to achieve that vision." Clearly this alternative provides the greatest opportunity for public use along the waterfront. However, it provides fewer access points across the freeway to that waterfront land.

ODOT Modified Alternative

This alternative provides eight acres of waterfront land, extending north from the OMSI site to Taylor Street. The East Marquam Esplanade improvements would be implemented for the riverfront north of Taylor. Future planning would be needed for the added eight acres. ODOT's design concepts devote all of this land to park, rather than mixed public/private use.

Conclusion

The Committee Recommended Alternative potentially provides the most opportunity for riverfront use, although its access limitations may detract from its actual use. The ODOT Modified Alternative provides a generous area for park use, plus improvements to the remainder of the esplanade. The East Marquam Project provides for the esplanade improvement program originally developed by the Parks Bureau.

6. What are the visual impacts?

The Central City Plan gives as a study objective the reduction or elimination of the number of ramp structures in the air. The resolution states that the study should consider lowering as much of the elevated portion of the freeway as possible.

East Marquam Project

This alternative leaves the existing ramps and adds a new one south of the existing ones. It also adds elevated McLoughlin ramps southeast from the Hawthorne Bridge.

The Committee Recommended Alternative

If this alternative were built to include the split diamond interchange, it would have the lowest profile of the three alternatives. The current ramps in the air over the Morrison Bridge would be replaced by ramps connecting to and no higher than the east end of the Morrison Bridge. The resulting profile would be significantly lower than today, but elevated ramp structures would extend further south than at present. The McLoughlin ramps would be at grade, not elevated. Since the freeway is pushed back from the river at about Alder Street, screening would be feasible.

If the final design provided the same grade separated movements as exists today, the profile would be similar to the current freeway, although the structures could be more handsomely designed.

ODOT Modified Alternative

This alternative eliminates one existing ramp, eastbound, dropping from the Morrison Bridge to Water Avenue. It adds a ramp at the same height as the east line of the Morrison Bridge extending south. In this alternative, the northbound McLoughlin ramp is elevated, the other is depressed or at grade. The entire elevated freeway and ramp south of Morrison could be screened, since the freeway is pushed eastward.

Conclusion

The Committee Recommended Alternative, if it includes the split diamond, best meets the objectives related to lowering the profile. The ODOT Modification is lower than the East Marquam.

7. What are the timing implications?

The Central City Plan and the Resolution both encourage an examination of the potential of making incremental changes over the next 20-25 years, as well as of a single project.

In addition, the City has made commitments to the central eastside and to interests based in Clackamas County regarding the timely provision of both southbound access from central eastside to I-5, and the McLoughlin ramps as a connection from Clackamas County's "Sunrise Corridor" to I-5 and the center of the metropolitan region.

East Marquam Project

The East Marquam Project can be built in the shortest possible timeframe. Its environmental impact evaluation is complete, its funding is approved. It can enter into preliminary engineering next spring.

The Committee Recommended Alternative

Due to the need for future project analysis and design development, environmental impact work, and right-of-way acquisition phases, this project is at least ten years from construction, according to the study consultants. PDOT staff agrees with this judgement. The Committee's recommendation stated "Phasing of the new alignment should enhance and take advantage of the public dollars which have already been expended within this two mile section for the convention center and light rail and build upon those past efforts and expenditures." Given the expected 10-year delay, that coordination will be difficult to accomplish.

The study consultants did analyze the alternatives for phasing possibilities, and listed project elements which would be constructed in separate phases (Executive Summary, page 27). They did not provide a "critical path" analysis.

ODOT Modified Alternative

Given that this project is in the same right-of-way as the East Marquam project (with the addition of a block with a single building), and that the existing environmental evaluation therefore satisfies EIS requirements, this project can proceed in the same timeline as the East Marquam project.

All the alternatives can be phased or, if funding permits, constructed as a single project.

Conclusion

The East Marquam and ODOT Modified Alternative could be built in the next five years, meeting commitments to the central eastside and Clackamas County. Proceeding with the Committee Recommended Alternative would delay construction by close to ten years.

8. What are the finance implications?

Both the Central City Plan and the Resolution state that the project should ensure that any improvements to the freeway do not use light rail funds. Further, the Resolution specified that the project must be eligible for federal funds.

Legal restrictions prevent the use of federal light rail funding for highway projects. However, funding for the light rail projects is a mixture of federal funds and local match. Any use of local funds for the freeway relocation would affect the region's ability to raise local match for light rail.

The Joint Policy Advisory Committee on Transportation, JPACT, also has authority over transportation funding in the metropolitan region. JPACT is nearing the adoption of a priority list of the region's projects, the result of an 18 month negotiation process among the local governments. Proceeding with any Eastbank project involving funds aside from the approved $54 million will require JPACT approval. This would involve a possible challenge to existing priorities, and could mean dropping or delaying other priority projects and negotiating a new regional consensus.

The evaluation of finance implications must include the reliability of cost estimates and the potential funding sources.

East Marquam

The cost estimates for this project are well developed, and federal funding has been fully approved. While the amount is now stated as $54 million, it is the nature of this federal funding source (Interstate Cost Estimate, or ICE) that funds will cover the actual cost of construction, even if they exceed the original estimate, so long as the project functions are not changed or expanded. Thus, this project is fully funded from federal sources, using no light rail funds.

This funding program will expire in 1991. For an Eastbank freeway project to qualify, it must begin engineering next spring.

Committee's Recommended Alternative

The consultant's estimate for the southern portion is $93 million, based on using the Morrison Bridge split diamond with 200' between intersections. There are two issues pertaining to this cost estimate: ODOT's discomfort with the low contingency costs used by the consultants, and the potential changes to improve the operation of the split diamond.

First, ODOT recommends a contingency of 40%; the consultants have used 25%. The consultants have discussed this work with ODOT and remain comfortable with their estimate. ODOT maintains that 25% would be reasonable for a project following an existing alignment. For a new alignment, such as the Committee has chosen, the greater number of unknowns make 40% a more reasonable contingency. Use of 40% rather than 25% would increase the cost of this alternative from $94 million to about $105 million.

Second, the basic estimate may be low if it is necessary to redesign and enlarge the split diamond to improve its operation and minimize congestion. Such an enlargement would require greater right-of-way, either as an additional purchase or by using more of the riverfront area. Construction costs would also be higher due to lengthening the costly elevated structures.

There are also additional unknown costs for this alternative, including the acquisition of ODOT's existing right-of-way for park purposes, development of the park, and development of the road system in the riverfront area.

Concerning funding sources, the $54 million in federal funding cannot be used for this alternative. Federal Highway Administration (FHWA) regulations would not allow its use to relocate an existing freeway, which is a substantial part of this project. Construction of the ramp functions would be permitted use of Interstate Construction Funds. For the parts which would be eligible (basically the functions listed in the East Marquam description on page 3 of this report), this alternative could not qualify due to the 1991 deadline. None of the eligible ramp functions could be under construction by that time.

A revenue source for the entire $94 million cost would need to be found. Beyond the expiring Interstate Completion funds, other federal sources include I-4R, which allocates about $40 million annually to Oregon for use in restoration and repair of existing facilities. These funds are not eligible for moving the freeway but would be available for ramp construction. Use of these funds would mean delaying or cancelling other projects in the state and region. These are projects, such as interchanges on I-205 at Lester Road and I-5 at the Stafford exit, which have already been discussed and prioritized through JPACT's regional consensus and through the state's Six-Year Program.

Federal demonstration grants could be sought, but are generally in small amounts. In the 1987 Surface Transportation Act, 133 grants were authorized. Eight-five of these projects were under $1 million. Only three were over $5 million and the highest was $9 million.

It is important to note the difficulty in achieving these earmarkings, even with the support of the entire Oregon Congressional delegation. Furthermore, these requests are not isolated from other regional requests, such as the Westside LRT and all non-transportation requests.

These are also opportunities to raise funds within Oregon, through a gas tax or vehicle registration fee increase, or within the region, using the same mechanisms. These would clearly need strong support in the region beyond Portland itself. Raising funds through these mechanisms would jeopardize the region's ability to raise local match for light rail.

The Committee concluded that it is important that the $54 million be retained in some form. Given the restrictions on this money, it cannot be retained in any form usable for relocation nor as an "IOU" or credit against future relocation costs.

In recommending a new freeway alignment, the Committee relied on information from the consultant, generally summed up in this statement (Executive Summary, page 38):

"Financing the additional costs of a new alignment would be difficult, but no more so than other major public works projects that have been implemented such as the Banfield light rail line."

Transportation staff notes a substantial difference between this redesigned freeway project and the Banfield LRT. The light rail project competed for funds from a federal program funding dedicated for new rail projects, a program with established resources and guidelines already in place. Such a program does not exist for highway relocations.

ODOT Modified Alternative

ODOT has estimated a cost of $72 million for this alternative. Of this, about $15-20 million could be attributed solely to freeway mainline relocation, and hence is not fundable from the $54 million. Since the project is nearly completely within ODOT's right-of-way, there is no significant right-of-way acquisition and no major environmental evaluation required. Therefore, the $54 million can be tapped within its deadline.

ODOT has not specified sources for the $15-20 million shortfall. The same possibilities exist as for the Committee's Alternative, with additional options resulting from the safety features included in this alternative.

Conclusion

Only the East Marquam Project is fully funded from federal sources. The ODOT Modified Alternative is eligible to use that same approved funding, but has a $15-$20 million shortfall from unspecified sources. The Committee Recommended Alternative has no specified funding source, and is not eligible for federal or I4-R construction funding. Using state or locally generated sources could delay finding local match for light rail projects, though it would not technically be a use of rail funds for relocation itself.

9. How will the land west of the freeway be used?

The primary objective to be gained in relocating I-5 is stated in Policy 2 of the Central City Plan:

> "The Willamette Waterfront: Enhance the Willamette River as the focal point for views, public activities, and development which knits the city together.
>
> "Further: Recapture the east bank of the Willamette Riverfront between Marquam and Steel Bridges by expanding and enhancing the space available for nonvehicular uses."

East Marquam Project

The Parks Bureau has developed an Eastbank Esplanade Plan (adopted by the Council) to be used with the East Marquam Project. It provides for a slight expansion of land area through fills in the river. By pulling the trail away from the freeway and lowering it, noise impacts are reduced, but no significant land area is available for activities. Continuation of the trail from the Burnside Bridge north to the Steel Bridge is by floating structures.

The East Marquam cost estimate includes funding only for the fill and a minimal level of trail and landscaping. Funding for additional development is not yet firmly identified.

The Committee Recommended Alternative

The Committee's reports states that:

> "The City of Portland should initiate a project through the Portland Planning Bureau, the Portland Development Commission and the Park Bureau to determine the vision and ultimately the uses that the area created should allow and what public and private investment in the area should take place to achieve that vision." (item 8)

In making the recommendation, the Committee considered the consultant's analysis, which assumed twelve acres of park, and five acres of development acreage. With these assumptions, the consultant reached a number of conclusions:

a. A cost-benefit analysis of the additional costs of Alternative 2 produced a negative value of -$19.4 million. This assumes that the development land would double from the present CEID value of $7/sq. ft. to $15/sq. ft. due to site amenities. Parkland was valued at $40/sq. ft., similar to Waterfront Park. (Table 2, page 35).

b. "A major commercial development along the eastbank could increase the share of regional employment growth which occurs in Portland, rather than suburban areas. A decision to relocate the freeway without pursuing development along the river would reduce employment in the Central Eastside." (page 36)

c. "If mixed-use development were allowed along the river, the character of the CEID would be further changed. The area would probably become less desirable for other uses. In short, almost any relocation option will conflict to some degree with the industrial sanctuary policy." (page 36)

The Committee questioned whether or not points b. and c. were applicable to their recommended alternative, since it results in only five acres for redevelopment.

The Parks Bureau comments that:

> "Obviously, the relocation of the freeway and the subsequent allocation of a sizable land for development of a riverfront park greatly enhances the Park Bureau's ability to provide a wider spectrum of water related and water oriented park and recreational amenities along the east bank of the river.
>
> "With the popularity and demand for more water oriented recreational facilities on the east side, the more land that is available for such uses, the better are the chances for the Park Bureau to successfully meet such demands".

The Bureaus of Planning and Parks, and the Development Commission have expressed a willingness to conduct the Committee's recommended vision study. The Bureau of Planning has outlined a specific approach, as follows:

> "Because of the planning that will be necessary, a project housed in the Bureau would be appropriate. Active participation of PDC, Parks and ODOT and affected and interested groups would be accomplished through formation of a TAC and CAC. A detailed market analysis will be required. Such an analysis would best be done by PDC. Based on the market analysis, the Bureau of Planning will need to generate land use alternatives and PDOT will need to do a detailed traffic impact assessment of these alternatives. Planning will need to work with Parks and OMSI to develop detailed recreation alternatives for the recreational portion of the created property and PDC, ODOT and transportation will need to participate in the evaluation of these alternatives. Recommendations from the study will be submitted to

the Planning and Development Commissions prior to review by City Council. Review through LCDC post-acknowledgement process will also be required prior to City Council action." [Since the Comprehensive Central City and Renewal District Plans will need to be amended].

"This work will require, from start to finish, approximately one year to complete. Planning Bureau resources necessary will include a full time Planner III, support graphic and secretarial staff and about $10,000 of nonpersonnnel costs. Total cost would be $60,000 to $65,000."

The Park Bureau notes that its "Planning Section work program will be adjusted to allow for staffing of this project following the City Council's action on the committee's recommendations."

If the Committee Alternative is adopted, Transportation staff recommends that this study be done very quickly (rather than deferring it until freeway construction) since the specific land uses will affect the design of both the freeway and the local access streets.

Until specific designs are prepared, the costs for developing the waterfront land are not available and funding sources not identified. The northern extension of the Esplanade will be similiar to the East Marquam Alternative (with somewhat more land area between the Morrison and Burnside Bridges, depending upon ramp design).

ODOT Modified Alternative

ODOT's design sketches show the land west of I-5 used for parks, and the land under the freeway used for parking and buffering the park from the industrial sanctuary area. The additional eight acres provides space for at least one major park feature. No costs or funding sources are included in the project package. The Esplanade north of the Morrison Bridge will be the same as in the East Marquam Project.

Conclusion

The Committee Alternative presents the greatest land area for redevelopment. It appears that the priority use of the land west of I-5, with any alternative, should be for parks, since the demand exists and other uses are more disruptive to the industrial sanctuary.

10. What have other agencies advised?

ODOT:

At this time, the ODOT recommends that the City and State jointly pursue the two-pronged approach included in the original Council resolution. In addition to the currently approved East Marquam Project, they recommend further consideration of their ODOT Modified Alternative. They believe that the modified alternative is well enough defined to state that it is feasible in all ways except perhaps funding. They would pursue funding for the additional $15-$20 million needed.

STATE LAND BOARD:

The State Land Board must take a number of actions before any project can be constructed. These include:

1. Issuance of a removal-fill permit.

2. Approval of a fill for a non-water dependent use under the Lower Willamette River Management Plan (for the Esplanade).

3. Permission to lease or purchase new lands created by fill (if allowed), and valuation of those lands.

4. Issuance of an easement for the Marquam Bridge, and possibly for other areas not covered by lease or purchase.

The Board staff has noted that a:

> "Particular concern to the Board will be whether the proposed project is consistent with provisions of the Lower Willamette River Management Plan which discourage fill for non-water dependent purposes, and which state a general policy against further encroachment on existing water surface areas.
>
> "Board approval for [the East Marquam] project is by no means assured. We are hoping the alternatives review currently underway will assist in developing appropriate recommendations for the Board." (Letter, Pagel to Cease, March 9, 1988)

All three of the alternatives before the City will require fill in the river at least north of the Morrison Bridge for the Esplanade, which is not a river-related use.

In addition, Board staff has noted that the present freeway is built upon filled lands for which the Land Board has ownership claims. Apparently, the ODOT and Division of State Lands will need to reach a settlement of these claims before any project (freeway, park, or private development) will be approved by the Board.

METRO AND JPACT:

Metro and JPACT have not taken a position on the alternatives at this time. JPACT will be receiving a briefing from Senator Cease at their August meeting. JPACT has urged that the $54 million not be lost. In addition, Clackamas County has emphasized the importance of the McLoughlin/I-5 connection program as part of their "Sunrise Corridor" program.

PARKS BUREAU:

In addition to comments already quoted, the bureau expressed support for the Eastbank Options Steering Committee's Final Report. "The Park Bureau is pleased with the committee's recommendation asking the City to initiate a project to determine the vision and ultimate uses in the area created by the relocation of the Eastbank Freeway," and expects to submit a more detailed evaluation of the Committee's recommendations at the Planning Commission hearing. See Exhibit F for full text.

PDC:

In a letter to Mayor Clark (July 12th), the Commission states that:

> "It has recently come to our attention that the Oregon Department of Transportation has developed an alternative to the original design of the East Marquam Project. Based upon our brief review of the alternative, we find that it may have several advantages over both the original ODOT plan and other approaches, such as "alternative 2". For example, it does not require a lengthy review process, could probably utilize existing funds, has limited negative impacts on existing businesses, maintain a good access to other Central City areas, and takes very little property off of the tax roles.
>
> "We are also pleased to find that the alternative is generally responsive to the recommendations of the Eastbank Alternatives Committee, and to the criteria originally specified by the City Council. It provides approximately 8 acres of accessible riverfront, maintains the industrial sanctuary, improves safety on that section of the freeway, improves access between the Central Eastside and I-5, and relieves traffic on Union and Grand."

"We realize that the new proposal has not yet had the benefit of careful analysis or substantial public review. As the City agency responsible for Economic Development, I would like to take this opportunity to offer PDC's assistance in preparing an analysis of the economic and development related impacts of the new proposal, or of other options of interest to you." See Exhibit H for full text.

BUREAU OF PLANNING

"The Bureau of Planning wishes to commend the work of the Eastbank Options Steering Committee. We are impressed with the focused way in which the committee, in a short amount of time, was able to clarify many issues and facts that had defied clarification during the Central City Plan process. The Committee has provided an environment of greater certainly for decision making than has existed on this topic over the last several years. . . .

"Alternative #2 is presented as creating 12 acres of riverfront open space and 5 acres of land for mixed use development. Apart from the financial reasons cited in the Weslin Consulting Services report to the Steering Committee, from a land use perspective, industrial use of the 5 developable acres created by shifting the freeway east to First may not be appropriate. The development of a 12 acre park in tandem with the new OMSI facility and the rebuilt freeway facility may create such amenity for this site that a more intense use is called for. . . .

"Unless industrial development or housing were required in some way, the higher market return office and retail would preclude residential, manufacturing and distribution development. . . . The Comprehensive and Central City Plan may need to be amended to remove the area west of the relocated freeway from the industrial sanctuary designation and zone and to establishing land use controls consistent with a consensus vision for this area." See Exhibit G for full text.

GENERAL CONCLUSIONS

It appears to staff that the study committee process has produced alternatives to the current East Marquam Project which may be feasible. As a result, the dual track approach adopted by Council in early 1988 should be continued to a decision on a single alternative in April of 1989.

The study did not identify "fatal flaws" with the current project. The East Marquam Project meets the regional system and local access transportation objectives and preserves the central eastside's integrity. Because it can be constructed within the next five years using no funding beyond the approved federal funding, the current project allows us to achieve these objectives without displacing other City and regional goals. It is, however, the least able to provide an expanded riverfront area for nonvehicular use. Nevertheless, since it meets the other objectives well, it should be advanced at least through April 1989.

The choice of the second alternative to advance through next April requires the balancing of two extremely important land use objectives - the integrity of the CEID as a job base and the development of the eastbank as a public riverfront amenity. Based on a review of the studies to date this land use choice has no absolute answer. The lack of a concrete land use vision with the Committee recommended alternative increases the difficulty in balancing jobs and recreation, since the use of the newly available land remains an unknown.

The consultant notes that any relocation of the Freeway will weaken the industrial sanctuary - mainly by creating land with greater amenities than industrial uses can sustain. The Committee believes that their recommended alternative carries slight risk since the land area exchanged from industrial to riverfront is relatively small. However, PDC notes that reduction of the tax base through right-of-way acquisition would seriously weaken the tax increment urban renewal district. Urban renewal has been a major redevelopment tool for Portland and its weakness here will be harmful to the district, whatever land use choice is made.

The ODOT Modified Alternative, which uses current state-owned right-of-way, does not pose the same risk to the industrial district.

The choice of the second alternative also requires a financial/political risk assessment. In order to further pursue the Committee Recommended Alternative, and add it as the second track, three things need to be achieved:

a. A specific enough concept to begin final design and analysis. This does not currently exist. As an example, if the split diamond interchange proposal is not workable, alternative interchanges will require more land, reducing the 21 acres.

b. A new environmental impact analysis, due to the significant differences from the approved project (especially in right-of-way). A new EIS usually takes several years.

c. A major infusion of dollars, even if the $54 million could be preserved, which all advisors have advised is not a probable. At best, we face a $39 million shortfall. At worst, the shortfall is $93 million.

Resolution of any one of these issues will require great effort and is subject to pitfalls outside the control of the City.

The ODOT Modified Alternative has some unresolved aspects, but most are capable of resolution by the Spring, 1989, decision deadline. The major unresolved aspect is financing. It appears that the shortfall will be $15 - $20 million, since the modified project remains eligible for the $54 million.

Given that the ODOT Modified Alternative presents no risks to the CEID job base, and appears within financial possibility, staff believes that it should be chosen as the second alternative. This choice clearly means less riverfront park space within the Central City Plan's 20 year timespan. The ODOT Modified Alternative does pull the freeway back from the river and reduce its impact, a general direction which should be followed when future projects are developed. If the City's objective is to provide a better waterfront than currently exists or is possible with the East Marquam project, the ODOT Modified Alternative is the prudent risk.

STAFF RECOMMENDATIONS

Staff recommends that the dual-track study approach outlined in the January 1988 resolution be initiated, since it appears that a feasible alternative has been identified. The City should request that ODOT:

1. Carry forward the East Marquam Project so that it is able to be constructed, with a final decision in Spring 1989.

2. Undertake further exploration of the ODOT Modified Alternative, to resolve operations and funding questions before the Spring 1989 decision point.

If the ODOT Modified Alternative is determined feasible, it should be constructed. If not, the current East Marquam Project should go to construction.

SWD/AMcL/pb
7/18/88

EXHIBITS

A. Central City Plan Text (Transportation Policy and Action Items T1, T4)

B. Resolution No. 34388

C. Consultants Executive Summary, Eastbank Freeway Options Study

D. Final Report, Eastbank Options Steering Committee

E. Drawing -- ODOT's Modified Alternative (6/23/88)

F. Bureau of Parks and Recreation Comments

G. Bureau of Planning Comments

H. Portland Development Commission Comments

Policy 4: TRANSPORTATION

T1:
By January 1, 1989, finish a feasibility and engineering study for the two mile stretch of the Eastbank Freeway. This study will reconsider all elements of the Marquam Interchange Project. Timing of the study will be scheduled so as to not preclude construction of the Water Avenue ramps element of the project. The January, 1989 date has been selected in order to accomplish this. The objectives for this study are the following:

1. Assure that the Central Eastside has access both north and southbound to and from the I-5 Freeway.
2. Improve the safety and efficiency of this stretch of I-5.
3. Preserve the integrity of the industrial sanctuary.
4. Examine alignments no farther east than Third Avenue.
5. Examine the potential of making changes on an incremental basis over the next 20 to 25 years.
6. Provide access across or under the freeway at frequent intervals to the Eastbank Esplanade.
7. Reduce or eliminate the number of ramp structures in the air.
8. Examine a single integrated project, as well as a series of incremental projects.
9. Address potential development of a trolley or light rail connection in the Central Eastside between the new OMSI site and Convention Center.
10. Ensure that any improvements to the freeway do not use light rail funds.
11. Involve ODOT, PDOT, the Planning Commission and Portland's citizens on an active basis.

T 2:
Engineer and construct the westside light rail line. This project is important to the future success of the Central City. Growth in the Central City is dependent on access and the west side is quickly reaching capacity of the highway system. Maintaining the Central City as the region's center requires that easy access to the area continues. The City's ability to meet air quality objectives is impeded by a lack of a rail alternative for those coming to the Central City from the west.

T 4:
Plan and construct an inner-city transit loop (possibly on Grand Avenue). A transit loop will be an essential component in improving the vitality and attractiveness of Portland's central eastside. The loop will assist in creating a two-sided city embracing the river and making it the city's focus. The Transit Mall has made a dramatic change to the downtown, from the substantial improvement in air quality to the attractive mall and retail center. However, it is not intended that the loop would expand the downtown to the eastside. Rather, it is intended to enhance the character of the Union and Grand corridors and to improve the transportation system within the Central City. The use of one of these streets solely for transit and converting the other to a two-way traffic street will require further study.

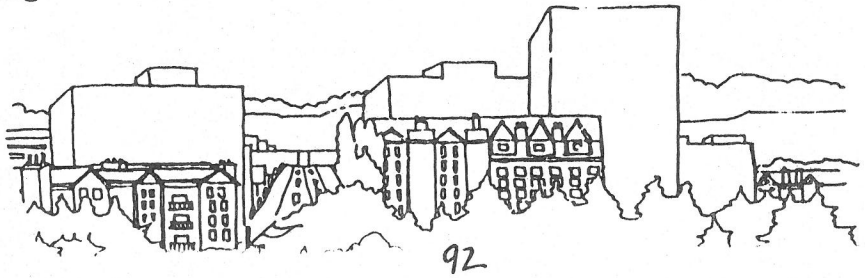


Exhibit A

RESOLUTION NO. 34388

Defer construction of the East Marquam Project and provide up to $50,000 for a study of I-5 (Eastbank) Freeway if certain conditions are met. (Resolution).

WHEREAS, the City of Portland and ODOT have jointly developed the East Marquam Project to resolve the major transportation issues in the Central Eastside identified in the 1977 Eastside Revitalization Study; and

WHEREAS, the City has approved the Greenway Permit for the East Marquam Project; and

WHEREAS, the Planning Commission has proposed a study of options for relocating the I-5 (Eastbank) Freeway as part of the recommended Central City Plan; and

WHEREAS, some delay in construction of the East Marquam Project is possible without loss of currently committed federal funds, although the City must continue to pursue state and federal permits without delay, and

WHEREAS, ODOT and the City agree in principle to the funding of the proposed study on a short time schedule and with the understanding that the appellants for the Greenway Permit will waive further appeals;

NOW, THERFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF PORTLAND, a municipal corporation of the State of Oregon, that:

the Council agrees to defer construction of the East Marquam Project until the conclusion of the I-5 (Eastbank) Freeway study, subject to the following conditions:

a. The basic study is completed no later than June 30, 1988.

b. The study is managed by an oversight committee outlined in Exhibit A.

c. The study will meet the guidelines described in Exhibit B; and BE IT FURTHER

RESOLVED, that if the study identifies an alternative to the East Marquam Project which meets the above conditions and no appeals of East Marquam Project have been filed, the Council will act upon the conclusions of that study; and BE IT FURTHER

RESOLVED, that City Staff are directed to pursue without delay federal and state permits for the East Marquam Project; and BE IT FURTHER

Exhibit B

RESOLUTION No.

RESOLVED, that the City will provide a maximum contribution of $50,000, assuming that ODOT provides an equal contribution; and BE IT FURTHER

RESOLVED, that Council funding for this study is contingent upon the absence of further appeals of any approvals/permits for the East Marquam project.

Adopted by the Council, JAN 21 1988

Commissioner Blumenauer
SW Dotterrer/pb
January 12, 1988

BARBARA CLARK
Auditor of the City of Portland
By Edna Cervera Deputy

EXHIBIT A: I-5 (EASTBANK) FREEWAY STUDY PROCEDURES

I. The study will be managed by a Study Oversight Committee

A. The committee will consist of eight members:

Two representatives of the Central Eastside Industrial Council
Two representatives of Riverfront for People
One representative from the Planning Commission
One representative from the SE Uplift
One representative from the Advisory Committee on Design and Construction for the Oregon Convention Center
The chair of the Oregon Senate Transportation Committee, as a non-voting chair

B. In order to complete its work, the committee will be responsible for 2 technical consulting groups

1) Transportation Analysis
2) Land Use/Economic Analysis

C. The committee may also use a project coordinator to assist them in their management of the technical consultants and to prepare public information materials.

D. City staff from the Office of Transportation, Planning Bureau and PDC will provide existing information to the study. State Transportation and Economic Development staff will assist in the study.

II. The study and decision-making time line will be:

A. By June 30, 1988

1) The committee will complete its study and make a recommendation as to whether or not a feasible alternative which responds to the criteria in Exhibit B warrants further exploration.
2) The study report and the committee's recommendation will be provided to the City Council and the Governor.

B. If the study committee finds no feasible alternative, then East Marquam Project construction begins 1988.

C. If a feasible alternative is identified by the committee, then City and ODOT will pursue both the alternative project and the East Marquam Project. Construction of East Marquam will be deferred until April, 1989.

D. By April 1, 1989, City Council will decide whether to construct alternate project or start construction of the East Marquam Project.

EXHIBIT B: GUIDELINES FOR THE STUDY OF EASTBANK FREEWAY OPTIONS

1. The study should take no longer than 120 days from start to finish and should conclude no later than June 30, 1988.

2. The project should assure the central eastside access north-and-south-bound, to and from I-5.

3. The project should preserve the integrity of the central eastside industrial area, as identified in previous studies, such as the 1984 study of the area by 1000 Friends of Oregon.

4. The study should examine the possibility of making incremental changes to the eastbank freeway over a 20-to-25 year period.

5. The study should explore a single project as well as a series of incremental projects.

6. The study should consider lowering as much of the elevated portion of the freeway as possible.

7. The study should examine ways to give bikes and pedestrians access to the eastbank explanade at regular intervals over or under the freeway.

8. Light rail funds should not be used for freeway improvements.

9. The study should address the development of trolley or light rail connecting the new OMSI and the convention center. (A City of Portland and Metro Public/Private Transit Finance Task Force will be exploring.)

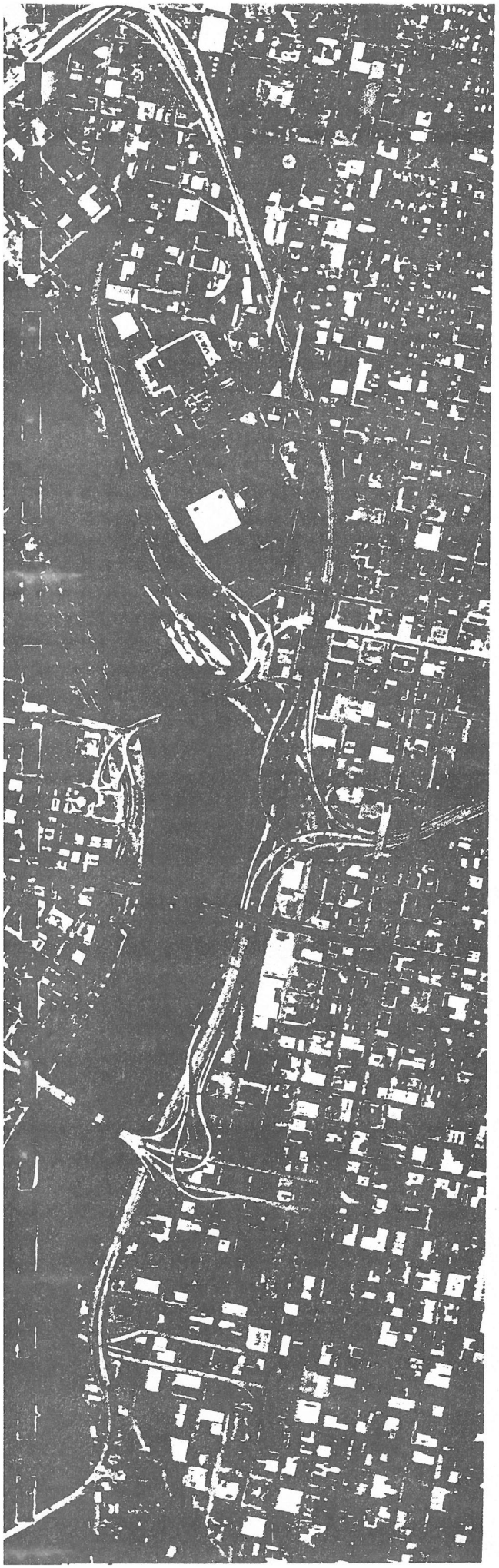
10. The project should meet the objectives of the existing East Marquam project.

    a. Improve access between the central eastside industrial area and I-5.
    b. Relieve traffic on Union and Grand Avenues by providing access from McLoughlin Boulevard to I-5.
    c. Provide a well functioning freeway.
    d. Improve safety on the Marquam Bridge and eliminate narrow lanes.
    e. Improve access from the Marquam Bridge to I-84.

11. The project should consider opening new areas of the eastbank esplanade to non-vehicular use.

12. The project must be eligible for federal funding.

13. The project should consider the transportation service and impacts of the freeway in the areas around the Convention Center and the OMSI site.



THE EASTBANK FREEWAY OPTIONS STUDY

EXECUTIVE SUMMARY

Prepared For

The City of Portland

Prepared By

Weslin Consulting Services

in association with

HNTB

ECO Northwest

Trans-Actions, Inc.

6-27-88

Exhib.
C

TABLE OF CONTENTS

* Drawings have been reduced to 65% of original size; scale calculations should be adjusted accordingly.

EXECUTIVE SUMMARY

INTRODUCTION

The Eastbank Freeway Options Study is presented as a two volume set. This Executive Summary contains the pertinent findings of the evaluation, together with sufficient supporting technical material, to serve as an independent report. It was prepared by Weslin Consulting Services, the prime contractor to the City of Portland for the Eastbank Freeway Options Study.

Volume Two includes seperate technical reports prepared by subcontractors. One technical report contains the transportation and engineering analysis prepared by Howard Needles Tammen & Bergendoff. Another contains the land use and economic analysis prepared by ECO Northwest. The Eastbank Freeway Options Steering Committee meeting summaries prepared by Weslin Consulting Services are also contained in Volume Two.

PROJECT BACKGROUND

Major operational and access problems on I-5 between the Fremont and Marquam Bridges have plagued traffic movement and safety for decades. The facility was designed in the late 1950's and constructed in the mid-1960's. The design was based upon traffic projections which included a parallel freeway, known as the Laurelhurst Freeway (I-205) near 39th Avenue, and the Mt. Hood Freeway which was never constructed.

One major problem with this section of I-5, known as the Eastbank Freeway, is the lack of coordination between freeway ramps and the local street network. Ramp improvements are needed to connect the freeway with one-way street couplets. Current access conditions and travel patterns combine to create weaving conflicts on substandard facilities that result in unacceptable accident levels.

The Oregon Department of Transportation (ODOT) has developed two projects to address these problems. One includes I-5 south of the Banfield Interchange and is called the East Marquam Project. The City of Portland and ODOT jointly developed The East Marquam Project to resolve the major transportation issues in the Central Eastside identified in the 1977 Eastside Revitalization Study. The City of Portland has approved the Greenway Permit for this segment. It has been fully funded by FHWA at an estimated cost of $54 million. Right-of-way has been purchased.

The other segment extends north from the Banfield Interchange to the Fremont Bridge. This segment has been referred to as the Greely Ramp-North Banfield Project. It addresses congestion and safety hazards due to the design, number of ramps and poor integration with surface streets. Plans call for the construction to occur in four phases beginning around 1994. Funding for the first three phases of the project has not yet been set aside, and many decisions on both timing and design have not yet been made.

The Planning Commission proposed a study of options for relocating I-5 as part of the Central City Plan. The Plan calls for the enhancement of the Willamette River as the focal point for views, public activities, and development which knits the city together. The Plan recommends recapturing the eastbank of the Willamette Riverfront between the Marquam and Steel Bridges by expanding and enhancing the space available for non-vehicular uses. When the Plan was adopted by the Planning Commission in November, it called for further investigation of alignment options and their effect on the industrial area. The Eastbank Freeway Options Study provides the further investigation requested by the Central City Plan.

The mission of the Eastbank Freeway Options Study is to review these freeway improvement projects. The need for this review evolved from the Central City Plan citizen participation activities. People were concerned about the future of the eastbank of the Wilamette River.

Some delay in construction of the East Marquam Project is possible without the loss of currently committed Federal funds, although the City must continue to pursue state and federal permits without delay. ODOT and the City have agreed to fund this study on a short time schedule so that Federal interstate funding for the East Marquam project will not be jeopardized.

The study is being funded by equal contributions from the City of Portland and ODOT. It is managed by an oversight com-

mittee known as the Eastbank Freeway Options Study Steering Committee. The committee is chaired by Senator Jane Cease of the Oregon State Senate who serves as a non-voting member. There are seven voting members representing five different organizations as shown in Figure 1. The committee serves in an advisory capacity to the Portland City Council.

The Eastbank Freeway Options Study Steering Committee will make a recommendation as to whether a feasible alternative exists that warrants further exploration. Such an alternative must respond to the thirteen guidlines adopted in the Portland City Council Ordinance authorizing the study. The compliance of each alternative with the study guidelines is shown in Figure 2.

The alternatives should not be judged purely on how the comply with the original study guidelines. This study contains other findings which must be taken into consideration when drawing conclusions about the merits of a particular alternative. Although none of the alternatives satisfy all of the guidelines, they are all deemed to be sufficiently feasible to warrant further exploration.

TRANSPORTATION SYSTEM FEATURES

The Eastbank Freeway is a segment of Portland's Inner Freeway Loop. The Loop consists of I-5 on the east bank of the Willamette River and I-405 (the Stadium Freeway) on the west side of the central business district. They are linked on the south by the Marquam Bridge and on the north by the Fremont Bridge. The Loop performs a number of functions:

1. It is part of the Federal interstate highway system and carries interstate traffic.

2. It is the hub of the city highway/street network carrying trips from one part of the city to another.

3. It is the hub of the regional highway system fed by a radial system consisting of the following major corridors:

   - The Southwest Corridor (I-5 South of the Marquam Bridge)

   - The Northern Corridor (I-5 North of the Fremont Bridge)

FIGURE 1

EASTBANK FREEWAY OPTIONS STUDY

STEERING COMMITTEE

Chair: Senator Jane Cease

Central Eastside Industrial Council

Vern Ryles, Member
Bob Bouneff, Member
Peter Fry, Alternate
Rick Parker, Alternate

Riverfront for People

Ernie Bonner, Member
Dennis Gilman, Member
Bob Belcher, Alternate
John Griffiths, Alternate
Jim Howell, Alternate
Myron Katz, Alternate

Portland City Planning Commission

Joe Angel, Member
Steve Pfeiffer, Alternate
Lawretta Morris, Alternate

Southest Uplift

Moshe Lenske, Member
Nancy Biasi, Alternate
Kim Manley, Alternate

Oregon Convention Center
Advisory Committee on Design & Construction

Tom Walsh, Member
Neil McFarlane, Alternate

FIGURE 2

COMPLIANCE WITH STUDY GUIDELINES

STUDY GUIDELINES	ALTERNATIVE 1	2	3
1. The study should take no longer than 120 days from start to finish and should conclude no later than June 30, 1988.	YES	YES	YES
2. The project should assure the central eastside access north-and-south-bound, to and from I-5.	YES	YES	YES
3. The project should preserve the integrity of the central eastside industrial area, as identified in previous studies, such as the 1984 study of the area by 1000 Friends of Oregon.	YES	NO	NO
4. The study should examine the possibility of making incremental changes to the eastbank freeway over a 20-to-25 year period.	YES	YES	YES
5. The study should explore a single project as well as a series of incremental projects.	YES	YES	YES
6. The study should consider lowering as much of the elevated portion of the freeway as possible.	NO	YES	YES
7. The study should examine ways to give bikes and pedestrians access to the eastbank esplanade at regular intervals over or under the freeway.	NO	YES	YES
8. Light rail funds should not be used for freeway improvements.	YES	YES	YES
9. The study should address the development of trolley or light rail connecting the new OMSI and the convention center.	NO	YES	YES
10. The project should meet the objectives of the existing East Marquam project:			
a. Improve access between the central eastside industrial area and I-5.	YES	YES	YES
b. Relieve traffic on Union and Grand Avenues by providing access from Mcloughlin Boulevard to I-5.	YES	YES	YES
c. Provide a well functioning freeway.	YES	YES	YES
d. Improve safety on the Marquam Bridge and eliminate narrow lanes.	YES	YES	YES
e. Improve access from the Marquam Bridge to I-84.	YES	YES	YES
11. The project should consider opening new areas of the eastbank esplanade to non-vehicular use.	NO	YES	YES
12. The project must be eligible for federal funding.	YES	NO	NO
13. The project should consider the transportation service and impacts of the freeway in the areas around the Convention Center and the OMSI site.	YES	YES	YES

- The Eastside Corridor (I-84, the Banfield Freeway)
- The Westside Corridor (U.S. 26, the Sunset Highway)

The Eastbank Freeway corridor serves both major existing and proposed public facilities. The Memorial Coliseum located west of the freeway near the Steel Bridge, the proposed Convention Center located east of the freeway and north of I-84, and the proposed Oregon Museum of Science and Industry located on the river south of the Hawthorne Bridge are all major facilities. These facilities, combined with the industrial development south of I-84, and the commercial development north of I-84, create access requirements which are often in conflict with the operation of the Inner Freeway Loop. Closely spaced interchanges providing access to serve the traffic generated in the corridor result in short weave distances on I-5 and affect the capacity of the Eastbank Freeway.

The arterial street system serving the Eastbank Freeway corridor consists of a number of one-way couplets both in the east-west and in the north-south direction. The east-west couplets are typically connected to bridge crossings and consist of Hawthorne and Madison, Morrison and Belmont, Holladay and Hassalo, and Broadway and Weidler. Interchanges are provided for the Morrison and Broadway couplets. Ramp connections to Holladay and Hassalo also exist. Primary north-south couplets include Grand and Union Avenues, and Vancouver and Victoria Avenues. Freeway ramp connections are provided for each of these couplets.

TRAFFIC ANALYSIS

Year 2005 projected traffic volumes within the study area have been prepared by the Metropolitan Service District (Metro) using a regional travel demand forecasting model. Previous studies have utilized these volumes and allocated them to the existing freeway and local street network. Those studies conclude that the portion of I-5 between the Fremont and Marquam bridges is limited to the capacity of these two bridges and that the freeway is operating under a constrained environment. Previous alternatives examined for the improvement of I-5 have attempted to keep a balanced level of service on the regional network and concentrated primarily on access issues.

Traffic projections utilized for this study are based upon future land uses identified in the City of Portland Cen-

tral City Plan. The greatest existing capacity problems on the Eastbank Freeway are on the section between the Broadway/Weidler Interchange and I-84. By 2005, all segments of I-5 are projected to be at, or well above, capacity. There are several merge/weave problems such as:

- Where the I-84 off-ramp joins I-5 southbound and the Morrison Bridge exit lanes,
- Where the Morrison Bridge on-ramp joins I-5 northbound between the I-84 ramps and the Broadway/Weidler Interchange, and
- Between the northbound Broadway on-ramp and the Fremont Bridge off-ramp.

Additionally, there is no access from the Central Eastside District to I-5 southbound or direct connections between I-5 and McLoughlin Boulevard. The curves at the east end of the Marquam Bridge are severe and have been a safety concern addressed during the development of previous plans.

The forecast traffic volumes used for this analysis and the development of alternatives assumes a high level of transit usage in the region by the forecast year. Major transit improvements included in the forecast are the West Side Light Rail and a high level of transit in the McLoughlin Corridor and in the I-5 North Corridor. The existing mode split for person trips to the CBD is over 50 percent. Forecast transit patronage is assumed to increase to 75 percent of the person trips to the CBD area.

DESIGN CRITERIA

Typically, freeway improvement alternatives are developed and analyzed on the basis of capacity deficiencies. Consideration is given to the degree of service to be provided to the users of the facility. The maximum amount of traffic that can be accommodated is estimated on the basis of maintaining prescribed operational qualities defined as levels of service. These levels are given letter designations from A to F, with level of service A representing the best operating conditions and level of service F the worst. Level of service E represents the maximum amount of traffic that can be accommodated by a facility.

The Inner Freeway Loop and the major radial corridors feeding it will all be operating at capacity (level of service

E) in the year 2005, which is the design year for this analysis. Freeways generally operate poorly at, or near, capacity. Consequently, they are rarely designed or planned to operate in this range. Historically, a level of service C in the design year has been utilized as the design criteria. However, with the entire system operating at capacity, it appears reasonable to recognize that fact and utilize level of service E as the traffic service criteria for this analysis.

Applicable standards for the conceptual designfor the alternatives presented in this study have been developed from the Oregon Department of Transportation, Highway Division, Highway Design Manual and the American Association of State Highway and Transportation Officials Policy on Geometric Design of Highways and Streets, 1984.

CONCEPTS

The first stage of analysis for this study was to develop freeway operating concepts for consideration by the Eastbank Freeway Options Steering Committee. The three concepts are as follows:

- **Directional Ramp Concept** - This concept is represented by the existing freeway configuration. Most movements have directional ramps which are often 'braided' due to interchange spacing and right-of-way constraints. Braided ramps often require stacking of aerial structures. These aerial structures create aesthetic problems. The other operating concepts were developed to help mitigate this problem.

- **Split-Diamond Ramp Concept** - Due to the existence of an extensive system of one-way pairs on the arterial street system, the use of split-diamond service interchanges is a concept which could reduce the amount of elevated freeway structure and provide for increased weaving lengths and fewer decision points. The split-diamond interchange has a higher capacity than a standard diamond because the at-grade intersections only have two approaches.

- **Traffic Redistribution Concept** - Because of the limited volumes of through traffic on I-5, it may be feasible to redirect a portion of the demand to I-405. This would apply primarily to that portion of the freeway between the Banfield Expressway (I-84) and the Marquam Bridge.

ALTERNATIVES

The concepts were translatted into more specific alternatives represented by the series of plan and profile figures included on the following pages of this report. Location details were considered to the degree necessary to assure that the alternatives did not include any fatal flaws that would exclude them from further exploration. This was not a design effort! Location details of each alternative can be improved during a normal design effort and using standard value engineering practices. Consequently, all of the following alternatives are subject to modification:

- **Alternative 1** (Directional Ramps) - New directional ramps are currently proposed to be added to the existing freeway system. This alternative reflects the continuation of this design concept. Two variations of this alternative are included in the study:

  - Alternative 1A represents the current plans minus Phase 4 of the Greeley Ramp-North Banfield Project.

  - Alternative 1B represents the current plans for the East Marquam project combined with the Greeley Ramp-North Banfield Project proposals developed as part of this study and as contained in Alternatives 2 and 3.

- **Alternative 2** (Split-Diamond Ramps) - To provide the right-of-way required to implement a split-diamond interchange at the Morrison Bridge, the mainline must be relocated to an alignment along Water Avenue. Additional split-diamond interchanges at Union and Grand and at the Broadway Bridge are proposed. The study also contains two variations of this alternative:

  - Alternative 2A represents the concept at the existing freeway grade.

  - Alternative 2B includes a depressed profile near the proposed Convention Center.

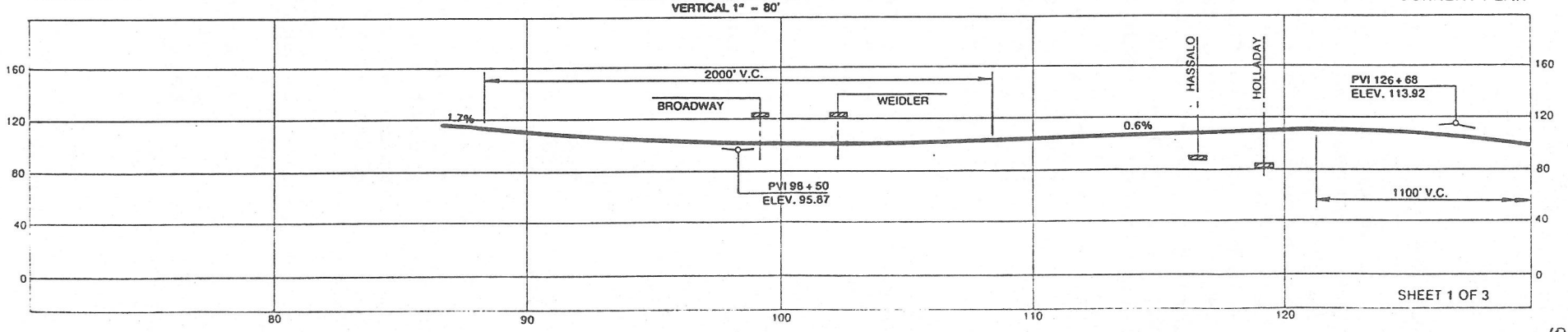
HNTB

400 200 0 400

SCALE: HORIZONTAL 1" = 400'
VERTICAL 1" = 80'

ALTERNATIVE 1A

CURRENT PLAN



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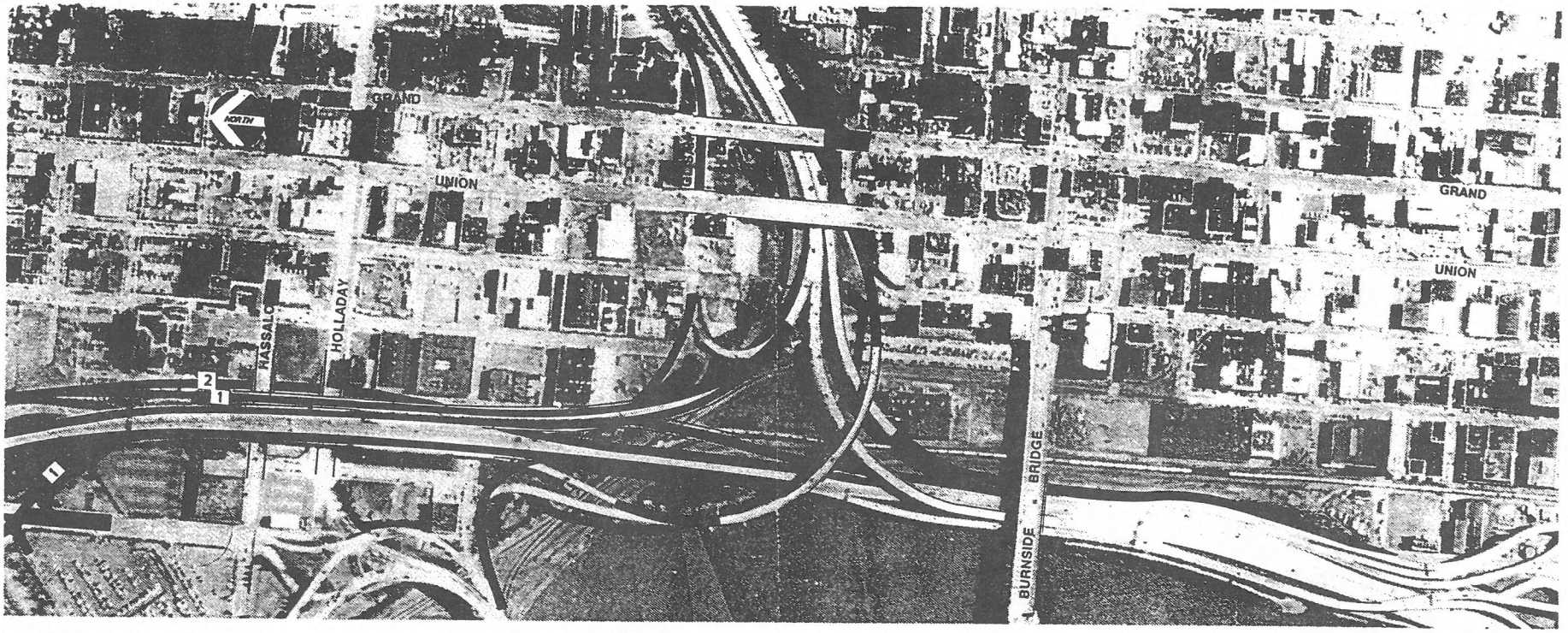

HNTB

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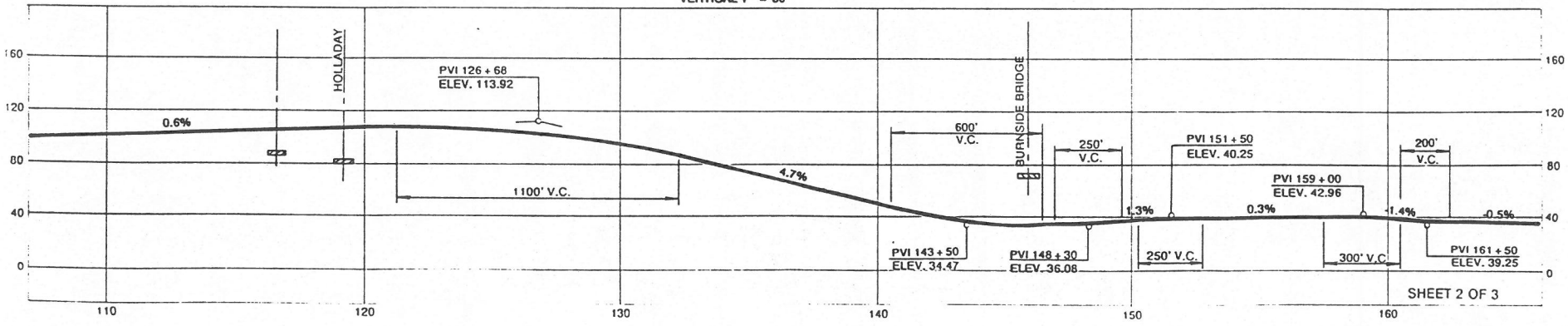
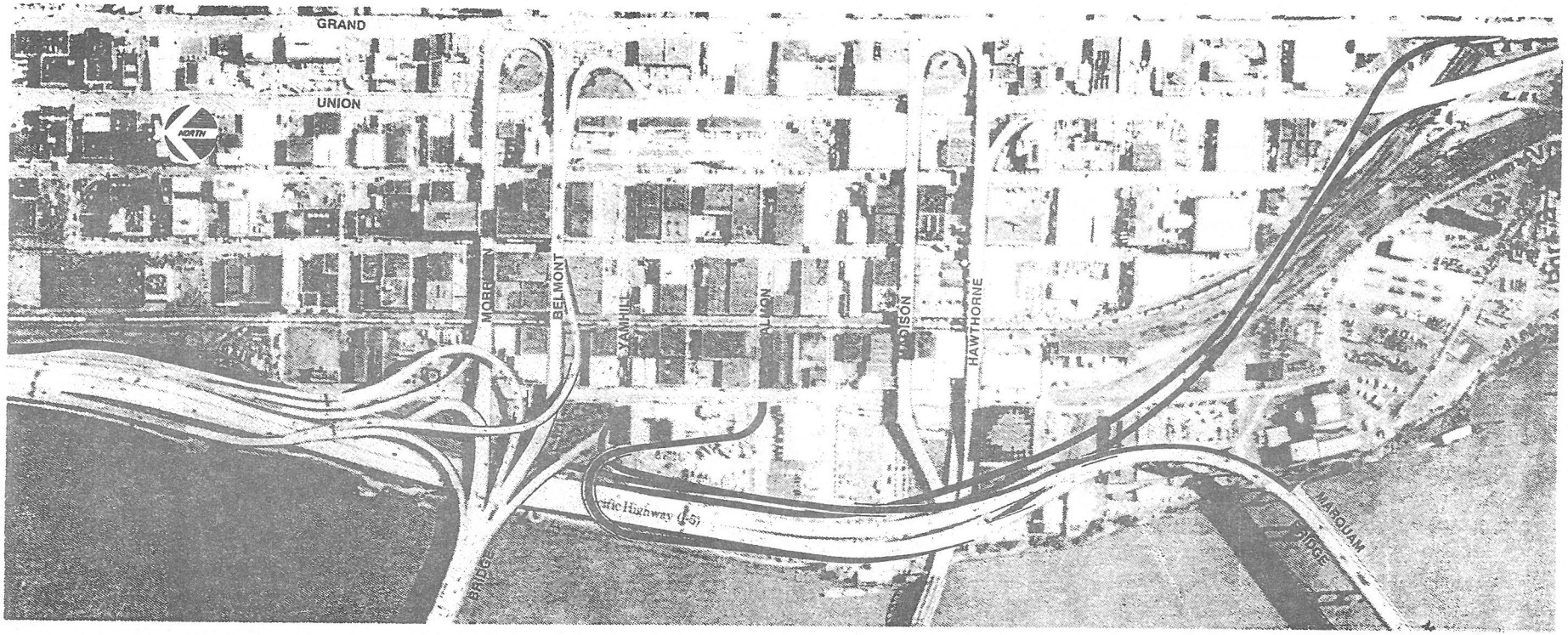
SCALE: HORIZONTAL 1" = 400'
VERTICAL 1" = 80'

ALTERNATIVE 1A

CURRENT PLAN





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SCALE: HORIZONTAL 1" = 400'
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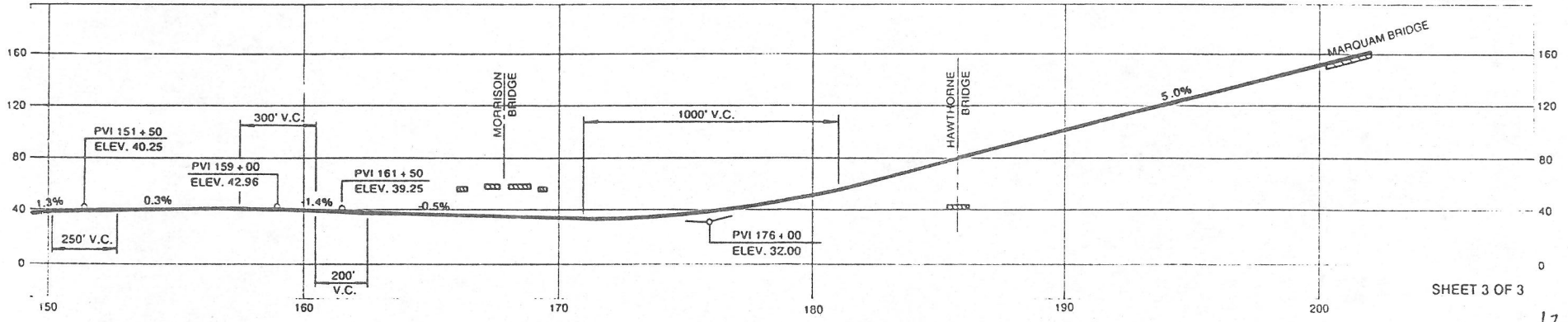
ALTERNATIVE 1A

CURRENT PLAN



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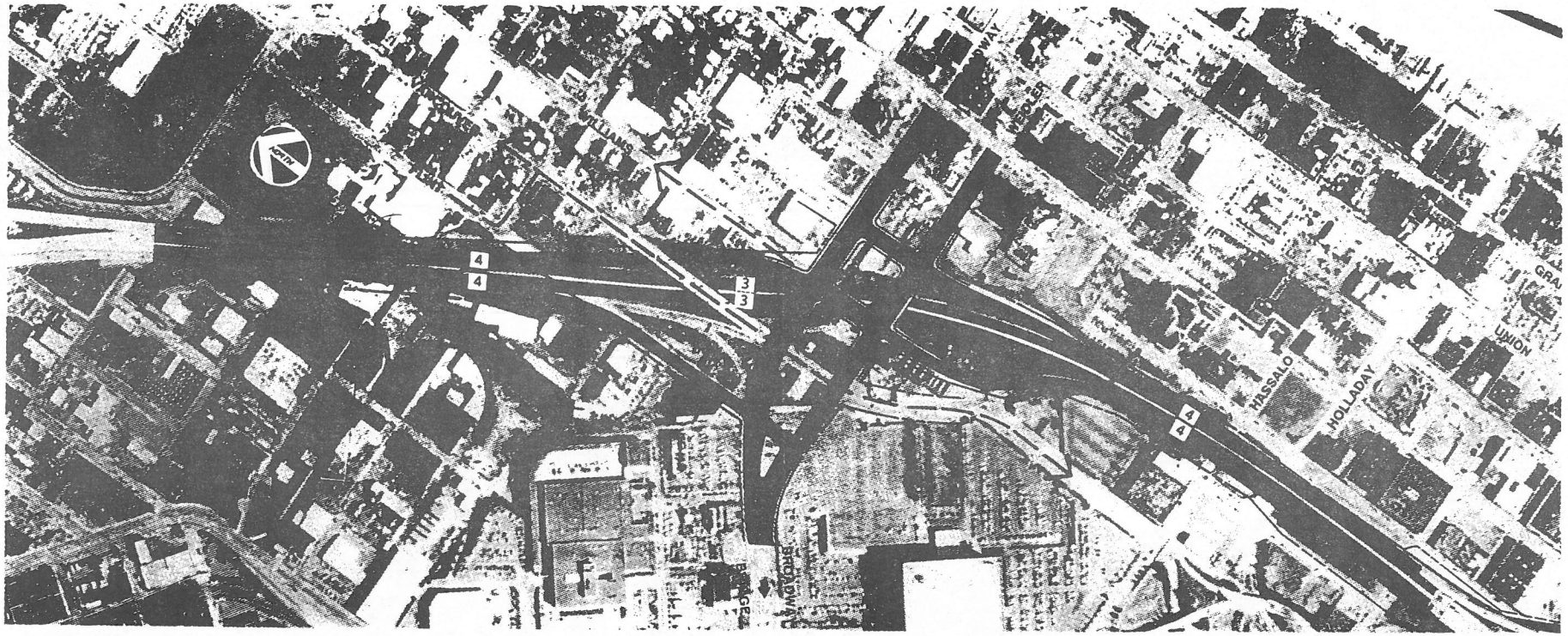

HNTB

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SCALE: HORIZONTAL 1" = 400'
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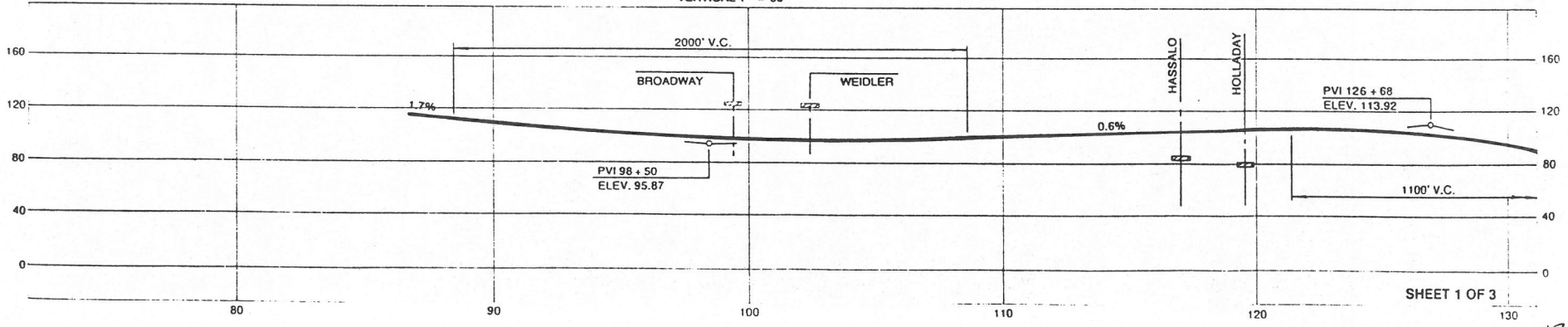
ALTERNATIVE 1B

COMBINED PLAN



SHEET 1 OF 3

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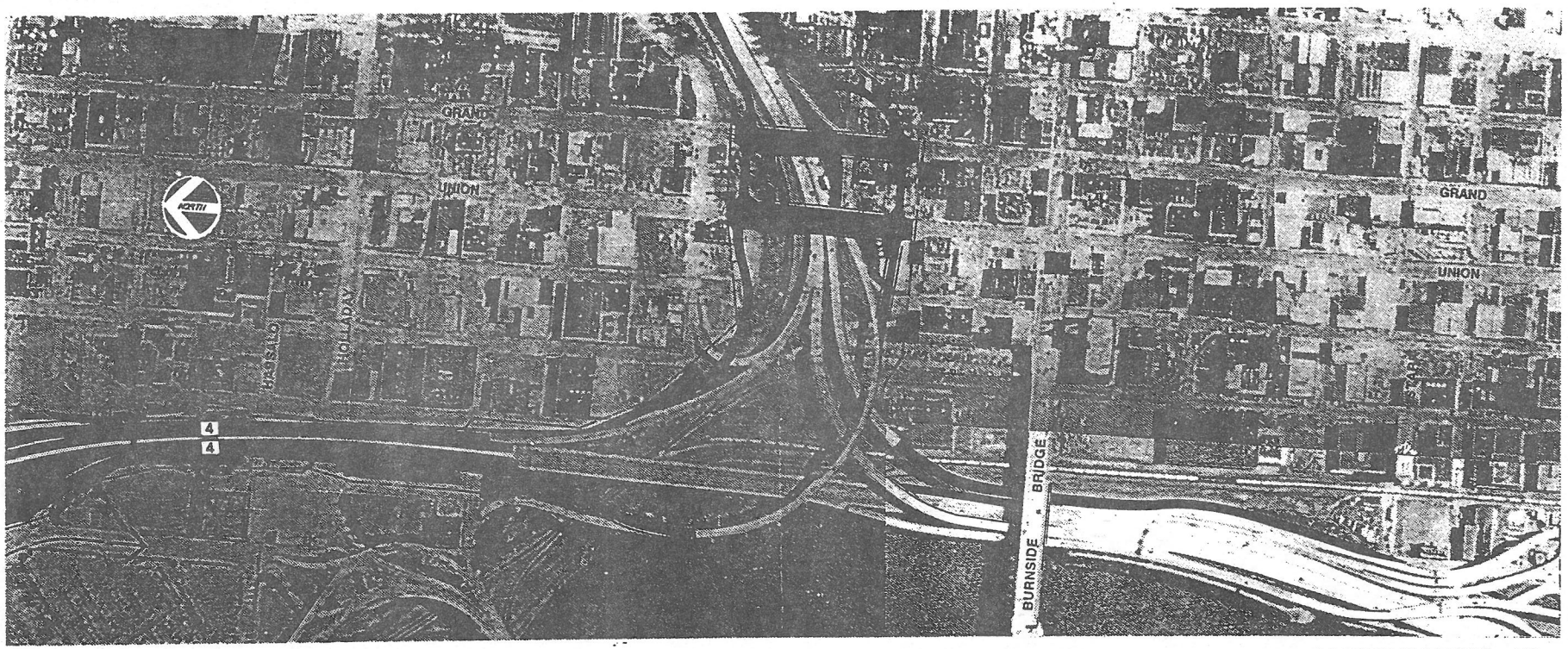

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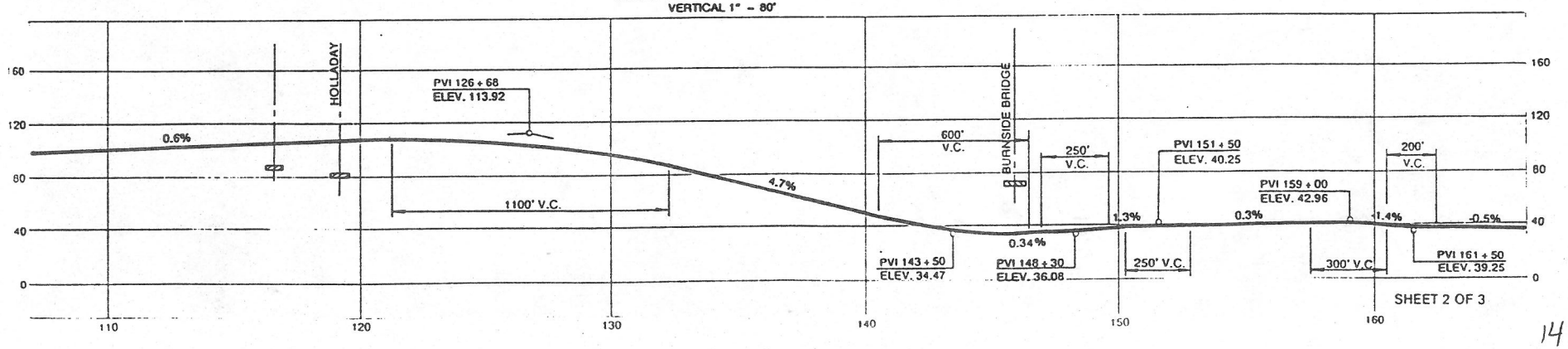
SCALE: HORIZONTAL 1" = 400'
VERTICAL 1" = 80'

ALTERNATIVE 1B

COMBINED PLAN



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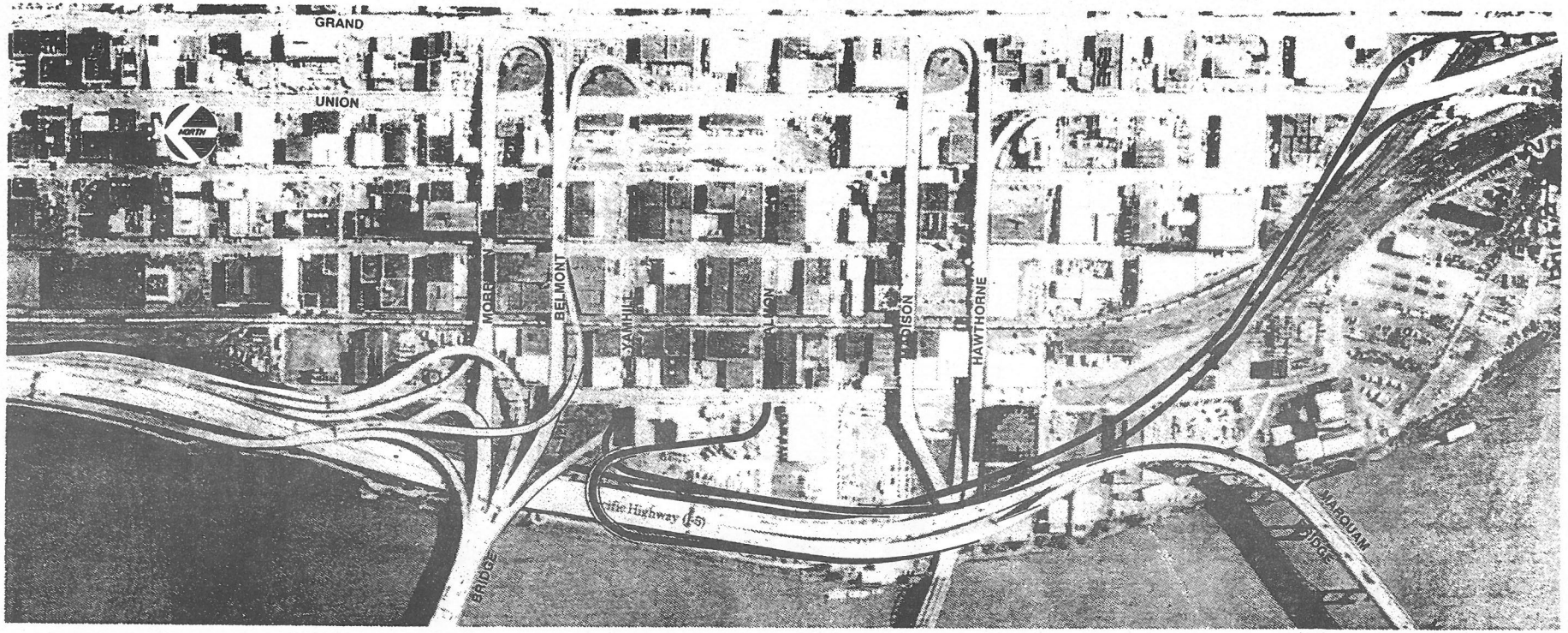

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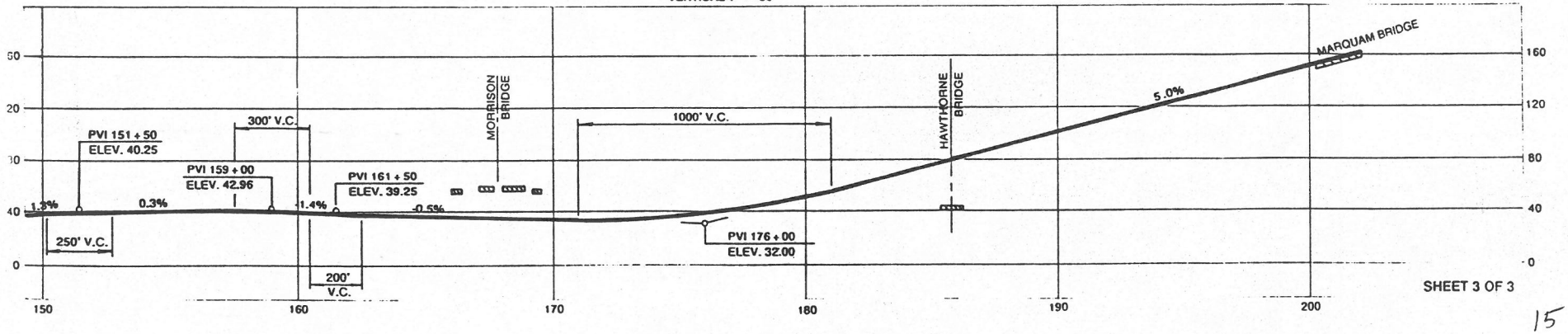
VERTICAL 1" = 80'

ALTERNATIVE 1B

COMBINED PLAN



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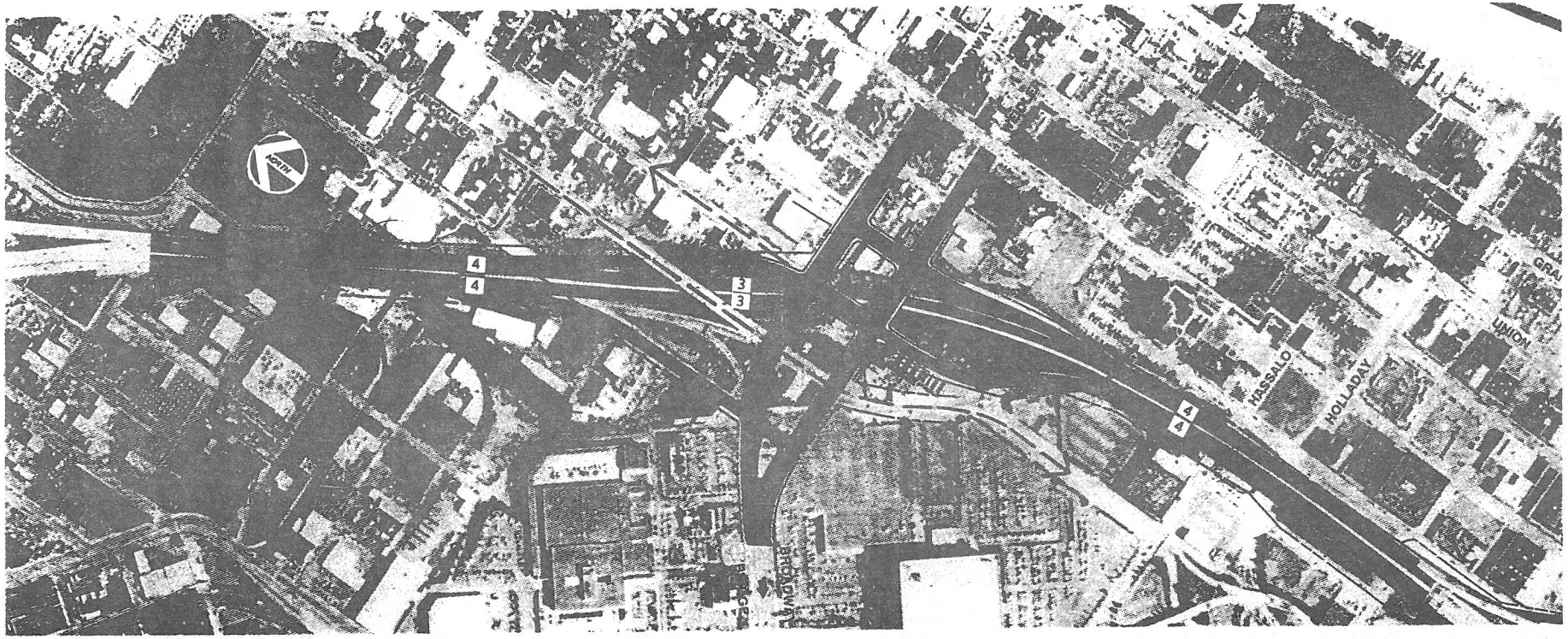

HNTB

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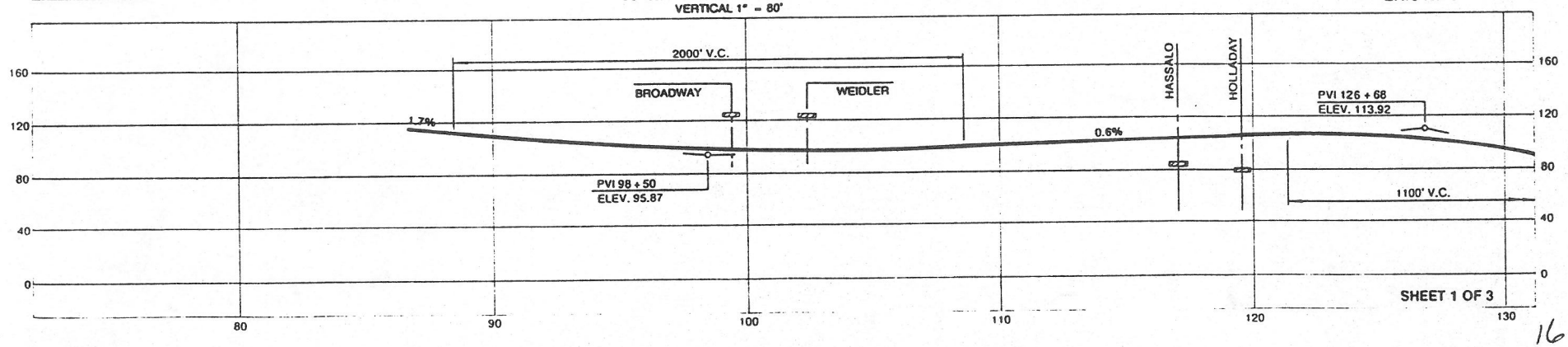
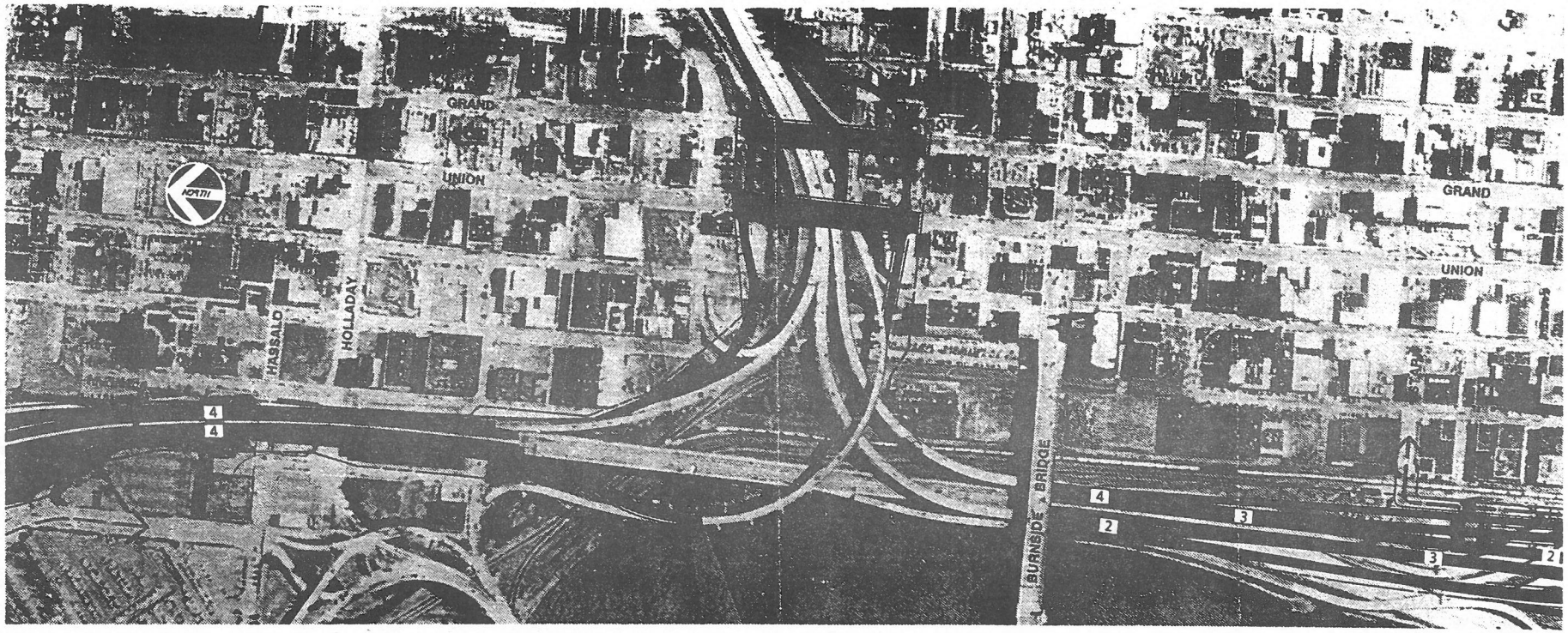
SCALE: HORIZONTAL 1" = 400'
VERTICAL 1" = 80'

ALTERNATIVE 2A

EXISTING GRADE





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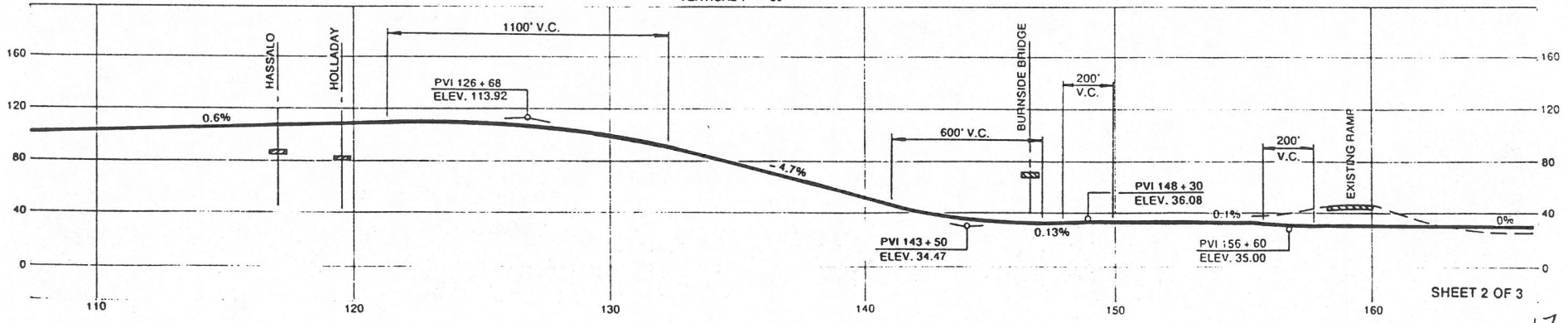
VERTICAL 1" = 80'

ALTERNATIVE 2A

EXISTING GRADE



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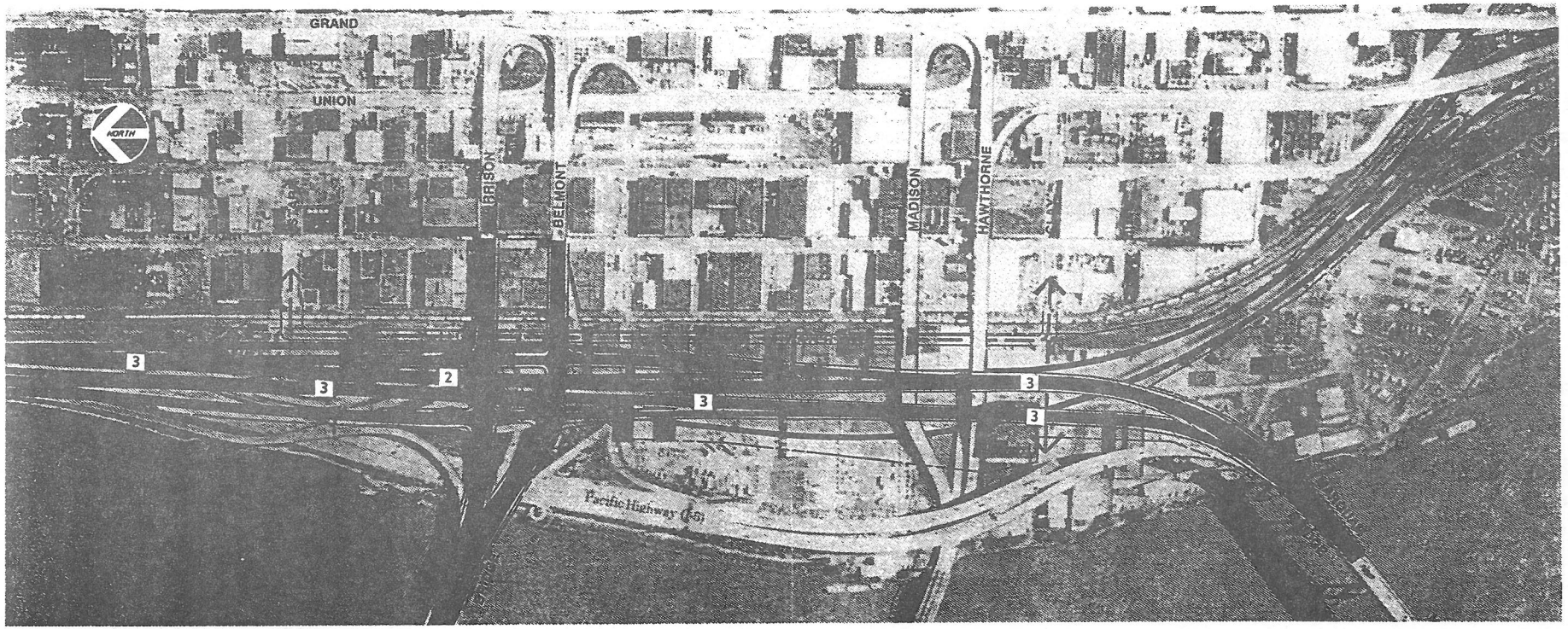

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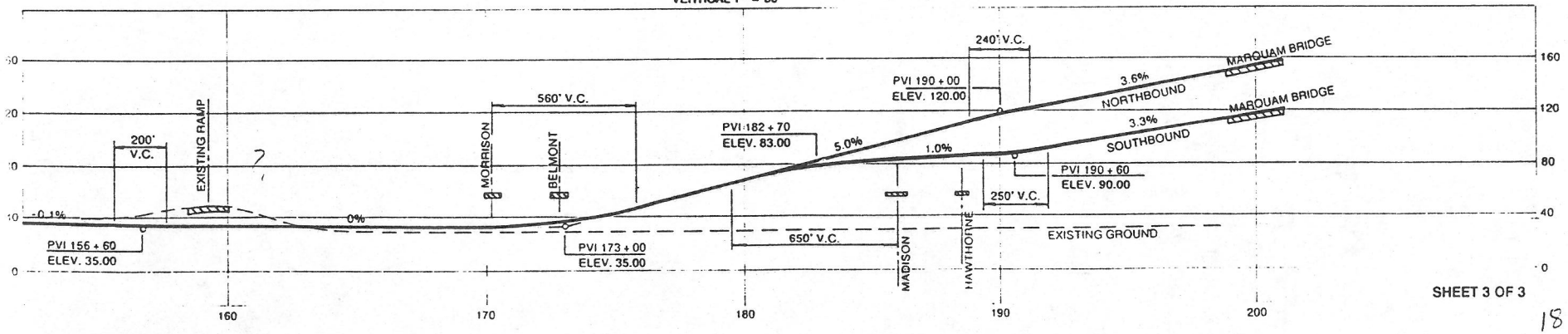
ALTERNATIVE 2A

EXISTING GRADE



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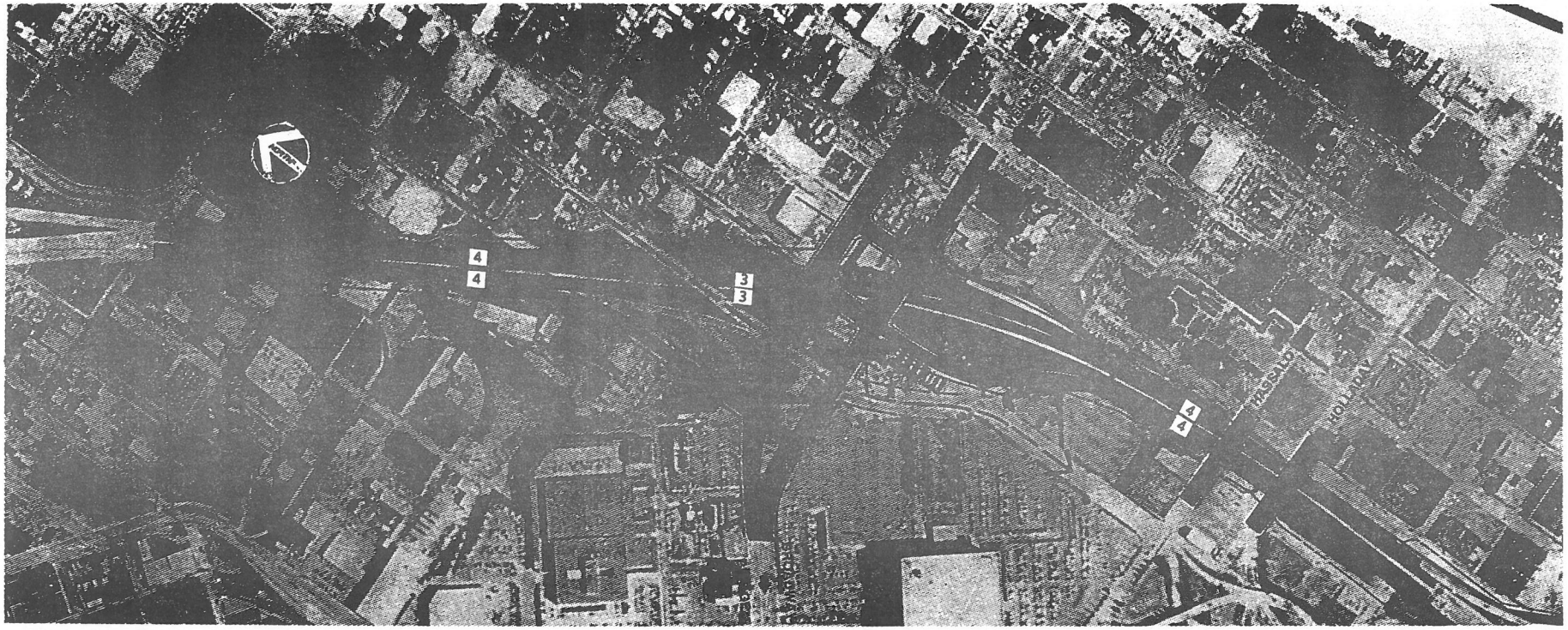

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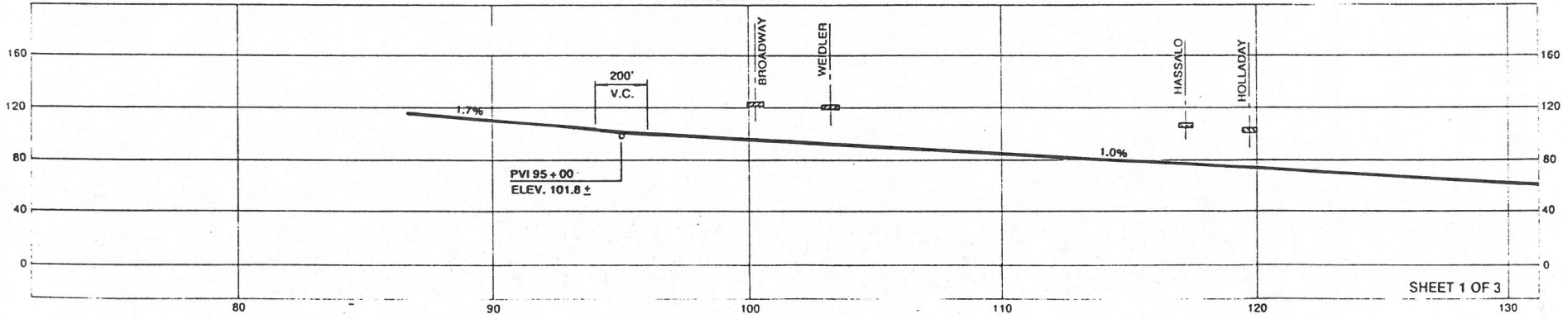
SCALE: HORIZONTAL 1" = 400'
VERTICAL 1" = 80'

ALTERNATIVE 2B

DEPRESSED GRADE



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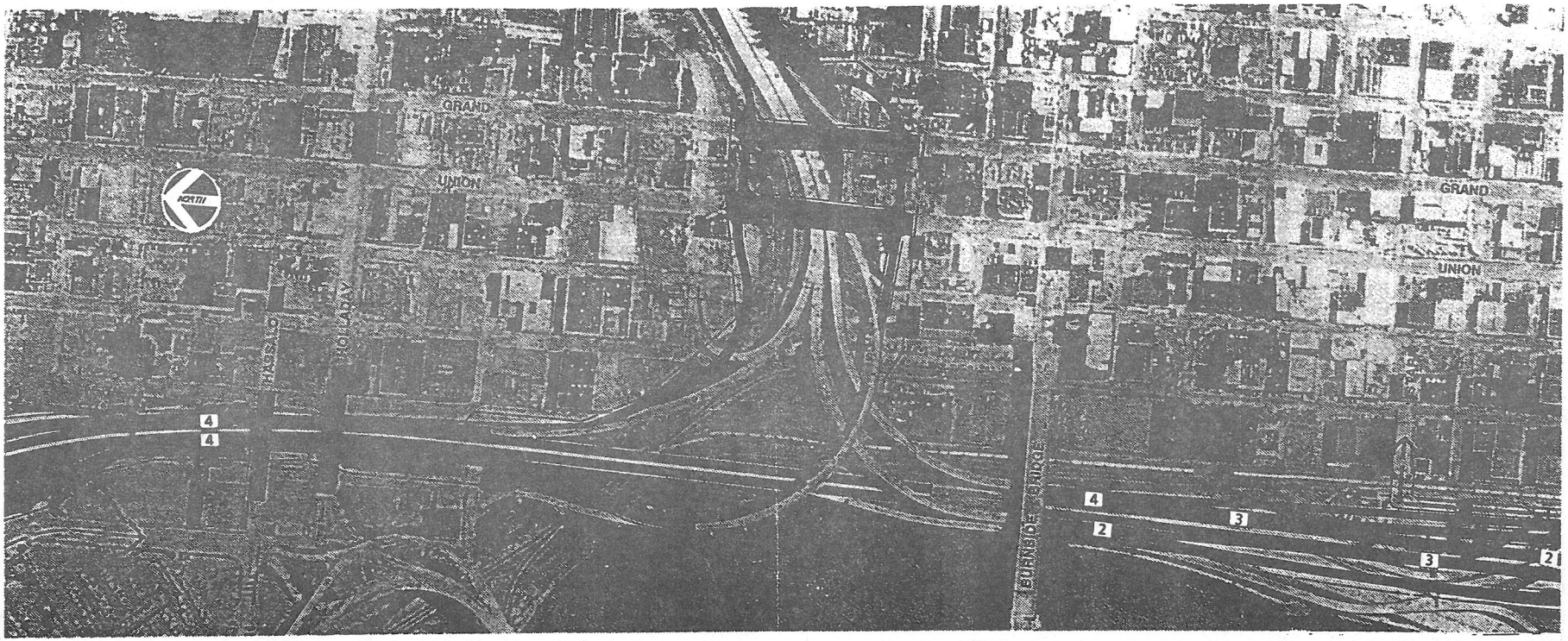

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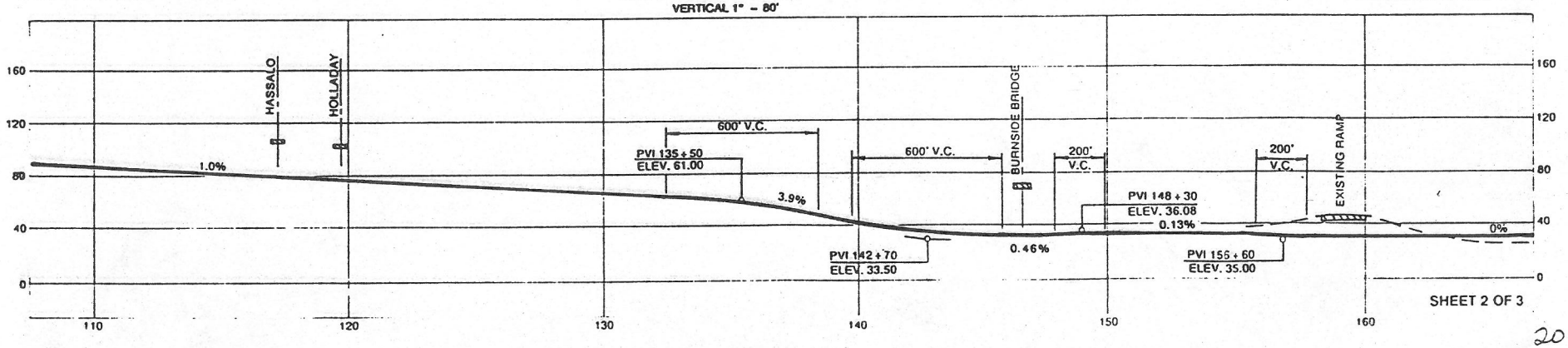
ALTERNATIVE 2B

DEPRESSED GRADE



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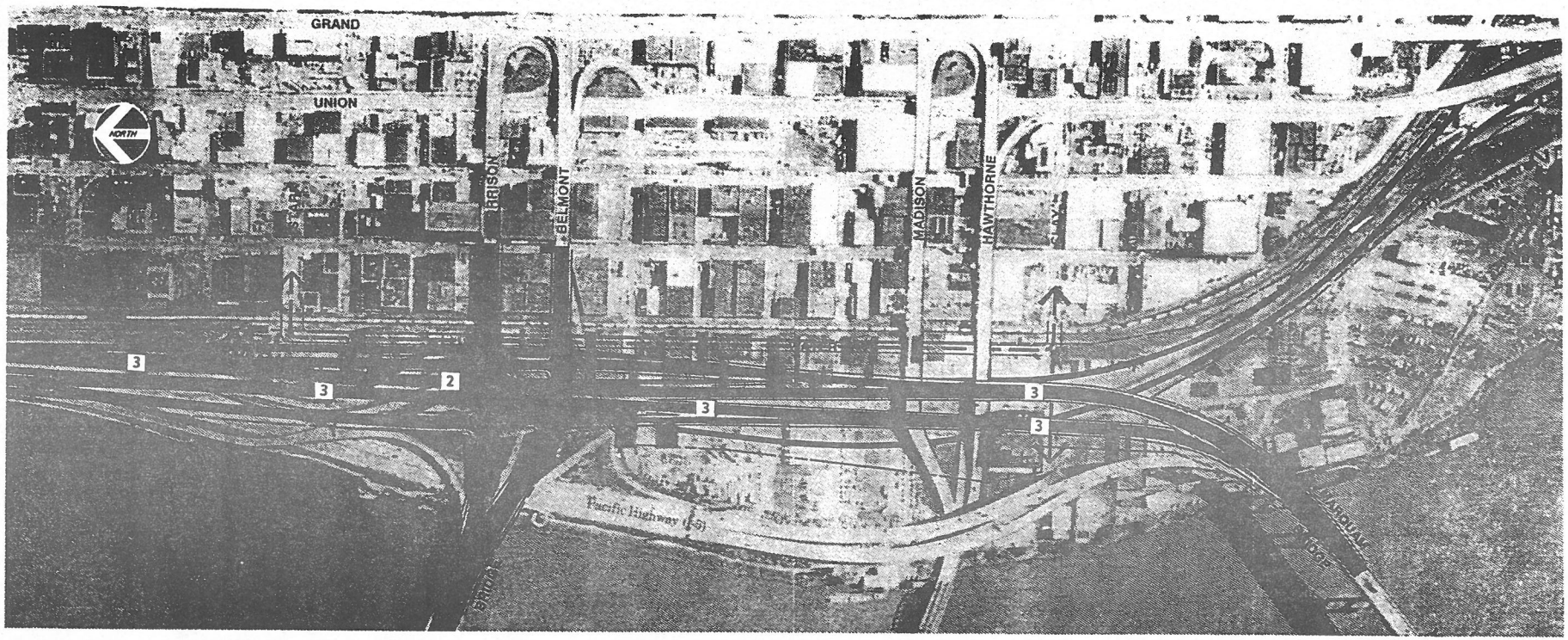

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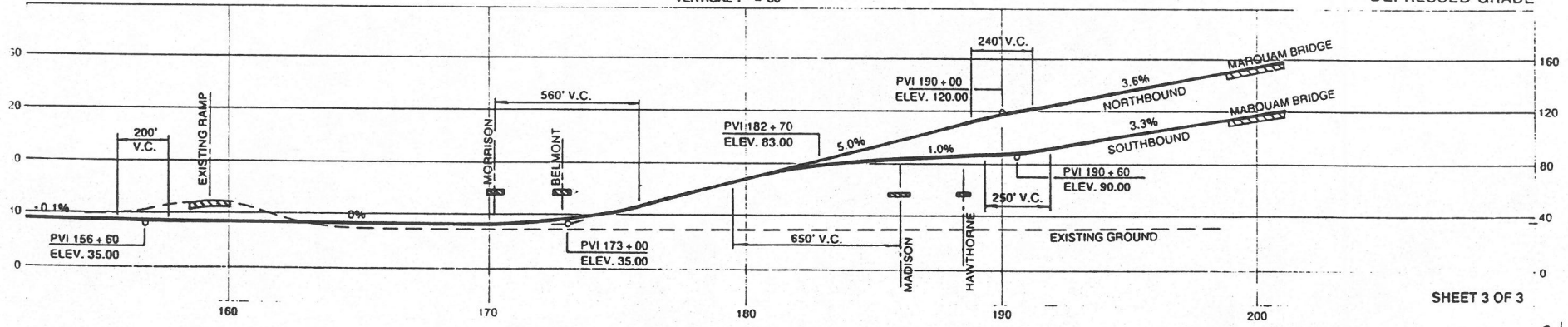
ALTERNATIVE 2B

DEPRESSED GRADE



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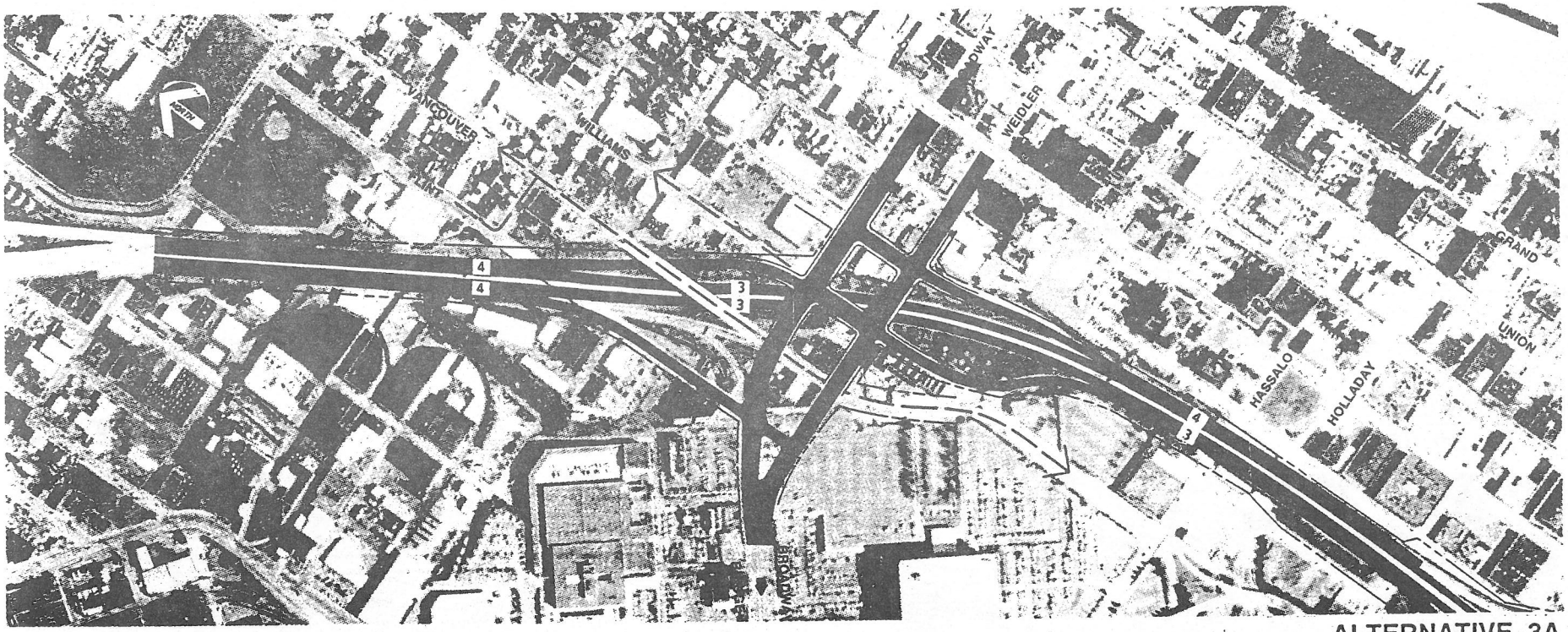

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SCALE: HORIZONTAL 1" = 400'
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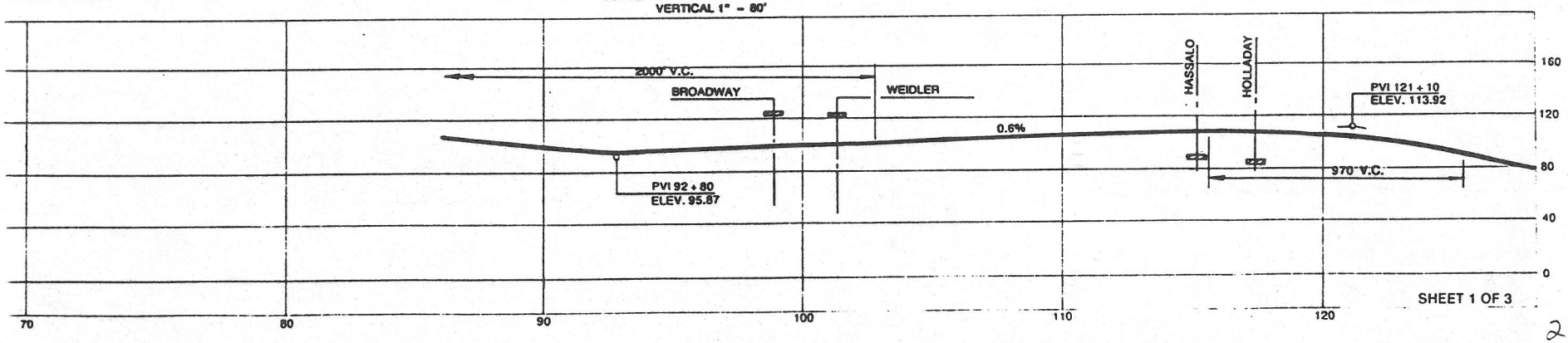
ALTERNATIVE 3A

EXISTING GRADE



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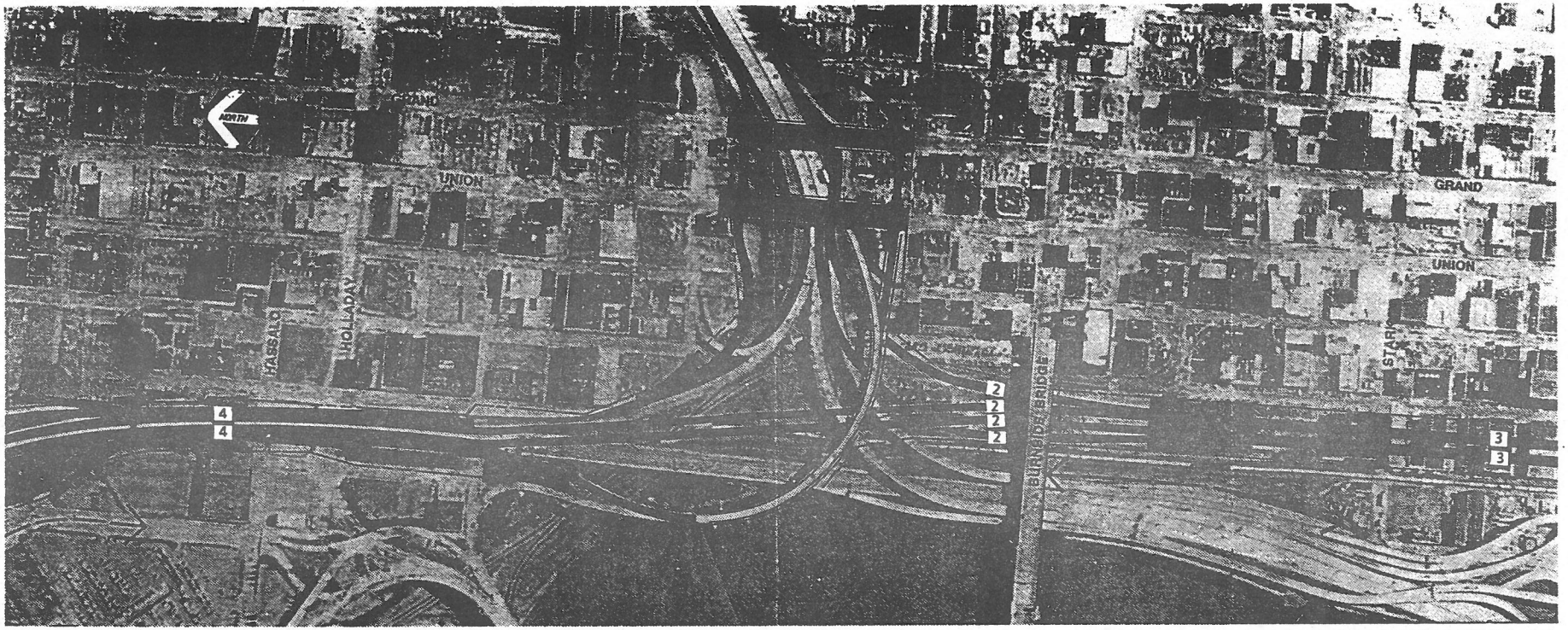

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SCALE: HORIZONTAL 1" = 400'
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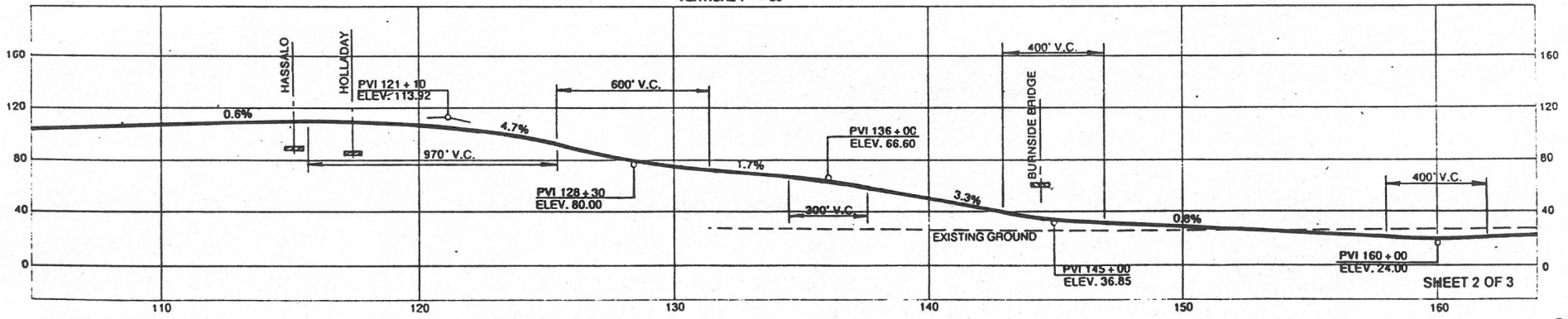
ALTERNATIVE 3A

EXISTING GRADE



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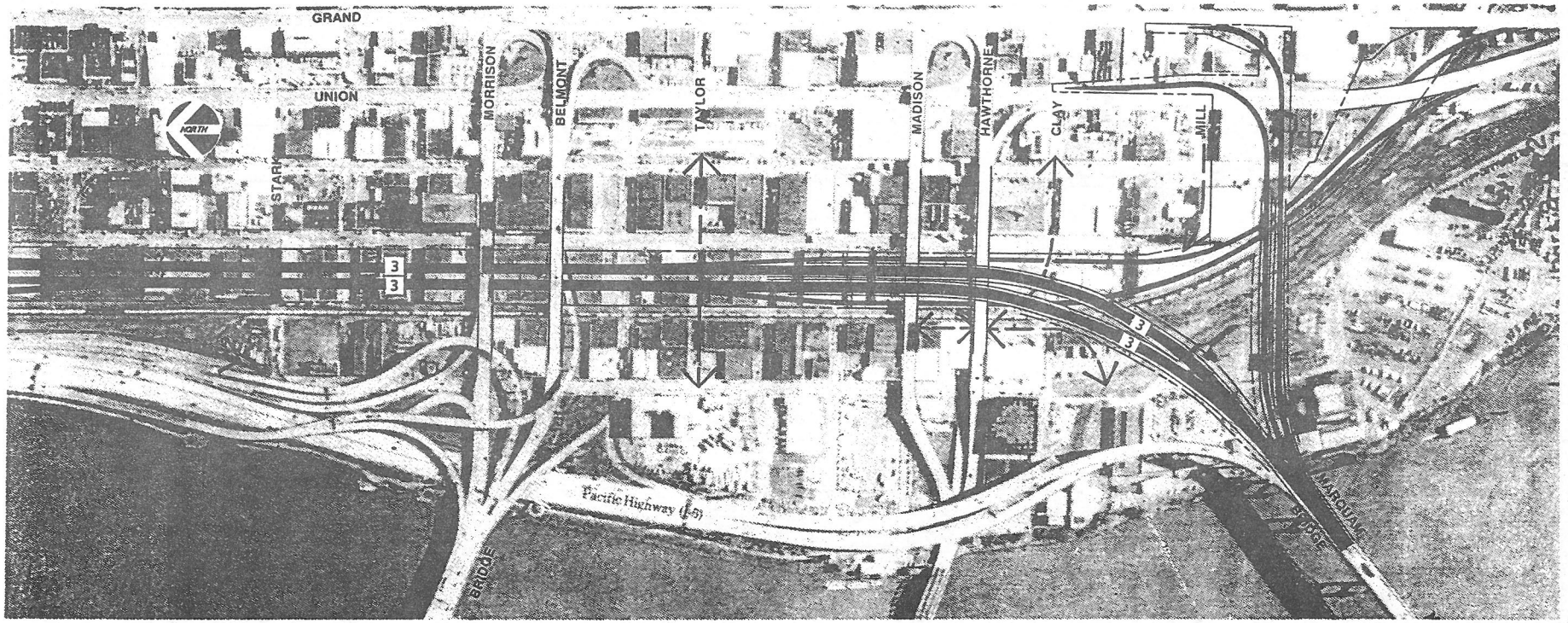

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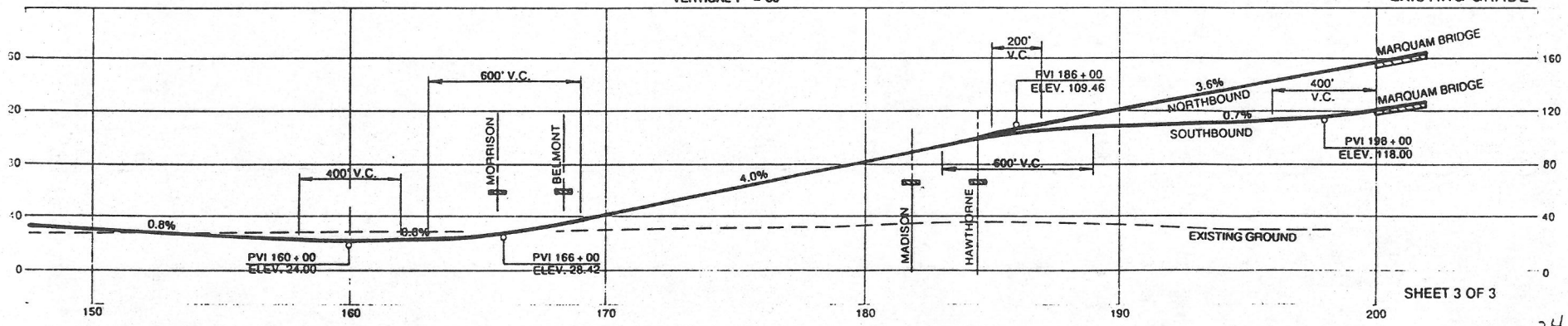
SCALE: HORIZONTAL 1" = 400'
VERTICAL 1" = 80'

ALTERNATIVE 3A

EXISTING GRADE



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HNTB

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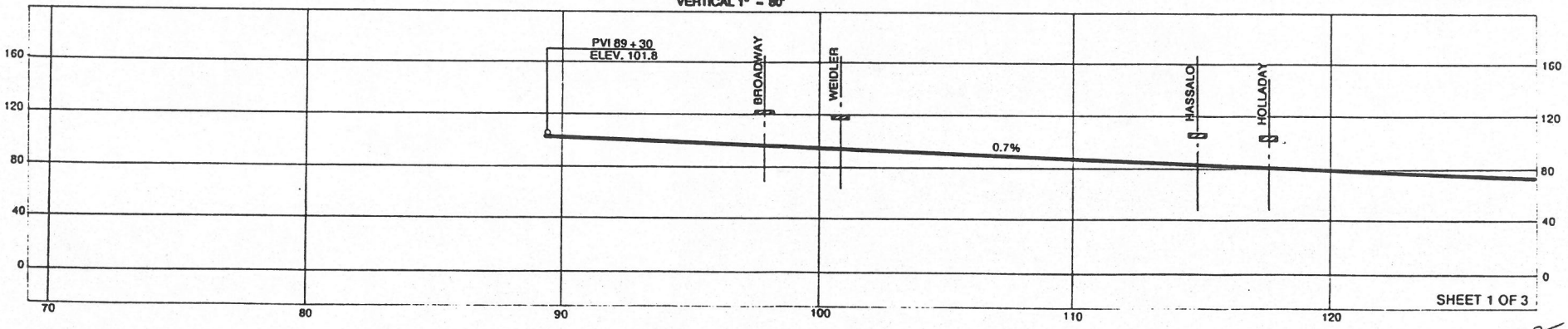
ALTERNATIVE 3B

DEPRESSED GRADE



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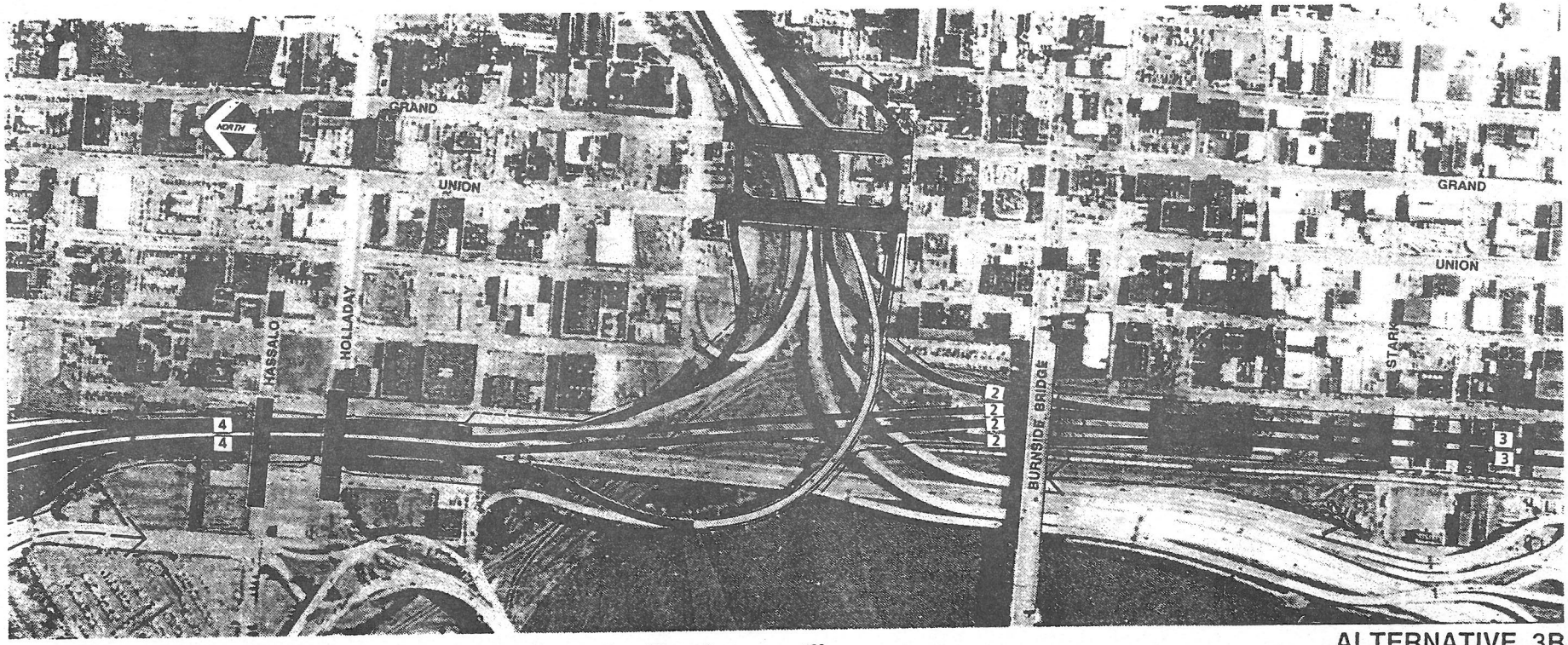

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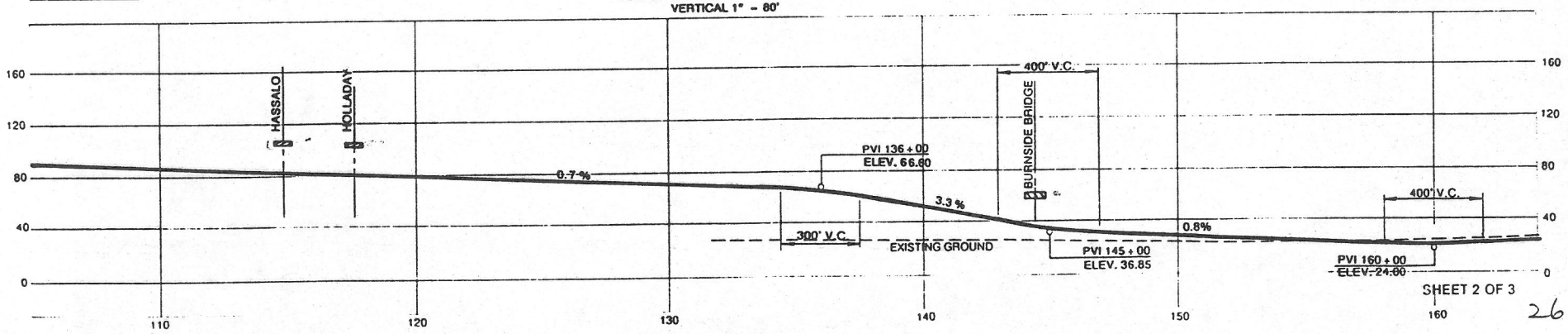
SCALE: HORIZONTAL 1" = 400'
VERTICAL 1" = 80'

ALTERNATIVE 3B

DEPRESSED GRADE



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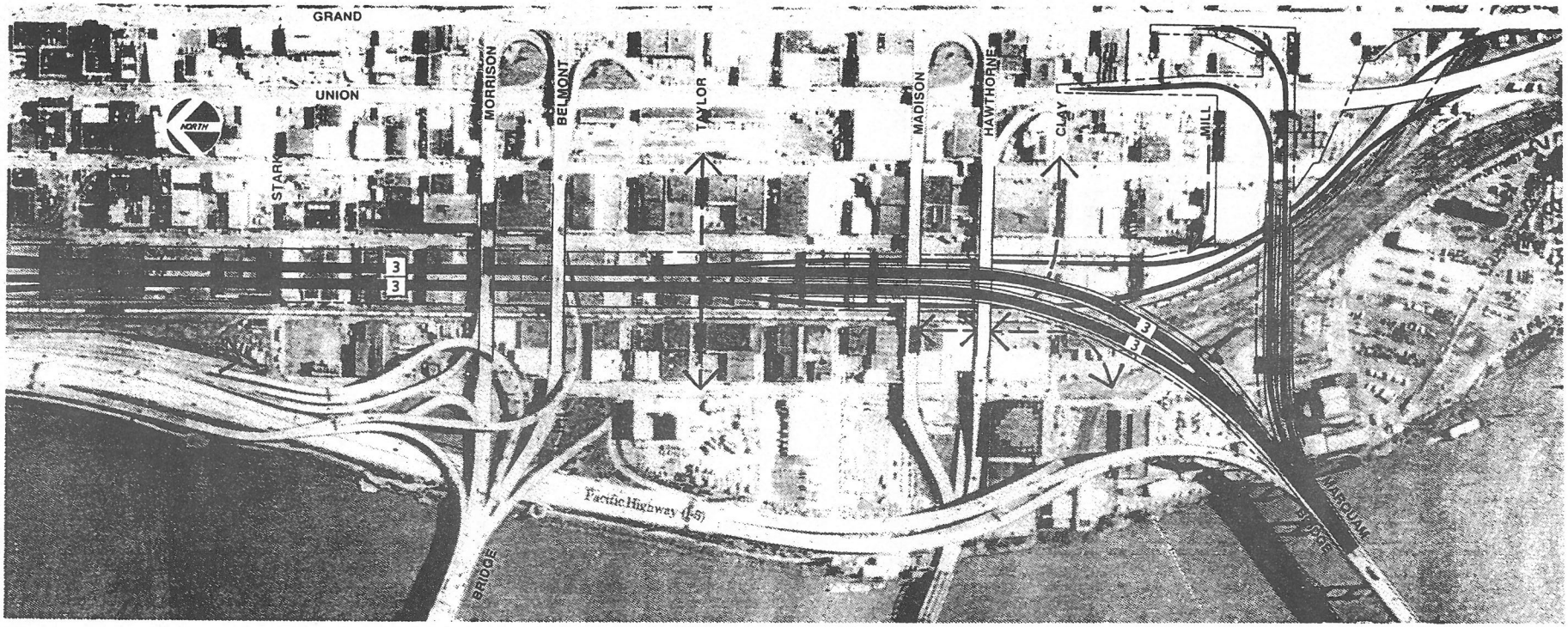

HNTB

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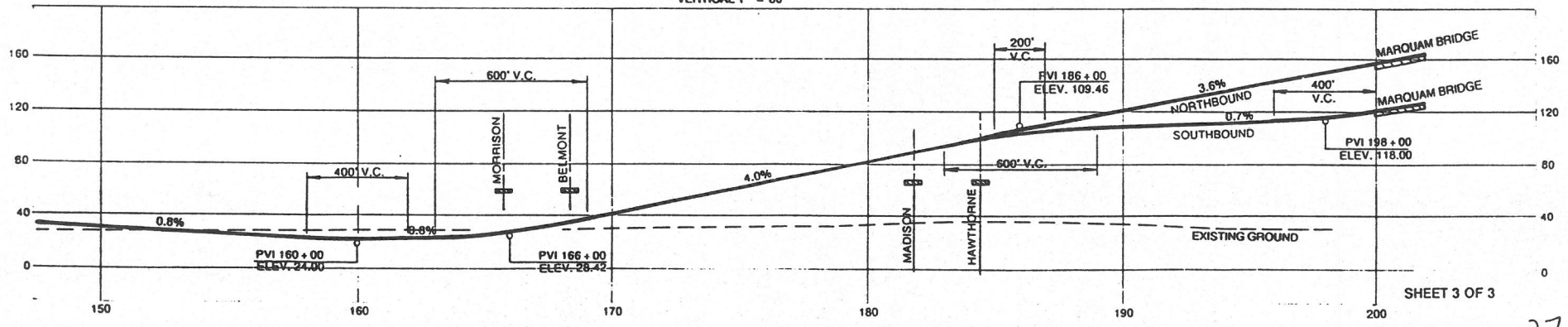
SCALE: HORIZONTAL 1" = 400'
VERTICAL 1" = 80'

ALTERNATIVE 3B

DEPRESSED GRADE



SHEET 3 OF 3

- **Alternative 3** (Traffic Redistribution) - The development of an interchange connection to the Marquam Bridge from Union and Grand, the redirection of I-84 traffic due to the elimination of the Morrison Interchange and construction of split diamond interchanges at Union and Grand and the Broadway Bridge are the major components of this alternative. The study also contains two variations of this alternative:

  - Alternatives 3A represents the concept at the existing freeway grade.

  - Alternatives 3B includes a depressed profile near the proposed Convention Center.

Each alternative may be implemented in various phases or stages over a number of years. The following is a summary of the elements included in each alternative which could be constructed as independent stages:

- **Alternative 1** (Directional Ramps)

  - I-5 Water Avenue SB On-Ramp
  - I-5 NB Banfield Ramps
  - McLoughlin Ramps
  - I-84 Ramps
  - Fremont-Banfield I-5 Mainline & Broadway Interchange
  - Broadway-Banfield NB I-5 Braided Ramps

- **Alternative 2** (Split-Diamond Ramps)

  - Burnside-Marquam I-5 Mainline & Morrison Interchange
  - McLoughlin Ramps
  - Union/Grand I-84 Interchange Ramps
  - Fremont-Banfield I-5 Mainline & Broadway Interchange
  - Local Street Riverfront Access

- **Alternative 3** (Traffic Redistribution)

  - Banfield-Marquam I-5 Mainline
  - Union & Grand-Marquam Ramp

- McLoughlin Ramps
- Union/Grand I-84 Interchange Ramps
- Fremont-Banfield I-5 Mainline
  & Broadway Interchange
- Local Street Riverfront Access

IMPLEMENTATION CONSIDERATIONS

The probable construction cost for each alternative are summarized in Table 1. This is a reconnaissance level study and insufficient design has been completed to define the exact project scope for each alternative. There is no warranty that final project costs will not vary from these estimates.

Construction and right-of-way costs account for the bulk of the resources consumed by freeway improvements. But there are also other costs which should be considered. Each alternative involves about two years of construction for the section between the Marquam Bridge and I-84. Traffic disruption would be least under Alternative 1B and greatest under Alternative 2. Alternative 3 would cause less disruption than Alternative 2 because construction would be further removed from the existing alignment.

Relocation costs in the right-of-way estimate only reflect the projected compensation to affected businesses. This amount--an average between $30,000 and $40,000 for each business--could understate the full cost to many businesses in the right-of-way path. Relocation payments are intended to cover moving costs only. But relocation can also mean a less convenient location, higher costs for facilities, or a loss of revenue.

The right-of-way purchases would reduce the amount of land and building space available for industrial use in the central city. This would put some upward pressure on prices, stimulating industrial investment, but also pushing some firms further from the central city. Firms not in the right-of-way path could also be affected by the relocation of other firms with which they do business.

Industrial operations in the Central Eastside Industrial District (CEID) are there because of the area's central location. Therefore, most firms would relocate elsewhere in the central city. Alternatives include the Northwest Triangle, Lower Albina, and elsewhere in the Central Eastside.

Firms representing 82 percent of employment in central city industrial areas would prefer to remain within the cen-

TABLE 1

PROBABLE CONSTRUCTION COSTS

(numbers are in 1,000s of dollars)

ALTERNATIVE 1.	A. Current Plan	B. Combined
I-5 South of Banfield	$ 37,072	$ 37,072
McLoughlin Ramps	17,684	17,684
Banfield	2,878	11,027
I-5 North of Banfield	56,759	13,352
Local Streets	11,093	9,360
Right-of-way	6,100	5,500
TOTAL	**$ 131,586**	**$ 93,995**

ALTERNATIVE 2.	A. Existing Grade	B. Depressed
I-5 South of Banfield	$ 72,539	$ 72,539
McLoughlin Ramps	9,264	9,264
Banfield	11,027	11,027
I-5 North of Banfield	13,352	21,921
Local Streets	10,603	10,603
Right-of-way	16,500	16,500
TOTAL	**$ 133,285**	**$ 141,854**

ALTERNATIVE 3.	A. Existing Grade	B. Depressed
I-5 South of Banfield	$ 78,801	$ 78,801
McLoughlin Ramps	4,027	4,027
Union/Grand Ramps	16,551	16,551
Banfield	11,027	11,027
I-5 North of Banfield	13,352	21,921
Local Streets	14,128	14,128
Right-of-way	26,400	26,400
TOTAL	**$ 164,374**	**$ 172,955**

tral city if they relocated, according to a 1986 survey. The study also found that planned expansion within the central city industrial areas exceeded planned relocation outside the central city. Beyond the central city, Portland has a large amount of industrial acreage including new developments at Swan Island and Columbia South Shore. It is likely that a majority of relocating firms would stay within the city limits.

One of the costs of even considering alternatives to planned freeway improvements is the uncertainty and risk created for affected businesses. Firms which may be in the path of a relocated freeway defer expansion plans and improvements to property. Real estate becomes difficult to sell. Firms which might move into the area go elsewhere. These effects may extend beyond the right-of-way path to other businesses concerned about disruption during the construction period, or about pressures for competing land uses that might develop after the freeway is relocated.

Historical buildings in Southeast Portland are being evaluated by the Central Southeast Preservation Project. The project assigned three ratings--primary, secondary and contributing--according to the historical value of individual buildings. Primary properties are those most likely to be eligible for National Register listing.

Alternative 1B has no apparent impact on historical buildings. Alternative 2 involves no primary buildings, but two secondary buildings and one contributing building. Alternative 3 has the largest impact on historical properties, eliminating three primary buildings (the B and O Warehouse, Broadway Furniture and Ash Grove Cement). Alternative 3 would also remove one secondary building and three contributing buildings.

TRANSPORTATION BENEFITS

Alternatives 2A and 3B carry incremental costs of $39 and $70 million, respectively. What additional benefits would be obtained for this outlay? Do these additional benefits outweigh the additional costs?

Highway improvements provide two types of benefits. The first are highway user benefits, comprising savings of travel time, reductions in vehicle operating costs and improved safety. The second are the spinoff effects on land use, land value and economic activity near the highway.

To compare highway user benefits, year 2005 peak-hour traffic movements were analyzed for Alternatives 1A, 2 and 3

as projected by the Metro transportation model. The model indicates very small differences between the alternatives. Regional peak-hour travel times differ by less than 0.3 percent, which is insignificant.

There appear to be no regionally significant differences in transportation benefits between the alternatives. Impacts on individual areas vary, and would need further evaluation at a later design phase. Design choices, rather than alignment, are clearly the significant factor determining system performance, and many design possibilities exist for each alignment.

LAND USE BENEFITS: THE RIVERFRONT SITE

The key benefit of relocating I-5 would be a riverfront site which has value for both public and private use. A significant portion of the riverfront would be devoted to public recreational use. This portion was assumed to be 12 acres under both alternatives.

It is difficult to assign a dollar value to a unique public site such as this. When land is devoted to public use, policy makers implicitly decide that the value of a site in public use exceeds its value in alternative uses. Therefore, the market value of comparable park areas in private use might represent a minimum.

Portland has set aside thousands of acres within the City for public uses. These acres have a private market value which provides a minimum estimate of the City's willingness to pay for parks. Land value in an alternative use measures the economic contribution the public forgoes in exchange for amenity values. Examples include Pioneer Square, which would have a probable market value of $80-$100 per square foot if developed, and Tom McCall Waterfront Park, which would have a value of $40-60 per square foot. Most other city parks would have far less value in alternative uses.

Tom McCall Waterfront Park is the most comparable site to the eastbank riverfront, but the eastbank area would be somewhat less accessible and further from employment centers. Accordingly, a value of $40 per square foot seems a reasonable lower-bound value for an eastbank park. This assumption results in a value for the park area of $21 million under both alternatives.

A portion of the riverfront site could be privately developed. With an allowance of 12 acres for public use, and 20 percent of the site for roads, 5 acres would be available for development under Alternative 2, and 22 acres under Alterna-

tive 3. The value of this land is a key benefit which can be estimated.

There is little doubt that there would be strong demand for the riverfront site for commercial, retail and probably residential use. The combination of amenity values and central location would make the riverfront site very competitive with other mixed-use development sites in the City.

If a mix of development were permitted with an average of three stories of building on the site (a 3:1 Floor Area Ratio), a value of $30.00 per square foot can be used under Alternative 3. That would give a total land value for the developed portion of $29 million.

The smaller site created under Alternative 2 would pose some difficult access problems, and would be less attractive for development. Therefore, a value of $15.00 per square foot is estimated under Alternative 2, reflecting less intensive development.

At a 3:1 Floor Area Ratio, about three million square feet of building space could be constructed under Alternative 3. If the building cost averaged $50 per square foot, that would represent a $150 million investment by developers. The employment potential on the site would be up to 7,000 jobs.

Servicing a large riverfront development would require investments in infrastructure such as streets, sewer, water and other utility services. An allowance for local streets is included in the construction cost estimates, but actual costs would depend on the intensity of use. No allowance has been made for the cost of upgrading other services.

Because of the strong development demand for the site, the main determinant of value would be zoning policies. Current zoning is for industrial use, with some commercial uses allowed as a conditional use, and no residential use allowed. Industrial land values in the area are about $7.00 per square foot, which is close to the maximum industrial land values found in the region. The alternatives are not expected to significantly increase the industrial-use value of property in the area.

Industrial land values suggest that industrial uses are not willing to pay more than about $8.00 per square foot for land in this region no matter how central the location. The reason is that above that value, it is more economical for an industrial firm to incur higher transportation costs than to pay more for location. Other uses pay more for centrality and for amenities. Existing zoning would need to be reconsidered

to obtain the maximum benefits from private development on the riverfront site.

LAND USE BENEFITS: OTHER PROPERTIES

The Central Eastside Industrial District (CEID) is the largest industrial district in the central city. It is a desirable location for many types of businesses, especially distribution, owing to its central location and concentration of industrial uses. There is a mix of land uses in the district including 58 percent industrial and 16 percent commercial use. Firms are attracted to the area despite a small block layout and inconvenient access to I-5 southbound.

By improving access to the area compared to the present, each alternative would encourage further commercial development. However, there is sufficient capacity in the form of underutilized properties to accommodate most demand for new commercial space within the CEID commercial corridors if the freeway remains in its present alignment. In addition, Portland has a large inventory of sites planned for major commercial redevelopment elsewhere. Commercial pressure would remain moderate within the industrially-zoned area under Alternative 1B. This would change if the freeway were relocated and mixed-use development allowed on the riverfront.

Alternatives 2 and 3 would affect land use directly by taking land out of industrial use for right-of-way, and by creating a riverfront site which would probably be devoted to intensive non-industrial use. There also would be spin-off effects. Riverfront amenities and the people and jobs attracted to the area would increase commercial and residential potential nearby.

In Alternative 3, the blocks between Water Avenue and 1st could be expected to eventually shift to more intensive uses if zoning permitted. The additional land value created in these blocks would be another benefit of relocating the freeway, if more intensive uses were allowed. At $30 per square foot, the additional value created on the 15 acres between Water and 1st would be $15 million.

OTHER BENEFITS

The value assumed for the public-use portion of the riverfront implicitly includes its visual impact, but the visual effect of the freeway itself is also important. Alternatives 2 and 3 reduce the visual profile of the freeway. Alternative 3 eliminates the Morrison Bridge interchange, uses a

narrow right-of-way path, and moves the freeway furthest from the river. Therefore, Alternative 3 would have the most favorable potential aesthetic impact.

Relocating the freeway would create the option of locating a north-south light rail line near the river. Alternative 3 provides the greatest opportunity for light rail both in terms of providing ample right-of-way and serving a new major transit dependent land use development. The premium access offered by an extension of the light rail system into the new area created by the relocation of the Eastbank Freeway provides some mitigation of the traffic impact problem of developing this site at a much higher land use intensity than anticipated by previous transportation studies.

NET BENEFITS

The table on the following page shows the quantified costs and benefits, and the resulting net benefit of the relocation options compared to Alternative 1B. Net benefits (benefits less costs) of -$19.4 million are estimated for Alternative 2A and -$18.8 million for Alternative 3A.

Another way to interpret the cost-benefit results is to ask: how much does the park portion need to be worth to the public for benefits to equal costs? It turns out that under both Alternatives 2A and 3A, the 12 acre park portion must have a value of about $70 per square foot, or $36 million, to make relocation worthwhile.

The potential land use benefits of relocating the freeway are significant, exceeding any potential transportation benefits. They depend on the development allowed both in and near the riverfront site. Land values have been discounted at 4 percent per year to adjust for an assumed 5-year lag between freeway construction and land development on the site. A 10-year lag is assumed before land values appreciate on adjoining blocks under Alternative 3A.

EMPLOYMENT EFFECTS

Development of the riverfront could involve 7,000 jobs under Alternative 3A, compared to about 1,000 jobs relocated for right-of-way. This would be a major impact on the Central Eastside, where employment currently stands at 17,000. The jobs associated with riverfront development would not be created by relocating the freeway; they would be attracted to the riverfront, rather than to competing sites in the region.

TABLE 2

ECONOMIC AND LAND USE ANALYSIS

	ALTERNATIVE		
	1B	2A	3A
RIGHT-OF-WAY IMPACTS			
Acres Required	**12.6**	**34.2**	**41.5**
- businesses relocated	*15*	*38*	*66*
- employees relocated	*236*	*564*	*941*
RIVERFRONT SITE FEATURES			
Acres Created	**0.0**	**21.3**	**43.3**
- acres needed for local roads	*0.0*	*4.3*	*8.6*
- park acerage	*0.0*	*12.0*	*12.0*
- development acerage	*0.0*	*5.0*	*22.4*
COSTS AND BENEFITS *($ in Millions)*			
Riverfront Site Benefits	--	**$19.9**	**$51.5**
- parkland	--	*17.2*	*17.2*
- development	--	*2.7*	*24.1*
- adjoining blocks	--	*0.0*	*10.2*
Incremental *Costs (1B minus 2A & 3A)*	--	**$39.3**	**$70.3**
- total project costs	*94.0*	*133.3*	*164.3*
Net Benefit *(1B vs. 2A & 3A)*	--	**-$19.4**	**-$18.8**

A major commercial development along the eastbank could increase the share of regional employment growth which occurs in Portland, rather than suburban areas. A decision to relocate the freeway without pursuing development along the river would reduce employment in the Central Eastside, and probably in Portland, as a result of the right-of-way requirements.

COMPATIBILITY WITH ADOPTED PLANS

It is not surprising that an undertaking as large as relocating an urban freeway creates conflicts with current plans and policies. Revisions to regional transportation plans would be needed, and local circulation plans for affected areas including OMSI and the Convention Center would need to be revised.

City land use policy, reaffirmed in the Central City Plan, is to maintain the Central Eastside as an industrial sanctuary, with a commercial corridor along Union and Grand. Right-of-way requirements for a relocated freeway would reduce the area devoted to industrial use. Right-of-way would consume from 5 to 8 percent of the CEID acreage, involving both commercial and industrial land. Under Alternative 3A, if commercial development occurred on the blocks between Water and 1st Avenues, the area shifted from present uses would be about 12 percent of the CEID.

If, in addition, mixed-use development were allowed along the river, the character of the CEID would be further changed. The area would probably become less desirable for industrial use and more desirable for other uses. In short, almost any relocation option will conflict to some degree with the industrial sanctuary policy.

On the other hand, relocation would expand the area devoted to the Eastbank Esplanade, and greatly increase its accessibility and use, another goal of the Central City Plan. It could also increase employment and property value in the central city.

FUNDING

Federal financing for Interstate work comes mainly from two sources: Interstate construction funds (FAI) and reconstruction and rehabilitation funds (4R). Interstate construction funds are only available for Interstate sections designated for completion in the 1981 Interstate Cost Estimate (ICE). The East Marquam project is one of these sections. No new sections are expected to be added.

Before 1992, either construction must begin, or the funds must be transferred to the Interstate 4R account. This deadline essentially precludes using Federal Interstate Completion funds for a redesigned East Marquam project because of the time required for design, right-of-way purchases and other steps, even if a redesigned project was considered eligible. Choosing not to go ahead with the East Marquam project would probably not mean a loss of Federal funds, but instead a transfer to the State's 4R program.

Interstate 4R funds are allocated by formula to each State, and can be used for a variety of purposes. Oregon receives about $40 million per year. The 4R program would be the expected funding source for the planned work north of I-84. It is possible that 4R funds could be used for work including relocation of I-5, but eligibility would have to be revised.

Eligibility aside, competing regional transportation priorities would make this a difficult choice. Since the benefits of relocation are in the form of valuable land, rather than transportation benefits, it would be worth considering supplementing highway program funds with other resources. One possibility would be to use the development value of the riverfront site to help pay for relocation. This might be possible through tax increment financing or other mechanisms.

Another possibility would be a demonstration grant in a future Surface Transportation Act. Usually, these are small (many less than $1 million). They also operate within an obligation ceiling which limits their use. Any discretionary grant from the Federal government would require political consensus on relocating I-5.

Phasing of work could reduce initial funding requirements. However, in both Alternatives 2 and 3, the first phase south of I-84 would be the largest: realignment of the freeway. The McLoughlin and Union/Grand ramps could be part of a later phase.

CONCLUSION

The primary benefit of moving the freeway is the creation of 21 to 43 acres of central city riverfront for public and private use. This study has assumed that 12 acres of riverfront would be devoted to public use. One guideline for the minimum value to the public of existing parks is the value they would have in an alternative use. For parks in downtown Portland, these values range from $40 to $100 per square foot.

Our analysis suggests the public would need to assign a value of about $75 per square foot to the east bank to justify relocating the freeway. This is within the range of valuyes for downtown parks.

Private development values along the east bank would also be significant. In fact, the eastbank would be one of the most desirable development sites in the region. Making a portion of a riverfront area available for development would in effect reduce the cost of creating a riverfront park. However, high land values would only be realized with the type of development that conflicts with the City's Industrial Sanctuary policy for the area. Therefore, a decision on relocating the freeway requires rethinking current land use policies.

Financing the additional costs of a new alignment would be difficult, but no more so than other major public works projects that have been implemented such as the Banfield light rail line. Federal Interstate funds now earmarked for the East Marquam Project could only be used if a cooperative effort resulted in withdrawing these funds from the interstate program and agreeing to set aside the withdrawn amount for the Eastbank Freeway. Since funds for the State's 4R program are not being spent at authorized levels because of obligation limitations, and the State's decision to fund smaller Federal-Aid projects out of other programs, this is possible. Future Interstate 4R allocations could also be used for the project, but this cannot be assured.

Other state or local revenue sources might be required for a portion of the project. Since the conclusions of this study focus upon the value placed on the creation of major new public open space, it would seem appropiate to place the ultimate determination of feasibility in the hands of the citizens of Portland. If the public supports a bond issue to fund the development of open space along the eastbank and potentially sacrifice the integrity of the Central Eastside Industrial District, then the other outstanding issues identified by this study could be satisfactorily resolved.

June 27, 1988
FINAL REPORT

TO: Portland, City Council
Oregon State Department of Transportation

FROM: Eastbank Options Steering Committee

The Eastbank Options Steering Committee has evaluated information provided by the consultants, Oregon Department of Transportation and interested parties--both private and public--during the past six months of public hearings. This information was gathered on the complete two-mile stretch of I-5 between the Fremont and the Markham Bridges.

As outlined in your resolution of January 12, 1988, the Committee believes there is a feasible alternative which will respond to the criteria and that this alternative warrants a commitment from you to go forward with the next step. We believe this alternative is feasible and, as a result, recommend that you immediately begin the EIS process to achieve a final design. The final design should take into consideration the following issues:

1. The alignment should follow generally the alignment as outlined as Alternative #2.

2. Southbound I-5 access must be considered as a high priority.

3. The EIS and final plans should be completed as expeditiously as possible to avoid any uncertainty as it relates to alignment, phasing and properties affected. The Committee has concluded that it is important that we retain the $54 million funding in some form.

4. Access as provided in the final design should allow good ingress and egress, to the Central Business District, Central Eastside, the Convention Center, Lloyd Center areas and the Oregon Museum of Science and Industry site.

5. Safe, convenient access to the area created by the adjusted alignment is very important. It needs to create a sense of safety and activity and encourage a use level which will avoid many of the negative problems of isolated areas, such as vandalism or drug use.

6. The City of Portland, Portland Development Commission and other appropriate agencies and funds should encourage economic vitality of the Central Eastside Industrial area by supporting efforts to create productive businesses and jobs in character with the existing manufacturing and distribution functions and land use designations.

Exhibit D

7. Phasing of the new alignment should enhance and take advantage of the public dollars which have already been expended within this two mile section for the convention center and light rail and build upon those past efforts and expenditures.

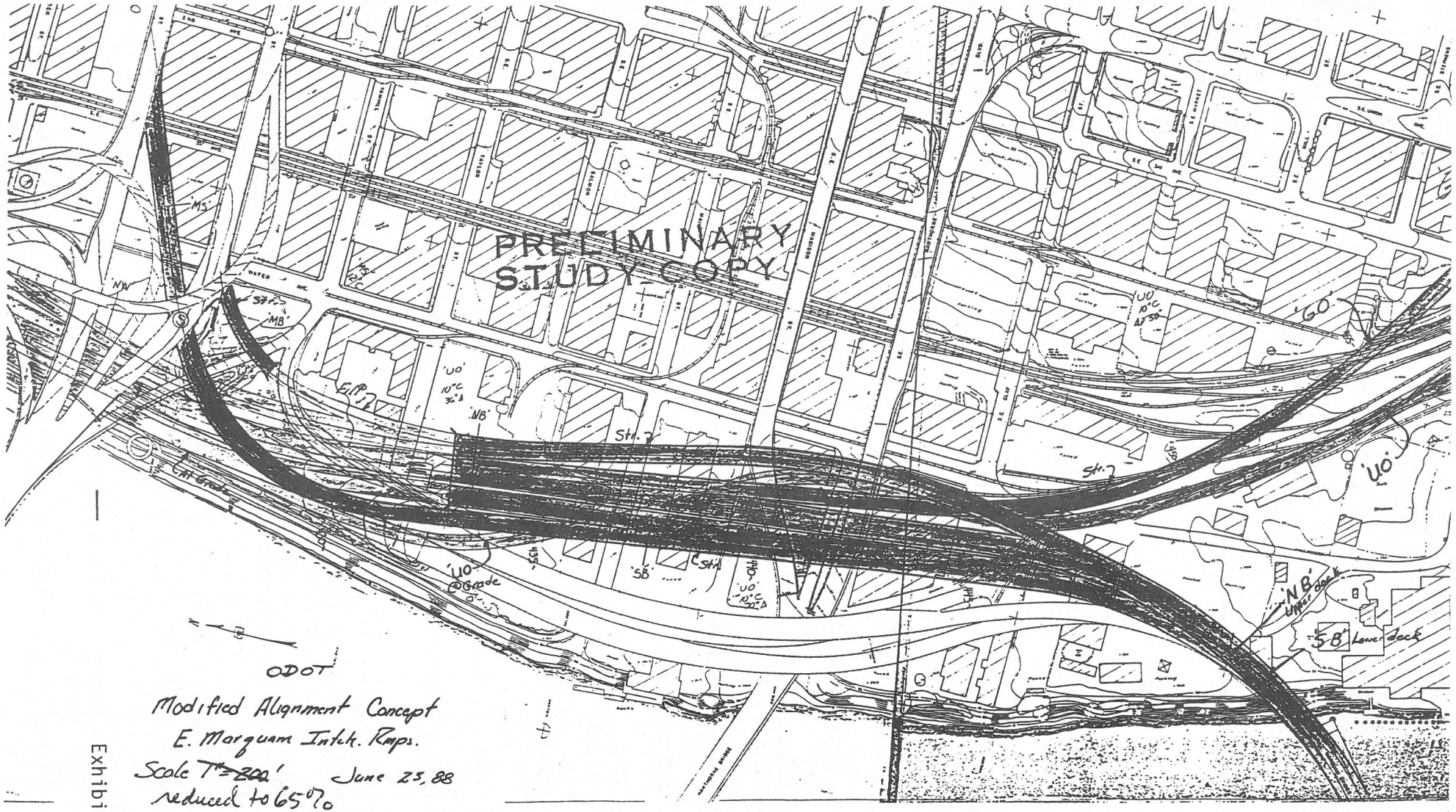
8. The City of Portland should initiate a project through the Portland Planning Bureau, the Portland Development Commission and the Park Bureau to determine the vision and ultimately the uses that the area created should allow and what public and private investment in the area should take place to achieve that vision.

9. That the final plans address the issue of north/south light rail alignment and its integration into the existing system.

10. We believe that a depressed northern segment of the freeway greatly improves potential for better pedestrian connections between the Coliseum and the Convention Center, riverfront views and vehicular safety for the northern segment of the study area.

Lastly, the Committee offers its continued assistance as a way to use its experience gained as a result of the study and to avoid any further delay in accomplishing the finalized recommendation.

The City and the State are to be applauded for their willingness to fund our search for feasible alternatives to the I-5 freeway on the East Bank of the Willamette River.


PRELIMINARY
STUDY COPY
ODOT
Modified Alignment Concept
E. Marquam Intch. Ramps.
Scale 1"=200' June 25, 88
reduced to 65%
Exhibit E

CITY OF PORTLAND
BUREAU OF PARKS AND RECREATION
1120 S.W. 5TH, ROOM 502
PORTLAND, OREGON 97204-1976
(503) 796-5193

MIKE LINDBERG, Commissioner
CLEVE WILLIAMS, Superintendent

July 13, 1988

TO: Steve Dotterrer, Transportation Planning

FROM: John Sewell, Parks Planning

SUBJECT: I-5/Eastbank Freeway Options Study

In response to the Eastbank Options Steering Committee's Final Report, the Park Bureau is pleased with the committee's recommendations asking the City to initiate a project to determine the vision and ultimate uses in the area created by the relocation of the Eastbank Freeway.

The Park Bureau has a great interest in providing recreational opportunities along the east bank of the Willamette River, as is evident by the Park Bureau's involvement in development of the Eastside Esplanade Concept Plan. The Eastside Esplanade Concept Plan makes an attempt to utilize the available open space along the I-5 freeway as best as it can be used for park purposes.

Obviously, the relocation of the freeway and the subsequent allocation of a sizable land for development of a riverfront park greatly enhances the Park Bureau's ability to provide a wider spectrum of water related and water oriented park and recreational amenities along the east bank of the river.

With the popularity and demand for more water oriented recreational facilities on the eastside, the more land that is available for such uses, the better are the chances for the Park Bureau to successfully meet such demands.

The Park Bureau looks forward to working with the Portland Development Commission and the Planning Bureau to establish a use plan for the area created by relocation of the freeway as recommended by the steering committee. The Planning Section work program will be adjusted to allow for staffing of this project following the City Council's action on the committee's recommendations.

The Park Bureau will submit a more detailed evaluation of the committee's recommendations for the Planning Commission's consideration.

JZ/vc
cc: Linda Dobson
Zari Santner

Exhibit F

CITY OF
PORTLAND, OREGON
BUREAU OF PLANNING

Earl Blumenauer, Commissioner
Norman A. Abbott, AICP, Director
Room 1002, 1120 S.W. Fifth Avenue
Portland, Oregon 97204-1966
(503) 796-7700

Housing | Code Administration | Land Use Permits | Land Use Planning | Urban Design

July 12, 1988

MEMORANDUM

TO: Steve Dotterrer, Chief Transportation Planner

FROM: Norman A. Abbott, AICP, Planning Director

RE: Response to Eastbank Option Steering Committee recommendation on freeway relocation.

Introduction

This memorandum is in response to your July 1 request of for Bureau of Planning review of the Steering Committees recommendation. I understand that this response will be used by the Office of Transportation as you prepare your report to the Planning Commission on the Study Committees recommendation. The Study Committee's recommendation includes a call for the Planning Bureau, in concert with PDC and Parks, to develop a vision and use proposal for the utilization of the approximately 22 acres of land created should alternative # 2 be implemented.

The Bureau of Planning wishes to commend the work of the Eastbank Options Steering Committee. We are impressed with the focused way in which the committee, in a short amount of time, was able to clarify many issues and facts that had defied clarification during the Central City Plan process. The Committee has provided an environment of greater certainty for decision making than has existed on this topic over the last several years.

This response is divided into two parts, an assessment of the implications of implementation of alternative # 2, and our recommendation for a study of future use of the 22 acres that would be created if alternative # 2 is implemented.

Exhibit G

Implications of Alternative # 2

Alternative #2 is presented as creating 12 acres of riverfront open space and 5 acres of land for mixed use development. Apart from the financial reasons sited in the Weslin Consulting Services report to the Steering Committee, from a land use perspective, industrial use of the 5 developable acres created by shifting the freeway east to First may not be appropriate. The development of a 12, acre park in tandem with the new OMSI facility and the rebuilt freeway facility may create such amenity for this site that a more intense use is called for. The site is small, and could generate interest in a single project development solution. Assuming an FAR of 3:1 the 5 acres have the potential about 650,000 square feet of development. This is in the range of larger single development projects the City is already seeing.

Unless industrial development or housing were required in some way, the higher market return office and retail would preclude residential, manufacturing and distribution development. Even retail development would probably be limited to 10% or less of the projects square footage. The Comprehensive and Central City Plan may need to be amended to remove the area west of the relocated freeway from the industrial sanctuary designation and zone and to establishing land use controls consistent with a consensus vision for this area.

The office development on the 5 acres of new land would create up to 3,000 jobs. Some additional transportation planning will be needed to asses the impacts of the various use options for this newly created land. A 500,000 square foot office development will produce approximately 7,000 new auto trips per day. The presence of this significant node of employment on the river may make extension of the future McLoughlin light rail line north to the convention center site more attractive.

Recommended Study of Future Use of Land Created by Freeway Relocation

Assuming that alternative #2 is implemented, additionally amendment of the Central City and Comprehensive Plans will be required. Since the property will be initially in public ownership, at a location within a renewal district, amendment of the Central Eastside Renewal Plan may also be necessary. Active coordination between ODOT, PDOT, PDC, Parks and the Bureau of Planning will be important. Also, the ongoing participation of Central Eastside Industrial Council, Riverfront for People, OMSI, Southeast Uplift, Buckman, Hosford-Abernathy and Kerns will be needed. Review by the both Planning and Development Commissions will be required.

Because of the planning that will be necessary, a project housed in the Bureau would be appropriate. Active participation of PDC, Parks and ODOT and affected and interested groups would be accomplished through formation of a TAC and

CAC. A detailed market analysis will be required. Such an analysis would best be done by PDC. Based on the market analysis, the Bureau of Planning will need to generate land use alternatives and PDOT will need to do a detailed traffic impact assessment of these alternatives. Planning will need to work with Parks and OMSI to develop detailed recreation alternatives for the recreational portion of the created property and PDC, ODOT and transportation will need to participate in the evaluation of these alternatives. Recommendations from the study will be submitted to the Planning and Development Commissions prior to review by City Council. Review through the LCDC post-acknowledgement process will also be required prior to City Council action.

This work will require, from start to finish, approximately one year to complete. Planning Bureau resources necessary will include a full time Planner III, support graphic and secretarial staff and about $10,000 of nonpersonnel costs. Total cost would be $60,000 to $65,000. Work on this project might be deferred until construction of the replacement freeway begins.

MSH/msh

cc: Robert Stacey, Executive Assistant to Commissioner Blumenauer
Michael S. Harrison, AICP, Chief Land Use Planner

PORTLAND
DEVELOPMENT
COMMISSION

Patrick L. LaCrosse
Executive Director

Commissioners
Harry L. Demorest
Barbara M. Karmel
Neil Kelly
C. Douglas McGregor
Carl Talton

July 12, 1988

Mayor J. E. Bud Clark
City of Portland
1220 S.W. Fifth Avenue
Portland, Oregon 97204

Dear Mayor Clark:

It has recently come to our attention that the Oregon Department of Transportation has developed an alternative to the original design of the East Marquam Project. Based upon our brief review of this alternative, we find that it may have several advantages over both the original ODOT plan and other approaches, such as "alternative 2". For example, it does not require a lengthy review process, could probably utilize existing funds, has limited negative impacts on existing businesses, maintains good access to other Central City areas, and takes very little property off of the tax roles.

We are also pleased to find that the alternative is generally responsive to the recommendations of the Eastbank Alternatives Committee, and to the criteria originally specified by the City Council. It provides approximately 8 acres of accessible riverfront, maintains the industrial sanctuary, improves safety on that section of the freeway, improves access between the Central Eastside and I-5, and relieves traffic on Union and Grand.

We realize that the new proposal has not yet had the benefit of careful analysis or substantial public review. As the City agency responsible for Economic Development, I would like to take this opportunity to offer PDC's assistance in preparing an analysis of the economic and development related impacts of the new proposal, or of other options of interest to you.

We would work closely with the Office of Transportation, the Bureau of Planning and the Bureaus of Parks and Recreation in preparing this analysis. We would expect to complete the analysis within a time frame which would permit its use in your consideration of options.

Exhibit H

I look forward to hearing from you if you would like the PDC to proceed with the analysis.

Sincerely,

Harry L. Demorest/ks

Harry L. Demorest, Chairman
Portland Development Commission

HLD: KS: mr

cc: Commissioner Earl Blumenauer
Commissioner Dick Bogle
Commissioner Bob Koch
Commissioner Mike Lindberg
PDC Commissioners
Pat LaCrosse