Draft Environmental Impact Statement and Draft Section 4(f) Evaluation

Detroit Intermodal Freight Terminal (DIFT)
Wayne and Oakland Counties

MDOT
Michigan Department of Transportation

Prepared by:
Michigan Department of Transportation

In cooperation with:
U.S. Department of Transportation
Federal Highway Administration

May 2005

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FHWA-MI-EIS-03-03-D
Detroit Intermodal Freight Terminal

Detroit Intermodal Freight Terminal (DIFT)
Wayne and Oakland Counties, Michigan

DRAFT ENVIRONMENTAL IMPACT STATEMENT AND DRAFT SECTION 4(f) EVALUATION

Submitted Pursuant to 42 U.S.C. 4332 (2)(c) and 49 U.S.C. 303

By The

U.S. Department of Transportation
Federal Highway Administration
and
Michigan Department of Transportation

April 15, 2005
Date of Approval

James J. Steele
FHWA Division Administrator

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This Draft Environmental Impact Statement and Draft Section 4(f) Evaluation describe the social, economic, and natural environmental impacts associated with proposed improvements to intermodal freight terminals in Wayne and Oakland counties. This document includes a summary of the planning basis and of the impacts associated with the proposed project and the process involved in determining the preferred alternative. Proposed mitigation measures are also included. The estimated cost of the proposed project ranges from $267 million (see Table 1-2) for the Improve/Expand Alternative to $583 million (see Table 4-17) for the Consolidate Alternative. Between 0 and 83 residential displacements and between 14 and 64 business displacements are anticipated. The estimate of direct wetlands effects is 0 to 0.08 acres.

Comments on this Draft Environmental Impact Statement are due 60 days after the date of the public hearing and should be sent to: Mr. Robert Parsons, Michigan Department of Transportation, PO Box 30050, Lansing, Michigan 48909.

PREFACE

The National Environmental Policy Act (NEPA) of 1969 requires that the social, economic, and natural environmental impacts of any proposed action of the federal government be analyzed for decision-making and public information purposes. There are three classes of action. Class I Actions are those that may significantly affect the environment and require the preparation of an Environmental Impact Statement (EIS). Class II Actions (categorical exclusions) are those that do not individually or cumulatively have a significant effect on the environment and do not require the preparation of an EIS or an Environmental Assessment (EA). Class III Actions are those for which the significance of impacts is not clearly established. Class III Actions require the preparation of an EA to determine the significance of impacts and the appropriate environmental document to be prepared – either an EIS or a Finding of No Significant Impact (FONSI).

This document is a Draft Environmental Impact Statement and Draft Section 4(f) Evaluation for the proposed improvement of intermodal freight terminals in Wayne and Oakland counties in Michigan. It describes and analyzes proposed alternatives, and the measures proposed to minimize harm to the project area resources. Federal, state, and local agencies will review it and comment. A public hearing on this proposal will be held. Public and agency comments will be summarized in a Final EIS and responses will be provided. Any necessary changes resulting from the comments will be made. Once these changes and additions have been made, the FEIS will be forwarded to the Federal Highway Administration (FHWA). If FHWA concurs in the document's findings, a Record of Decision (ROD) will be issued. If appropriate, the ROD will allow the project to move forward into the design phase. No funding has been identified past this environmental/planning phase.

Because of adverse effects on historic resources and public parks/recreation lands, this document also serves as coordination documentation under Section 106 of the National Historic Preservation Act of 1966, as amended, and as the draft Section 4(f) Evaluation, under Section 4(f) of the Department of Transportation Act of 1966, which protects these resources.

This document was prepared by a consultant working with the Michigan Department of Transportation (MDOT), in cooperation with FHWA and other members of a Technical Team. The Technical Team includes representatives from the following divisions/support areas within MDOT: Design, Environmental, Planning, Communications, Intermodal/Multimodal, Real Estate, Traffic and Safety, and the Metro Region. Information was also furnished by other federal and state agencies, local units of government, public interest groups, a Steering Committee comprised of representatives of MDOT, the City of Detroit, railroads, and automakers, and a Local Advisory Council of stakeholders and interested local groups, and individual citizens.

This Draft EIS is available for review at the MDOT's Lansing office at 425 West Ottawa Street (third floor), 48909; the Metro Region office at 18101 W. Nine Mile Road, Southfield, MI 48075; the Detroit Transportation Service Center at 1400 Howard Street, Detroit, MI 48216; or, the Oakland Transportation Service Center at 2300 Dixie Highway, Waterford, MI 48238. It is also available at the Ferndale Public Library, 222 E. Nine Mile, Ferndale, MI 48220; the Henry Ford Centennial Library, 16301 Michigan Avenue, Dearborn, MI 48126; the Detroit Public Library, 5201 Woodward Avenue, Detroit, MI 48202; and the Bowen Branch of the Detroit Public Library, 3648 W. Vernor, Detroit, MI 48216. Technical documents referred to in this Environmental Impact Statement are available at the same locations.

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FOREWORD

This study addresses alternatives for enhancements in intermodal operations for four Class I railroads (those with annual revenues in excess of $250 million) at four terminals known as Livernois-Junction Yard owned and operated jointly by CSX and Norfolk Southern railroads; Canadian Pacific (CP)/Expressway; CP/Oak; and, Canadian National(CN)/Moterm. These alternatives range from Alternative 1: No Action to Alternative 2: Improve/Expand Existing Terminals, listed above; to Alternative 3: Consolidate All Four Class I Railroads' Intermodal Activity at Livernois-Junction Yard Area; to Alternative 4: The Composite Option, which is a combination of consolidation of CSX, Norfolk Southern (NS) and Canadian Pacific (CP) intermodal operations at the Livernois-Junction Yard area and the expansion of the existing CN/Moterm terminal.

SECTION 1
SUMMARY

1.1 Description of the Proposed Project

A significant volume of freight being moved by railroads today is delivered to the rails by trucks. Following the train trip, it is again moved by truck to its final destination. These movements between rail and truck are termed intermodal freight transportation. The most common movements involve transferring trailers or containers between railroad flatcars and trucks. This activity usually takes place at a location called an intermodal terminal. In Southeast Michigan, the transfer of trailers is conducted by Norfolk Southern's (NS) Triple Crown operation. Today, that is accomplished at the Melvindale and the recently reopened Willow Run terminals (Figure 1-1/inset). Canadian Pacific (CP) also transfers trailers in its Expressway operation at the terminal behind the Michigan Central Depot. CP also transfers containers at the Oak terminal. Finally, both NS and CSX transfer containers at the Livernois-Junction Yard and Canadian National Railroad (CN) transfers containers at the Moterm terminal in Ferndale, Michigan.

The Detroit Intermodal Freight Terminal Study (DIFT) includes the proposed enhancement of intermodal operations by four Class I railroads[1] at four intermodal terminals that will continue to exist in the future: Livernois-Junction Yard; CP/Expressway; CP/Oak; and, CN/Moterm (Figure 1-1/main graphic). (Mazda has an intermodal terminal in Flat Rock in Wayne County serviced by Canadian National Railroad, but it is solely dedicated to Mazda use.)

Information gathered for the DIFT indicates there is a current lack of adequate intermodal capacity. For example, the Norfolk Southern Railroad has realized a significant recent increase in its Triple Crown business to the extent it cannot be accommodated at the Melvindale terminal. Norfolk Southern has requested financial assistance of the Michigan Department of Transportation (MDOT) so that it can consolidate its intermodal operations at its portion of the Livernois-Junction Yard. But, until the DIFT studies are concluded, use of federal monies to provide such assistance is not available. So, NS recently reopened (in mid-2004) its terminal in Romulus, Michigan, to handle its Triple Crown business growth. If the DIFT were an approved project, and, if appropriate improvements were made on a timely basis, NS would shift all its intermodal operations in Michigan to the Livernois-Junction Yard. This will leave four intermodal Class I railroad terminals serving Southeast Michigan in the future. These four terminals are the subject of the DIFT Study.

[1] A Class I Railroad does at least $250 million of business annually. In Michigan there are four Class I railroads: CSX, Norfolk Southern, Canadian National and Canadian Pacific.

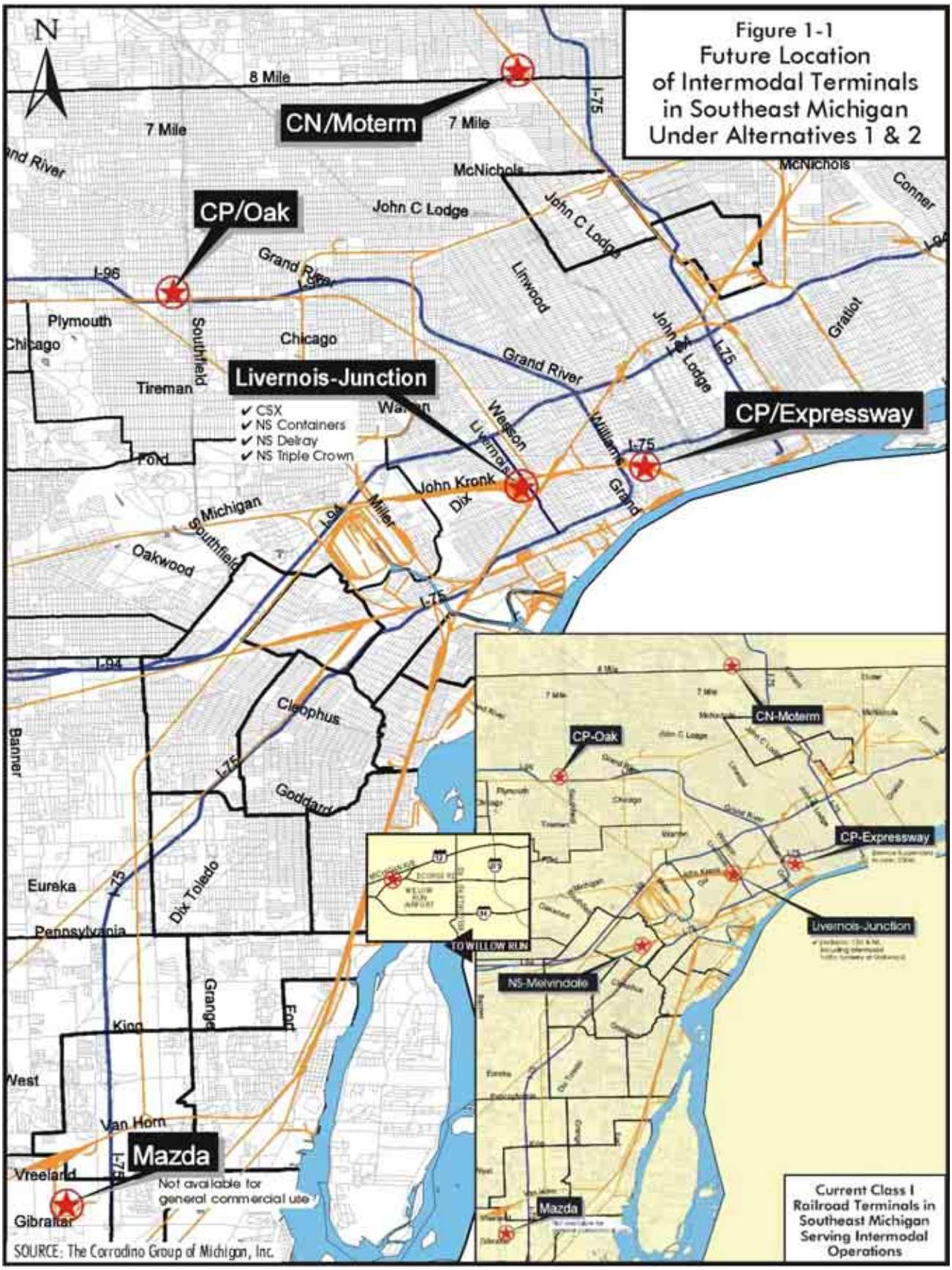


Figure 1-1
Future Location
of Intermodal Terminals
in Southeast Michigan
Under Alternatives 1 & 2
N
8 Mile
7 Mile
CN/Moterm
7 Mile
I-75
McNichols
John C Lodge
CP/Oak
Grand River
I-96
Plymouth
Chicago
Southfield
Livernois-Junction
✔ CSX
✔ NS Containers
✔ NS Delray
✔ NS Triple Crown
Tireman
Ford
Linwood
Grand River
Gratiot
CP/Expressway
Weadon
Livernois
Williams
John Kronk
Dix
Michigan
Miller
Oakwood
I-94
Clophus
Goddard
Banner
Eureka
Dix Toledo
Pennsylvania
King
West
Van Horn
Vreeland
Gibraltar
Mazda
Not available for
general commercial use
SOURCE: The Corradino Group of Michigan, Inc.
CN-Moterm
CP-Oak
CP-Expressway
Livernois-Junction
NS-Melvindale
TO WILLOW RUN
Mazda
Current Class I
Railroad Terminals in
Southeast Michigan
Serving Intermodal
Operations

1.2 Alternatives

Alternatives were analyzed for this project with public involvement. In addition to the alternatives analysis presented in this DEIS, documentation of the alternatives analysis is available in technical reports prepared as part of the EIS study process and listed at the end of the Table of Contents. The general characteristics of the alternatives are summarized on Table 1-1.

Alternative 1 **No Action:** This alternative assumes the railroads will develop their existing intermodal rail yards in Southeast Michigan without federal and state government funding assistance and oversight.

Alternative 2 **Improve/Expand:** This alternative proposes improvements will be made to four existing intermodal rail terminals (at Livernois-Junction Yard, CP/Expressway, CP/Oak and CN/Moterm) operated by the four Class I railroads in Southeast Michigan with railroad funding, as well as federal and state governments funding assistance and oversight. This alternative includes improvements inside and outside the existing railroad terminal property.

Alternative 3 **Consolidate:** This alternative proposes the intermodal operations of all four Class 1 railroads will be consolidated at the Livernois-Junction Yard area. Railroad funding, plus federal and state governments funding assistance and oversight would be involved in making improvements inside and outside the existing yard. The existing terminals from which intermodal business is transferred will continue to serve other railroad business.

Alternative 4 **The Composite Option:** This alternative proposes the intermodal operations of three railroads (CSX, Norfolk Southern and Canadian Pacific) be consolidated at the site of the Livernois-Junction Yard in southwest Detroit, while improving/expanding the existing CN/Moterm terminal, with federal and state funding assistance and oversight for improvements inside and outside the terminals. The railroads will also invest in these improvements. The existing terminals from which intermodal business is transferred will continue to serve other railroad business.

"External-to-terminal" improvements, such as the rail connections/interfaces at Delray, Milwaukee Junction and Vinewood interlockers, are part of Alternatives 2, 3 and 4 (see Figure 3-15 and Table 3-1). These will all be accomplished on existing railroad property. All Action Alternatives (Alternative 2,3 and 4) also include improving the north side of the I-94/Livernois Avenue interchange to facilitate truck movements to the Livernois-Junction Yard and keep them out of the neighborhood to the north (see Figure 1-15).

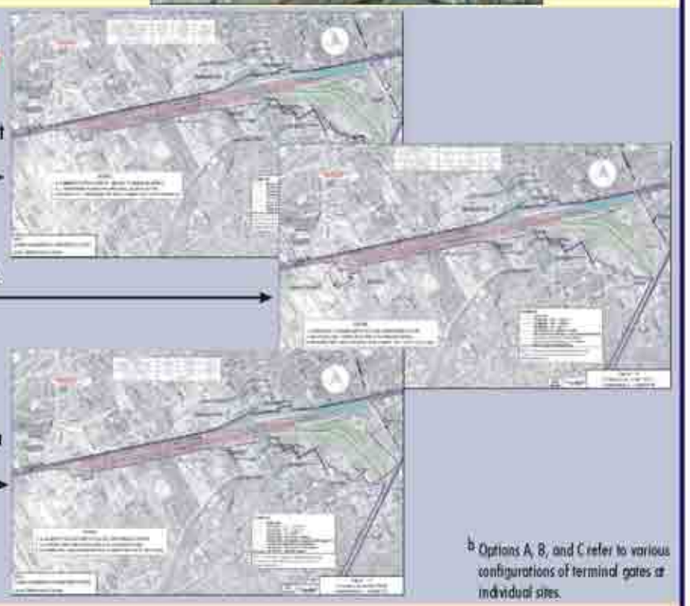
TERMINAL / ALTERNATIVE	Livernois-Junction Yard	CP/Expressway Terminal
Alternative 1: No Action: This alternative assumes the railroads will develop their existing intermodal rail yards in Southeast Michigan without federal and state government funding assistance and oversight.	No Action Figure 1-2 → 	No Action Figure 1-8 → 
Alternative 2: Improve/Expand Existing Terminal: This alternative proposes improvements will be made to four existing intermodal rail terminals (at Livernois-Junction Yard, CP/Expressway, CP/Oak and CN/Moterm) operated by the four Class I railroads in Southeast Michigan with railroad funding, as well as federal and state government funding assistance and oversight.[a]	Improve/Expand Livernois-Junction Yard Option A:[b] Access via Livernois Avenue and at Dix/Waterman/Vernor Figure 1-3 →  Option B:[b] Access via Livernois and Wyoming Figure 1-4 → Option C:[b] All access via Livernois Avenue only Figure 1-5 → [b] Options A, B, and C refer to various configurations of terminal gates at individual sites.	Improve/Expand Existing Terminal Figure 1-9 →  Figure 1-9 CP/Expressway Terminal Alternative 2
Alternative 3: Consolidate all Class I Railroad's Intermodal operations at Livernois-Junction Yard area: This alternative proposes the intermodal operations of all four Class I railroads will be consolidated at the Livernois-Junction Yard area. Federal and state governments would provide funding assistance and oversight for improvements inside and outside the existing yard. The railroads will also invest in these improvements. The existing terminals from which intermodal business is transferred will continue to serve other railroad business.	Improve/Expand Livernois-Junction Yard and Consolidate CP and CN Intermodal Activities there Figure 1-6 → 	Relocate CP/Expressway Intermodal Activity to Livernois-Junction Yard Area. The Expressway terminal will then serve non-intermodal railroad uses. Figure 1-6 ←
Alternative 4: The Composite Option: This alternative proposes the intermodal operations of three railroads (CSX, Norfolk Southern and Canadian Pacific) be consolidated at the site of the Livernois-Junction Yard in southwest Detroit, while improving/expanding the existing CN/Moterm terminal, with federal and state funding assistance and oversight for improvements inside and outside the terminals. The railroads will also invest in these improvements. The existing terminals from which intermodal business is transferred will continue to serve other railroad business.	Improve/Expand Livernois-Junction Yard and Consolidate CP Intermodal Activity there Figure 1-7 → 	Relocate CP/Expressway Intermodal Activity to Livernois-Junction Yard Area. The Expressway terminal will then serve non-intermodal railroad uses. Figure 1-7 ←

Table 1-1
Detroit Intermodal Freight Terminal
Summary of Alternatives

[a] This alternative includes "External-to-terminal" improvements, such as the rail connections/interfaces at Delray, Milwaukee Junction and Vinewood interlockers, are part of Alternatives 2, 3 and 4 (see Figure 3-15). These will all be accomplished on existing railroad property. All Action Alternatives would also include improving the north side of the interchange of I-94 and Livernois to improve conditions for truck movements.

TERMINAL / ALTERNATIVE	CP/Oak Terminal	CN/Moterm Terminal
Alternative 1: No Action: This alternative assumes the railroads will develop their existing intermodal rail yards in Southeast Michigan without federal and state government funding assistance and oversight.	No Action Figure 1-10 → 	No Action Figure 1-13 → 
Alternative 2: Improve/Expand Existing Terminal: This alternative proposes improvements will be made to four existing intermodal rail terminals (at Livernois-Junction Yard, CP/Expressway, CP/Oak and CN/Moterm) operated by the four Class I railroads in Southeast Michigan with railroad funding, as well as federal and state government funding assistance and oversight.[a]	Improve/Expand Existing Terminal Option A:[b] With interchange access at I-96/ Evergreen Figure 1-11 →  Option B:[b] With alternative interchange access at I-96/ Evergreen Figure 1-12 →  [b] Options refer to various configurations of terminal gates at individual sites.	Improve/Expand Existing Terminal Figure 1-14 → 
Alternative 3: Consolidate all Class I Railroad's intermodal operations at Livernois-Junction Yard area: This alternative proposes the intermodal operations of all four Class I railroads will be consolidated at the Livernois-Junction Yard area. Federal and state governments would provide funding assistance and oversight for improvements inside and outside the existing yard. The railroads will also invest in these improvements. The existing terminals from which intermodal business is transferred will continue to serve other railroad business.	Relocate CP/Oak Intermodal Activity to Livernois-Junction Yard Area. The Oak terminal will then serve non-intermodal railroad uses. Figure 1-6 → 	Relocate CN/Moterm Intermodal Activity to Livernois-Junction Yard Area. The Moterm terminal will then serve non-intermodal railroad uses. Figure 1-6 ←
Alternative 4: The Composite Option: This alternative proposes the intermodal operations of three railroads (CSX, Norfolk Southern and Canadian Pacific) be consolidated at the site of the Livernois-Junction Yard in southwest Detroit, while improving/expanding the existing CN/Moterm terminal, with federal and state funding assistance and oversight for improvements inside and outside the terminals. The railroads will also invest in these improvements. The existing terminals from which intermodal business is transferred will continue to serve other railroad business.	Relocate CP/Oak Intermodal Activity to Livernois-Junction Yard Area. The Oak terminal will then serve non-intermodal railroad uses. Figure 1-7 → 	Improve/Expand Existing Terminal Figure 1-14 →

[a] This alternative includes "External-to-terminal" improvements, such as the rail connections/interfaces at Delray, Milwaukee Junction and Vinewood interlockers, are part of Alternatives 2, 3 and 4 (see Figure 3-15). These will all be accomplished on existing railroad property. All Action Alternatives would also include improving the north side of the interchange of I-94 and Livernois to improve conditions for truck movements.

1.2.1 Characteristics of Proposed Intermodal Terminals

The following information is provided to understand how the terminals shown on Figure 1-1 will operate under the various alternatives.

Livernois-Junction Yard

CSX and Norfolk Southern have jointly controlled the 300-acre Livernois-Junction Yard since 1999 following acquisition of Conrail's assets. The yard is now being improved through a project of independent utility with a $10 million public (MDOT)/private (CSX/NS) investment. Meanwhile, NS's Triple Crown business has outgrown its Melvindale terminal. So, NS reopened its Willow Run terminal in 2004. NS has indicated it prefers to consolidate all its intermodal business at the Livernois-Junction Yard, provided adequate facilities can be developed. NS has asked MDOT for financial assistance in accomplishing that objective. None can be provided unless and until the environmental review of the proposed DIFT is complete.

Under Alternative 1 – No Action, the Livernois-Junction Yard will continue to operate with two gates – one at Livernois Avenue, between John Kronk Street and Toledo Avenue, and a second near the intersection of Dix/Waterman/Vernor (Figure 1-2). Trucks use a variety of paths to reach these gates, including streets like Dragoon, Livernois and Vernor. Other local streets, such as Waterman, Dix and Springwells may be impacted by intermodal trucks. Additionally, a host of industrial activities, (e.g., the trucking center at the northwest corner of John Kronk Street and Central Avenue), will likely continue to operate/grow causing streets like Central Avenue to experience an increase in large-truck traffic.

Under Alternative 2 – Improve/Expand Existing Terminals, the Livernois-Junction Yard will still be served by the Livernois Avenue entrance. Under Option A, the Dix/Waterman/Vernor gate will remain (Figure 1-3). There would be no displacements of residential properties but eight business relocations on 10 to 11 acres. Under Option B, the Dix/Waterman/Vernor gate will be eliminated by developing a western gate served by Wyoming Avenue (Figure 1-4). There would be 11 businesses relocated but no involvement of residential properties. Acquisition would be 29.5 acres. Under Option C, the Dix/Waterman/Vernor gate will be eliminated by focusing all traffic at the Livernois Avenue gate, with a tunnel (14'9" clearance) within the yard to allow trucks to move under the rail lines to access both sides of the terminal without crossing the rail lines at grade (Figure 1-5). Eight businesses would be relocated but no residential units would be acquired. Acquisition would be 10 to 11 acres. Under DIFT Alternative 2, for all options, Lonyo Avenue would be closed at the railyard boundary. Traffic would be channeled by way of a section of relocated John Kronk Street to Central Avenue which would pass under the railroad tracks (14'9" vertical clearance) (Figures 1-3 through 1-5). Businesses supporting the terminal's intermodal growth would likely be drawn to the area near the terminal. There are hundreds of acres of brownfield and otherwise vacant/abandoned properties in the terminal area to accommodate such development. Under this alternative, the Livernois-Junction Yard would be paved and a barrier wall for terminal security would be provided along the entire north side of the terminal and on the south side east of Central Avenue. These latter two elements are integral parts of the proposed project.

Figure 1-2
Existing Livernois-Junction Yard Access

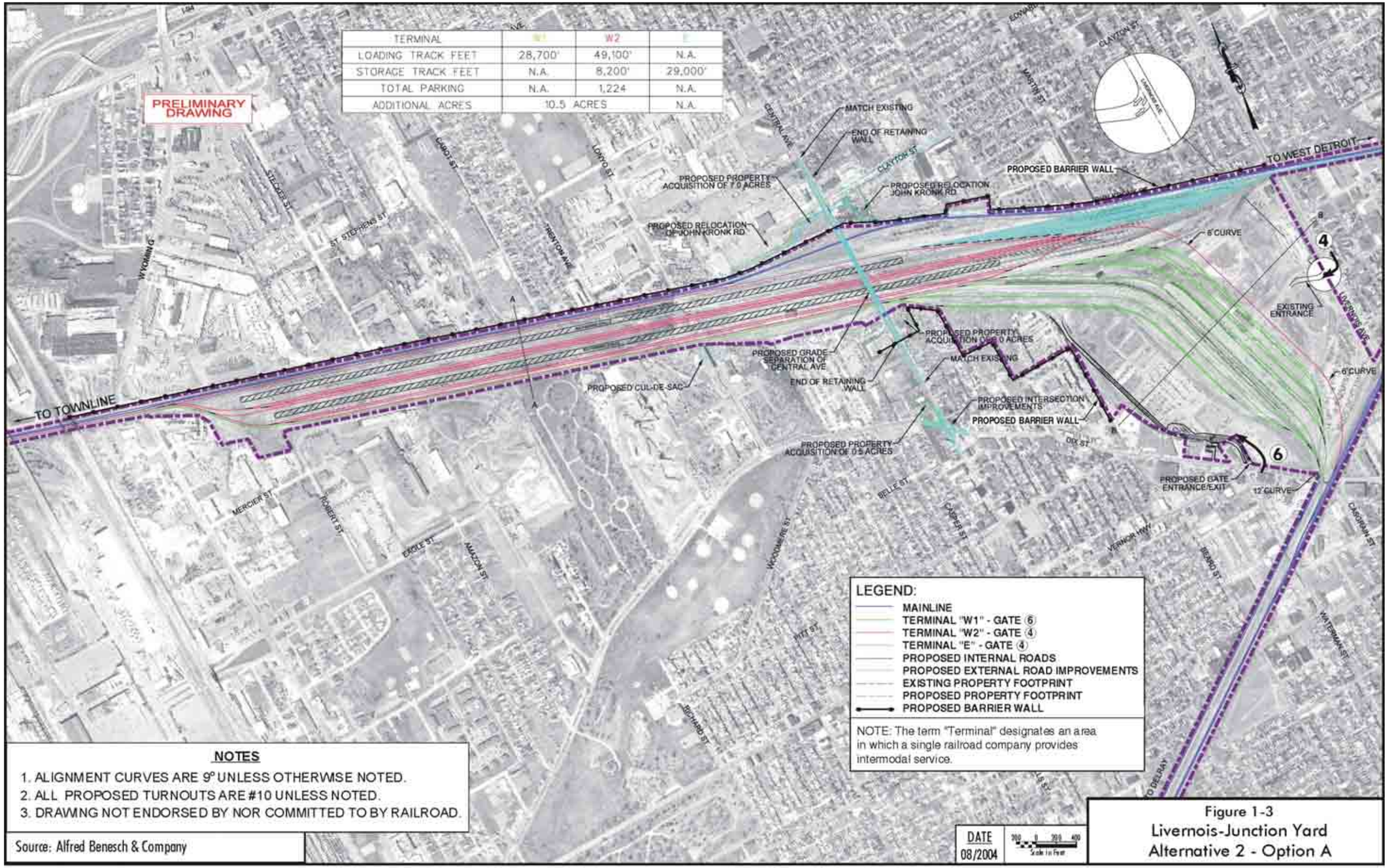


Figure 1-3
Livernois-Junction Yard
Alternative 2 - Option A

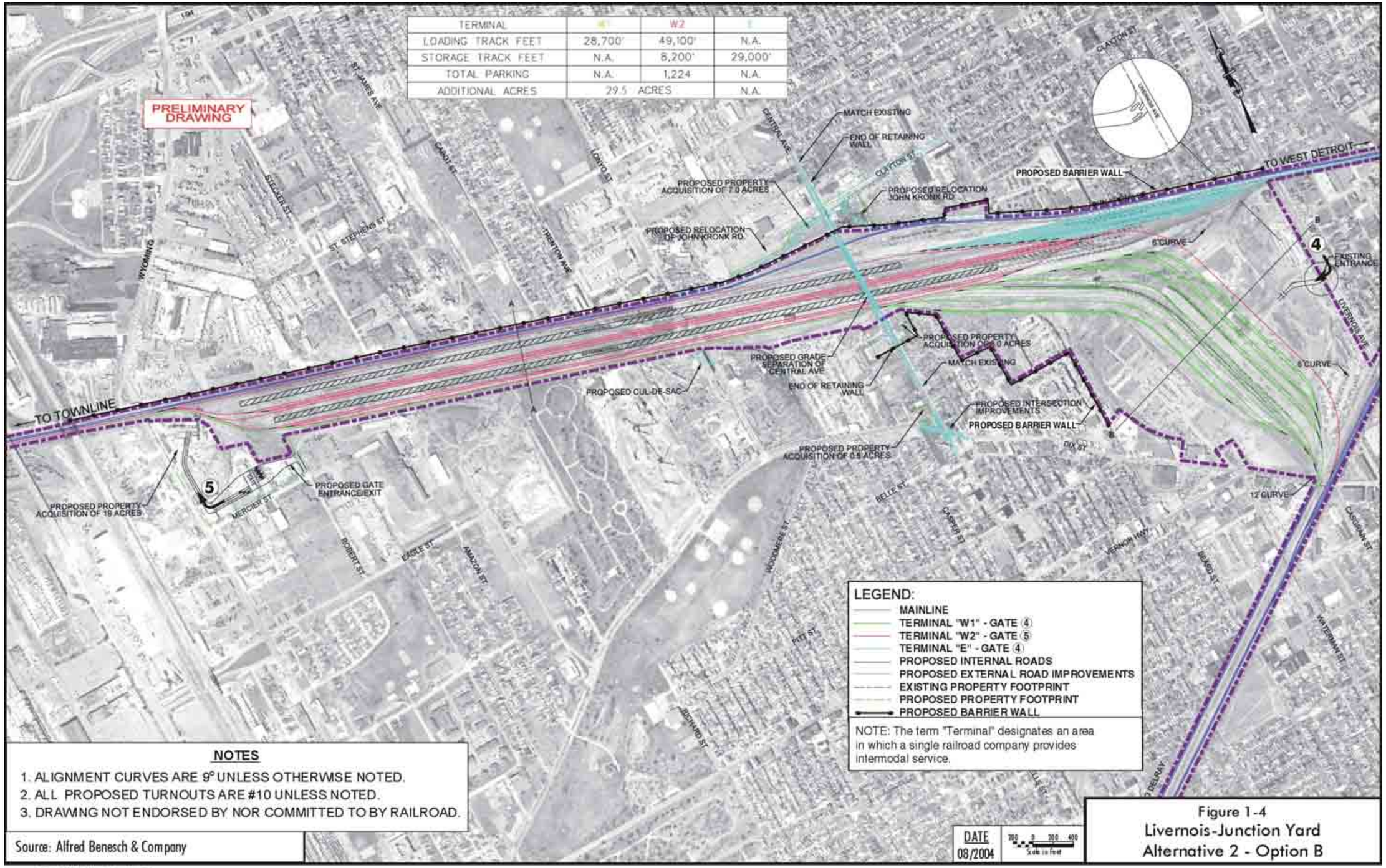


Figure 1-4
Livernois-Junction Yard
Alternative 2 - Option B

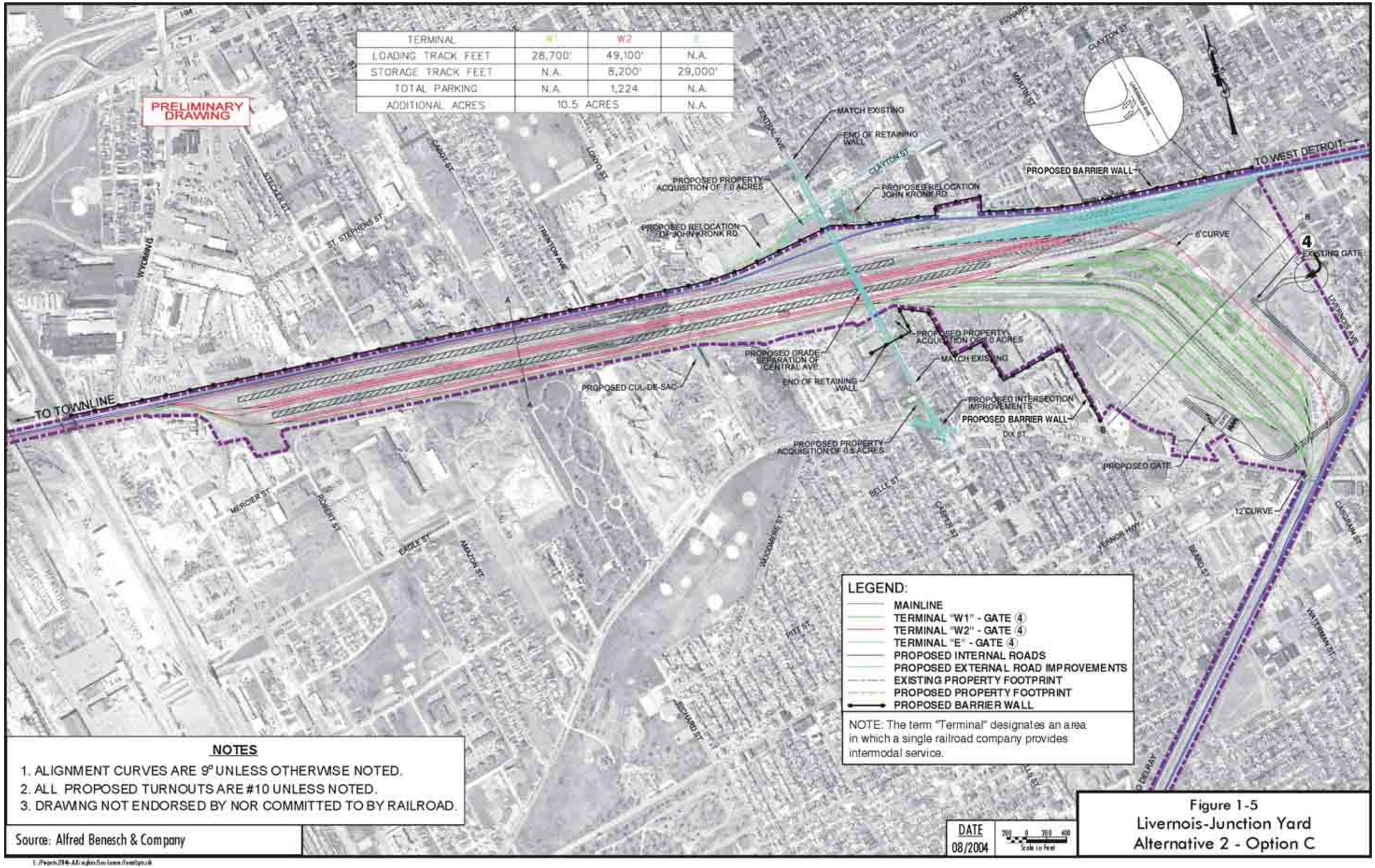


Figure 1-5
Livernois-Junction Yard
Alternative 2 - Option C

Under Alternative 3 – Consolidation, the Livernois-Junction Yard would accommodate all Class I railroads' intermodal operations in Southeast Michigan. The terminal would be served by five gates (Figure 1-6). Alternative 3, like Alternative 2, would see Lonyo Avenue closed and Central Avenue passing under the railroad tracks. Because this alternative would remove John Kronk as a city street, a perimeter road on the terminal's north side would be constructed to include a landscaped buffer. It would allow travel between Livernois and Wyoming Avenues. Alternative 3 would require acquisition of approximately 384 acres and relocation of 64 businesses and 83 residential units. This acquisition would cause relocation of more than 4,000 total trips per day (cars and trucks) to other locations in the terminal area. So, while the expanded intermodal activity under Alternative 3 will generate about 5,000 daily truck trips (two-way) in 2025 (which is approximately 3,500 more daily truck trips [two-way] expected at the terminal than the No Action Alternative), there will be an offsetting reduction of trips from the area immediately surrounding the terminal to the broader terminal area. Furthermore, access to the terminal's gates will be a combination of interstate-to-major arterial connectors (i.e., I-75/I-94 to Wyoming/Livernois[2] Avenues) directing intermodal trucks away from the neighborhoods. Businesses supporting the terminal's intermodal growth would likely be drawn to the area near the terminal. Under this alternative, the Livernois-Junction Yard would be paved and a barrier wall for terminal security would be provided along the entire north side of the terminal and on the south side east of Central Avenue. These latter two elements are integral parts of the proposed project.

Alternative 4 – Composite of Alternatives 2 and 3 is similar to Alternative 3 except Canadian National Railroad (CN) would remain at an expanded Moterm facility and not consolidate its intermodal business at the area of the Livernois-Junction Yard. This would reduce the number of gates there to four, compared to five for Alternative 3 (Figure 1-7). The potential acquisition of 265 acres at the Livernois-Junction Yard area (119 fewer than Alternative 3) would involve acquisition of 51 businesses and 33 residential units. This acquisition would cause the relocation of more than 3,600 total trips per day (cars and trucks). The number of daily, two-way intermodal truck trips in 2025 would be close to 4,600. The access routes to these gates via the interstate highway system, in combination with Wyoming and Livernois Avenues, would be the same as Alternative 3. Lonyo Avenue would be closed at the terminal boundary; its traffic would be channeled to connect with Central Avenue to pass under the railroad tracks. The perimeter road would be built on the north side of the terminal to connect Livernois and Wyoming Avenues. Businesses supporting the terminal's intermodal growth would likely be drawn to the area near the terminal. Under this alternative, the Livernois-Junction Yard would be paved and a barrier wall for terminal security would be provided along the entire north side of the terminal and on the south side, east of Central Avenue. A barrier wall would also be placed on the east side of the CN/Moterm terminal. These elements are integral parts of each terminal's plan.

CP/Expressway Terminal

The CP/Expressway terminal under Alternative 1 - No Action in 2025 is expected to handle about 140 daily two-way truck trips using city streets when business resumes. The terminal's operation was temporarily suspended in June 2004 (Figure 1-8). Under Alternative 2 – Improve/Expand, the truck trips would grow to 250 also using city streets (Figure 1-9). Expanding the terminal would require the acquisition of 12 acres including one institutional property and no residences. Noteworthy is that expansion of this terminal will be precluded if the Jobs Tunnel proposal by the Detroit River Tunnel Partnership (DRTP) becomes a reality because there is not enough space to

[2] The Livernois Avenue entrance would be configured so trucks must enter from or exit to the north.

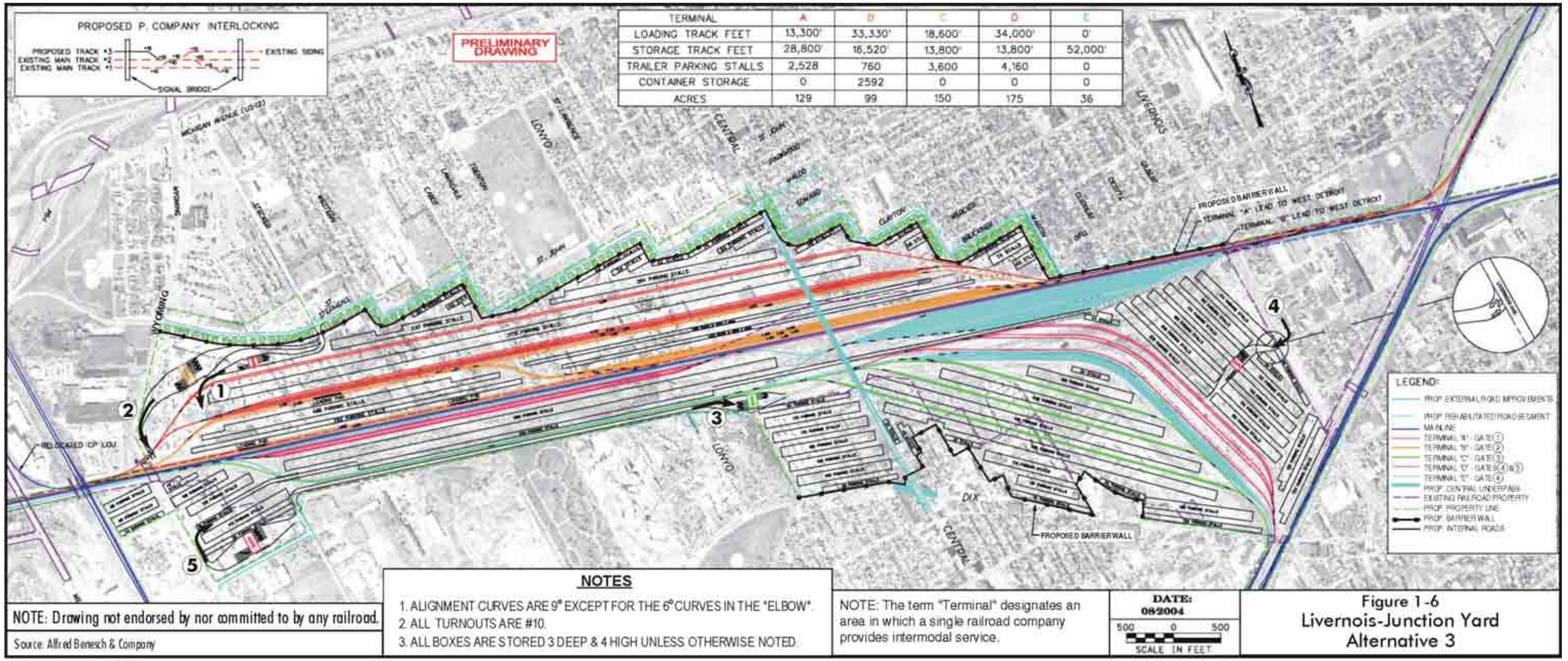


Figure 1-6
Livernois-Junction Yard
Alternative 3

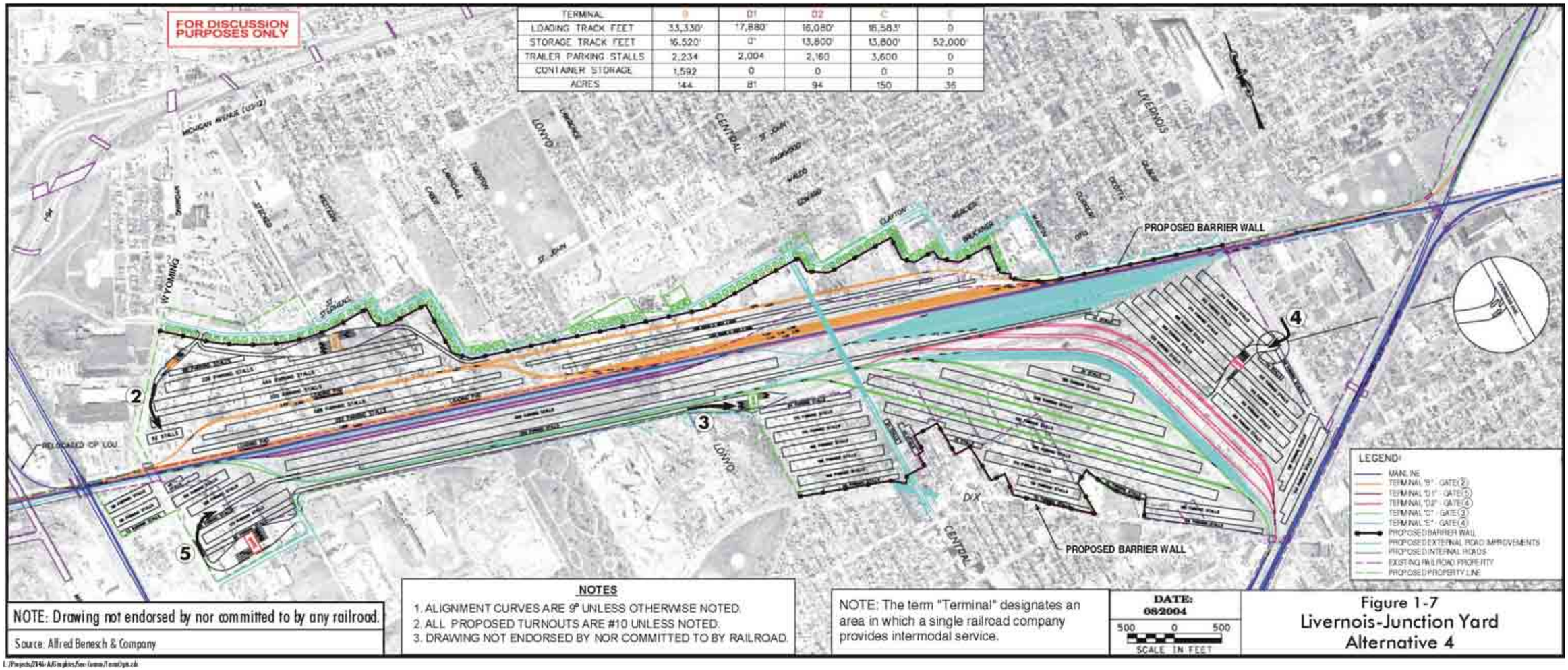

FOR DISCUSSION PURPOSES ONLY
TERMINAL | B | D1 | D2 | C | E
LOADING TRACK FEET | 33,330' | 17,880' | 16,080' | 18,583' | 0
STORAGE TRACK FEET | 16,520' | 0' | 13,800' | 13,800' | 52,000'
TRAILER PARKING STALLS | 2,234 | 2,004 | 2,160 | 3,600 | 0
CONTAINER STORAGE | 1,592 | 0 | 0 | 0 | 0
ACRES | 144 | 81 | 94 | 150 | 36
PROPOSED BARRIER WALL
PROPOSED BARRIER WALL
RELOCATED CP LOU
LEGEND
MAIN LINE
PROPOSED BARRIER WALL
PROPOSED EXTERNAL ROAD IMPROVEMENTS
PROPOSED INTERNAL ROADS
EXISTING RAILROAD PROPERTY
PROPOSED PROPERTY LINE
NOTES
1. ALIGNMENT CURVES ARE 9° UNLESS OTHERWISE NOTED.
2. ALL PROPOSED TURNOUTS ARE #10 UNLESS NOTED.
3. DRAWING NOT ENDORSED BY NOR COMMITTED TO BY RAILROAD.
NOTE: Drawing not endorsed by nor committed to by any railroad.
Source: Alfred Benesch & Company
NOTE: The term "Terminal" designates an area in which a single railroad company provides intermodal service.
DATE: 082004
500 0 500
SCALE IN FEET
Figure 1-7
Livernois-Junction Yard
Alternative 4

Figure 1-8
Existing CP/Expressway Terminal Access

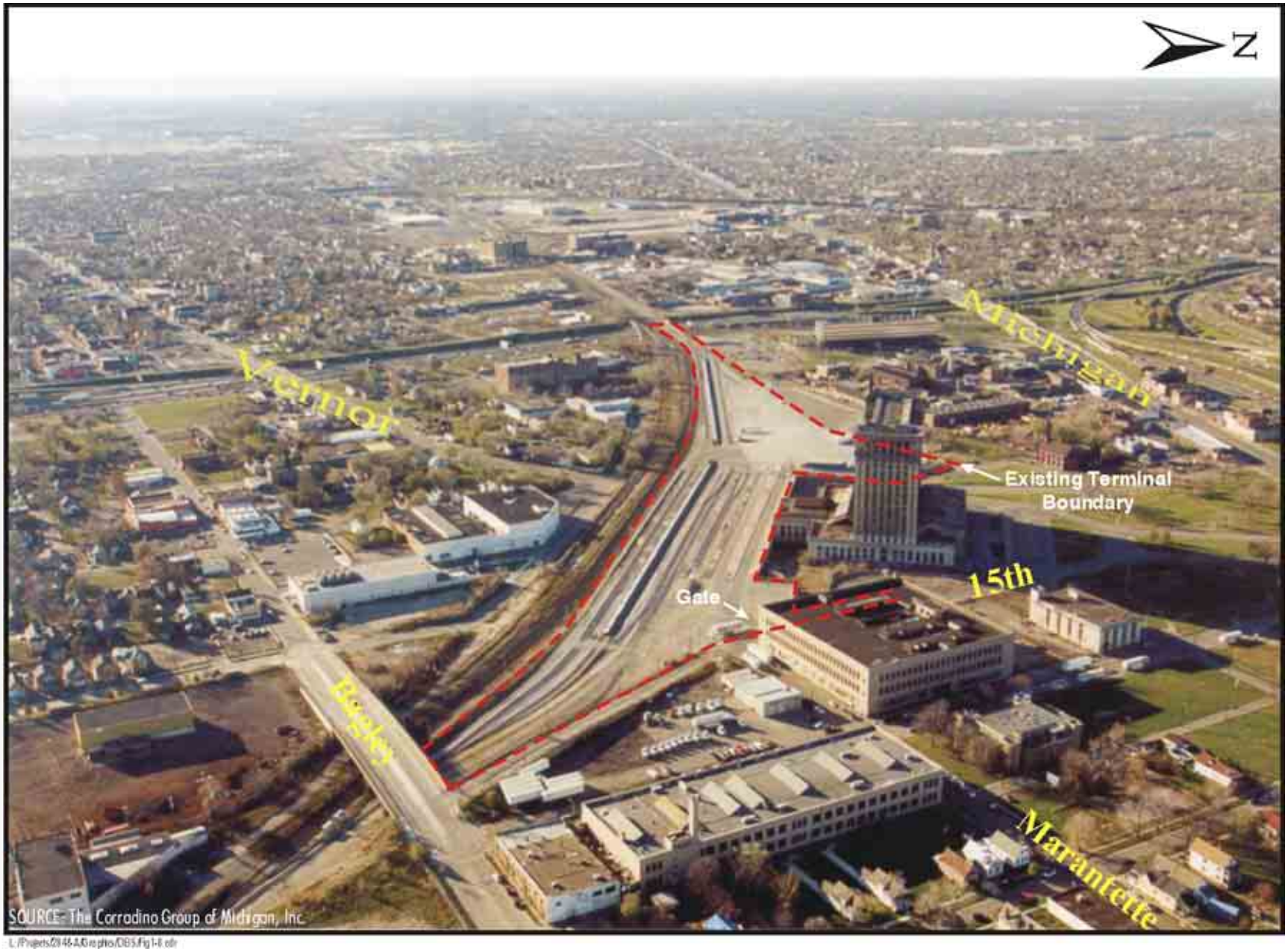


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Figure 1-9
CP/Expressway Terminal
Alternative 2
LEGEND:
EXISTING TRACKS
PROPOSED MODIFIED TRACKS
PROPOSED TERMINAL ENTRANCE - GATE 1
PROPOSED PARKING SPACES
EXISTING TERMINAL FOOTPRINT
PROPOSED TERMINAL FOOTPRINT
GENERAL NOTES:
1. ALL TURNOUTS SHOWN ARE #9 TURNOUTS.
2. ALL CURVES IN THE YARD ARE 9° UNLESS NOTED.
3. ALL STORAGE SHOWN IS ASSUMED TO BE CONTAINERS.
NOTE: Drawing not endorsed by nor committed to by railroad.
Source: Alfred Benesch & Company
DATE: 08/2004
SCALE IN FEET
PRELIMINARY DRAWING
311 PARKING SPACES
PROPOSED GATE
PROPOSED PROPERTY ACQUISITION OF 11.5 ACRES
EXISTING LOADING PAD
BRIDGE DECK
PROP. LOADING PAD (300' WIDTH)
HERMIS SWITCHED DAILY BY CONRAIL
PROPOSED EXTENSION OF TRACK FOR HEADROOM (3,000')
TO VINEWOOD
TO WEST DETROIT
CP BAYCITY
TO CANADA VIA THE TUNNEL
MICHIGAN AVE
18TH ST
17TH ST
16TH ST
15TH ST
24TH ST
23RD ST
LACOMBE DR
VERNOR HWY
I-75
GRAND
VINEWOOD
LOADING TRACK 10,000'
STORAGE TRACK 1,500'
TOTAL PARKING 311 UNITS
ADDITIONAL ACRES 11.5 ACRES

handle both projects.[3] Businesses supporting the terminal's intermodal growth would likely be drawn to the area near the terminal.

Under Alternatives 3 and 4, CP/Expressway's intermodal business (trailers) would be consolidated at the Livernois-Junction Yard area (refer to Figures 1-6 and 1-7).

CP/Oak Terminal

Under Alternative 1 – No Action, Canadian Pacific Railway (CP) would continue to operate on approximately 24 acres leased from CSX to conduct its intermodal container business at the CP/Oak terminal (Figure 1-10). Today's daily truck traffic is about 280 (two-way trips), which will grow to almost 400 (two-way trips) by 2025 under No Action, Alternative 1.

Under Alternative 2 – Improve/Expand Existing Terminals, expanding the CP/Oak terminal would grow the two-way daily truck volume to about 700. Today, trucks access that yard through one gate and exit at two locations. These trucks use the Southfield Freeway service drive plus local streets like Glendale, Davison, and Artesian to travel to/from this facility. There are two options for this terminal under Alternative 2 (Figures 1-11 and 1-12). These Options, called A and B, differ only in the connection between the improved interchange at I-96/Evergreen Road and the expanded terminal. By virtue of the improved access, intermodal truck traffic affecting the surrounding neighborhood, including numerous residential properties located along the Southfield Freeway service drive, will be virtually eliminated and the now-existing gates closed. Expanding the terminal would require acquisition of five businesses for Option A and six for Option B. The truck traffic associated with these businesses will also be relocated. No residential property will be acquired. The expanded terminal will be about 60 acres larger than today. Businesses supporting the terminal's intermodal growth would likely be drawn to the area near the terminal. Under this alternative, a barrier wall for terminal security would be provided on the north side of the terminal as an integral part of this proposed project.

Under Alternatives 3 and 4, CP/Oak's intermodal business (containers) would be consolidated at the Livernois-Junction Yard area (refer to Figures 1-6 and 1-7).

CN/Moterm Terminal

Grand Trunk Western Railroad, now Canadian National (CN), has for many years operated the 29-acre terminal in Ferndale immediately north of Eight Mile Road. Trucks access/egress the terminal by way of Fair and Chesterfield Streets north of Eight Mile Road. Late in the 1990s, the intermodal business was roughly double what it is today. At that time, CN leased 5 to 10 acres of State Fairgrounds property for container storage (south of Eight Mile Road). When a major shipping contract ended, CN ceased its use of the Fairgrounds property.

Under Alternative 1 – No Action, the CN/Moterm terminal would continue on the existing 29-acre site (Figure 1-13). The number of daily two-way truck trips in 2025 would be 370.

[3] The proposed DTRP project would convert two existing rail tunnels connecting Detroit and Windsor to truck use and develop a new rail tunnel to accommodate domestic double-stack rail traffic. The tunnel entrance in the U.S. is just east of the CP/Expressway Terminal.

Figure 1-10
Existing CP/Oak Terminal Access

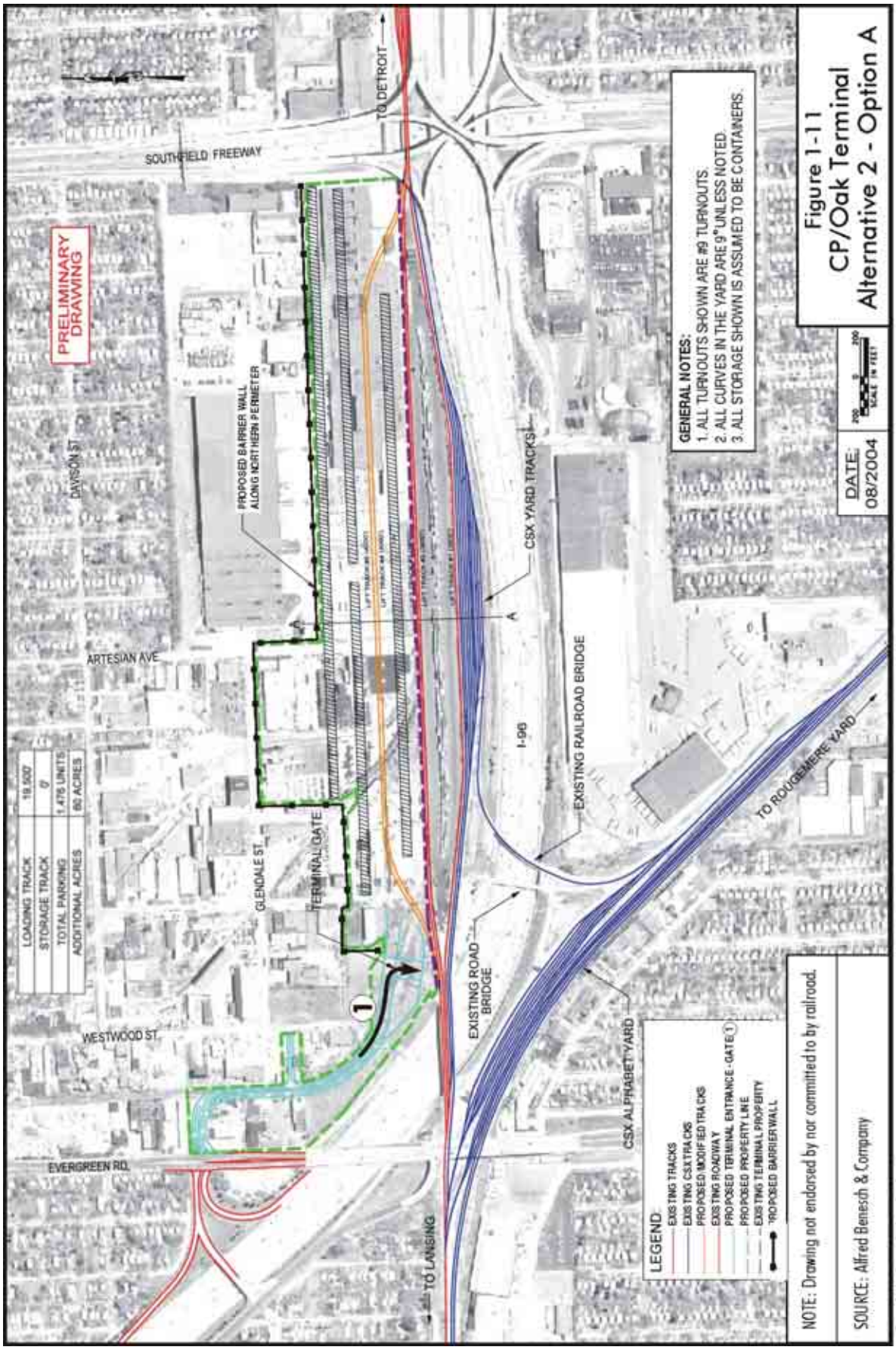


Figure 1-11
CP/Oak Terminal
Alternative 2 - Option A
DATE:
08/2004
GENERAL NOTES:
1. ALL TURNOUTS SHOWN ARE #9 TURNOUTS.
2. ALL CURVES IN THE YARD ARE 9°UNLESS NOTED.
3. ALL STORAGE SHOWN IS ASSUMED TO BE CONTAINERS.
PRELIMINARY DRAWING
SOUTHFIELD FREEWAY
TO DETROIT
DAVISON ST.
PROPOSED BARRIER WALL ALONG NORTHERN PERIMETER
ARTESIAN AVE.
CSX YARD TRACKS
I-96
EXISTING RAILROAD BRIDGE
TO ROUGEMERE YARD
GLENDALE ST.
TERMINAL GATE
EXISTING ROAD BRIDGE
CSX ALPHABET YARD
WESTWOOD ST.
EVERGREEN RD.
TO LANSING
LOADING TRACK 19,500'
STORAGE TRACK 0'
TOTAL PARKING 1,475 UNITS
ADDITIONAL ACRES 60 ACRES
LEGEND
EXISTING TRACKS
EXISTING CSX TRACKS
PROPOSED MODIFIED TRACKS
EXISTING ROADWAY
PROPOSED TERMINAL ENTRANCE - GATE 1
PROPOSED PROPERTY LINE
EXISTING TERMINAL PROPERTY
PROPOSED BARRIER WALL
NOTE: Drawing not endorsed by nor committed to by railroad.
SOURCE: Alfred Benesch & Company

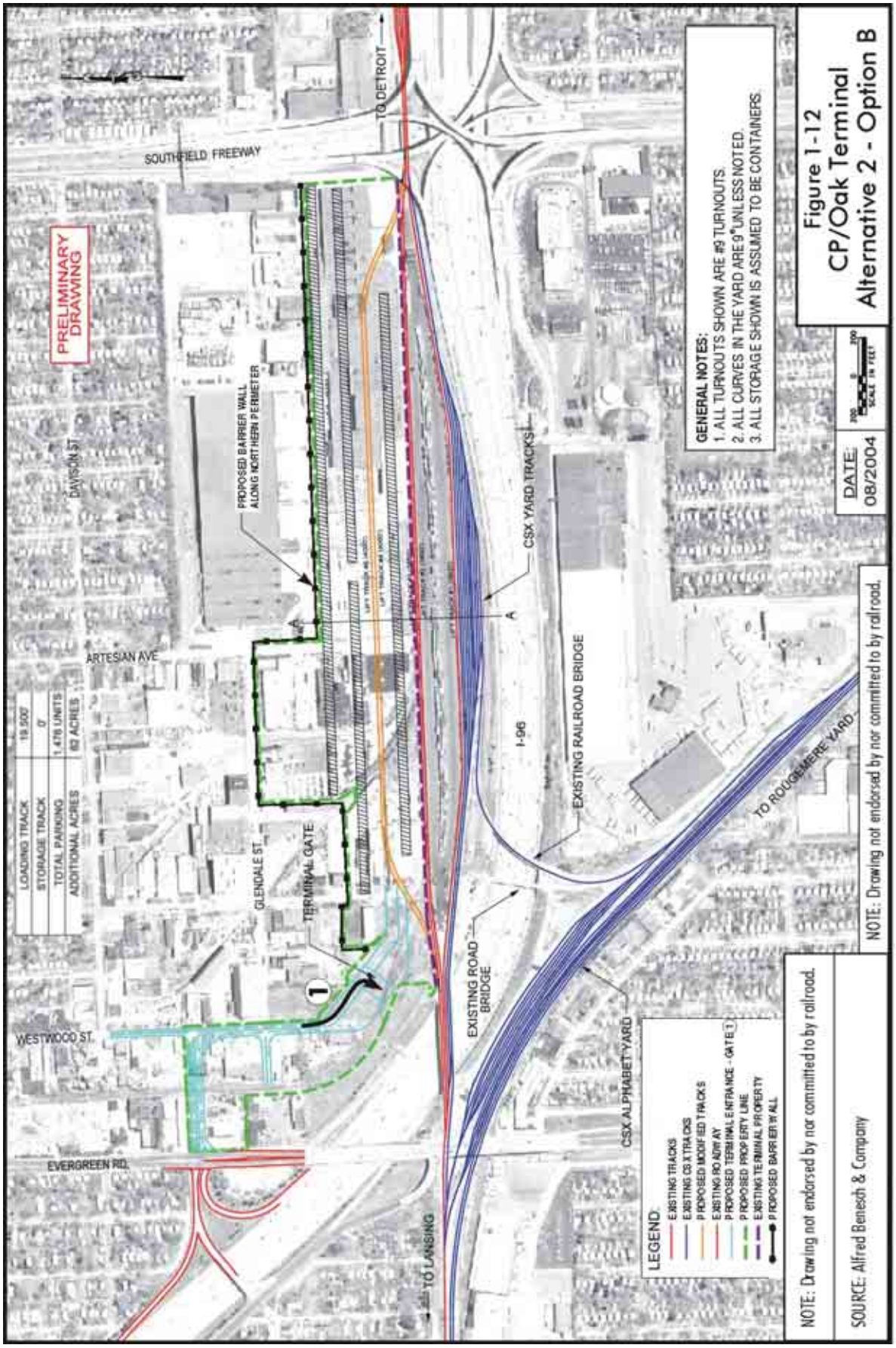

PRELIMINARY DRAWING
SOUTHFIELD FREEWAY
TO DETROIT
DAVISON ST.
ARTESIAN AVE.
PROPOSED BARRIER WALL ALONG NORT HERN PERIMETER
GLENDALE ST.
TERMINAL GATE
WESTWOOD ST.
EVERGREEN RD.
TO LANSING
EXISTING ROAD BRIDGE
CSX ALPHABET YARD
CSX YARD TRACKS
EXISTING RAILROAD BRIDGE
I-96
TO ROUGEMERE YARD
LOADING TRACK 19,500'
STORAGE TRACK 0'
TOTAL PARKING 1,478 UNITS
ADDITIONAL ACRES 60 ACRES
LEGEND
EXISTING TRACKS
EXISTING CSX XTRACKS
PROPOSED MODIFIED TRACKS
EXISTING RD ADWAY
PROPOSED TERMINAL ENTRANCE - GATE 1
PROPOSED PROPERTY LINE
EXISTING TERMINAL PROPERTY
PROPOSED BARRIER W/ ALL
NOTE: Drawing not endorsed by nor committed to by railroad.
SOURCE: Alfred Benesch & Company
NOTE: Drawing not endorsed by nor committed to by railroad.
GENERAL NOTES:
1. ALL TURNOUTS SHOWN ARE #9 TURNOUTS.
2. ALL CURVES IN THE YARD ARE 9°UNLESS NOTED.
3. ALL STORAGE SHOWN IS ASSUMED TO BE CONTAINERS.
DATE: 08/2004
Figure 1-12
CP/Oak Terminal
Alternative 2 - Option B

Figure 1-13
Existing CN/Moterm Terminal Access

Under Alternatives 2 and 4, the proposed expansion of the CN/Moterm terminal avoids going into the dense residential area west of the terminal. Likewise, expansion to the east has been rejected to avoid displacing businesses which represent a major portion of Ferndale's tax base, including its largest single tax payer. Expansion is proposed south into the Fairgrounds on approximately 35 acres. Access would be directly from Eight Mile Road south into the terminal. A survey of current activity indicates that virtually all intermodal trucks use I-75 and M-102 (Eight Mile Road) to access the terminal. That is expected to be the pattern of the future. Under this alternative, a barrier wall for terminal security would be provided on the east side of the terminal as an integral part of the proposed project.

Under Alternatives 2 and 4, the number of two-way intermodal truck trips serving the terminal, on an average day in 2025, is expected to be 650 compared to 370 under Alternative 1 – No Action. Businesses supporting the terminal's intermodal growth would likely be drawn to the area near the terminal (Figure 1-14). Under this alternative, a barrier wall for terminal security would be provided on the east side of the terminal as an integral part of the proposed project.

Under Alternative 3, Canadian National's intermodal operation would be shifted to the Livernois-Junction Yard area (refer to Figure 1-6).

Continued Use of CP/Oak, CN/Moterm and CP/Expressway Terminals

It should be noted that under Alternatives 3 and 4, where intermodal operations of either three or four railroads are consolidated at the Livernois-Junction Yard, the terminals at CP/Oak and CN/Moterm will continue to be used by the railroads for shipping freight by other means than intermodal. That activity will be associated with a smaller volume of truck traffic than if the terminal were to continue to serve intermodal. Shifting intermodal activity from the CP/Expressway terminal to the Livernois-Junction Yard area under Alternatives 3 and 4 will allow the Expressway terminal area to be transitioned to other uses. There is now a proposal by a private sector venture to convert the two existing rail tunnels to Canada to truck facilities and to build a new rail tunnel. According to public reports of statements made by the proponents of this proposed project (the Detroit River Tunnel Partnership), daily truck activity associated with tunnel conversion is likely to be 5,000 to 10,000 (two-way) in 2025 compared to 250 (two-way), if the intermodal terminal were expanded as proposed in Alternative 2.

1.2.2 Alternatives Eliminated from Further Study

Other Sites

Since the 1980s, railroads have consolidated their intermodal service networks into fewer, larger hub terminals as they saw an opportunity to consolidate enough volume in one location to justify lift machines and other expensive equipment/facilities. Small facilities have been eliminated. For example, the intermodal activity at the smaller Norfolk Southern terminal at Oakwood was shifted in 2003 to/consolidated at the Livernois-Junction Yard. The Oakwood location, and others in the region, like at Highland Park, do not lend themselves to productive intermodal operations. Nevertheless, existing terminals like Melvindale and even Willow Run may be used for some time in the future, if adequate capacity is not available for consolidation on a timely basis at the Livernois-Junction Yard. But, even if these Class I intermodal terminals stay in use indefinitely, their capacity, when added to that of the four intermodal terminals most likely to continue, does not address the demand expected in the future.

Figure 1-14
CN/Moterm Terminal
Alternative 2
LEGEND
EXISTING TRACKS
PROPOSED TRACKS
PROPOSED TERMINAL ENTRANCE - GATE 1
& ROADWAY IMPROVEMENTS
EXISTING RAILROAD PROPERTY
PROPOSED RAILROAD PROPERTY
PROPOSED BARRIER WALL
HISTORIC BUILDINGS
STATE
FAIRGROUNDS
PROPOSED BARRIER WALL
PROPOSED ACCESS ROAD
PROPOSED TERMINAL GATE
PROPOSED PARKING ROUTE
PROPOSED PARTIAL ACQUISITION OF 33 ACRES
PROPOSED BARRIER WALL ALONG EASTERN PERIMETER TO PROVIDE MAIN ENTRANCE TO STATE FAIR ARE
INDICATED CROSSOVER
EXISTING TERMINAL GATE TO BE RELOCATED TO FAIRGROUNDS
EXISTING CONCRETE STORAGE
EXISTING SERVICE BUILDING
DATE
08/2004
GENERAL NOTES:
1. ALL TURNOUTS SHOWN ARE #9 TURNOUTS.
2. ALL CURVES IN THE YARD ARE 9° UNLESS NOTED.
3. ALL STORAGE SHOWN IS ASSUMED TO BE CONTAINERS.
NOTE: Drawing not endorsed by nor committed to by railroad.
SOURCE: Alfred Benesch & Company
PRELIMINARY DRAWING

The August 1994 Mercer Report[4] identified the CN/Highland Park terminal as one of two alternatives that warranted further investigation for a consolidated terminal (the Livernois-Junction Yard was the other alternative identified at that time). The Mercer Report and subsequent research has found the Highland Park site is not a viable intermodal terminal option for CN because:

1. The Highland Park property is cut up by major transportation facilities, so that standards for a modern intermodal terminal cannot be met.
2. Storage and support tracks would have to be located offsite causing additional switching inefficiencies for the rail operators and the possible need for additional property acquisition.

It is also not a viable option for CSX, NS and CP or for consolidation of the intermodal activity of all four railroads for the above-stated reasons, plus:

1. Extensive trackage rights would be required for any of these railroads to use the site.
2. The cost and time for these carriers to access the site make it an unacceptable option.

Greenfield Site

Each of the railroads reaches Detroit over a network of individually-owned rail lines. There are locations along those lines where tracts of land that are largely undeveloped, and otherwise known as "greenfields," appear to be available for intermodal development. But the rail infrastructure is not available for multiple railroads' access. The same can be said of abandoned properties known as "brownfield" sites.

Another issue with those undeveloped properties is they tend to be removed from the shippers that they will be serving. This fragmentation results in increased distance/time to haul goods and contributes to highway congestion creating a less efficient intermodal transportation system, which is counter to the purpose of this project. Finally, "greenfield" developments may also contribute to urban sprawl and require new highway, utility and other infrastructure. Conversely, for the most part, the existing intermodal facilities, and the proposed consolidated terminal at the Livernois-Junction Yard, are able to use the established infrastructure that is already in place.

CBRA Alternative

A group known as Communities for a Better Rail Alternative (CBRA) suggested an alternative that focused only on the Livernois-Junction Yard. It involves several elements, including building a new interchange at I-94/Rotunda Drive to connect with the rail line, plus a second interchange connecting the rail line with I-75 north of the Ambassador Bridge. These interchange concepts are not possible according to American Association of State Highway and Transportation Officials (AASHTO) design standards because of constraints on spacing of interchanges and elevations/grades. In addition, the CBRA alternative would not meet the forecasted future demand for lift capacity in the region. There would be no increase in the terminals' sizes to increase lift capacity resulting in a lift deficiency ranging from 155,000 to 431,000 lifts per year in 2025. Nevertheless, the basic CBRA concept of improving, without expanding the boundaries of the Livernois-Junction Yard, and improving its physical relation with the surrounding community is similar to the proposal for that terminal under Alternative 2.

[4] *Greater Detroit Area Intermodal Study, Phase II – Intermodal Transportation Center Concept,* Mercer Management Consulting, August 1994.

1.2.3 Proposed Project Status

A preferred alternative has not been identified and the No Action Alternative remains a choice. A decision on a preferred alternative will not be made until after the public hearing and consideration of comments received from the public and agencies. The comment period will start 30 days prior to the public hearing and last 60 days after the public hearing, for a total of at least 90 days.

1.3 Impacts

The following is a summary of the impacts associated with the analyzed alternatives (Table 1-2). A more detailed description of impacts is found in Section 4. Proposed mitigation measures are found in Section 5. For simplicity of presentation Alternatives 2, 3 and 4 are sometimes referred to as the "Action Alternatives."

1.3.1 Traffic and Safety

The only intersection of more than 100 analyzed that is expected to have traffic which exceeds capacity is at Dix/Waterman/Vernor at the Livernois-Junction Yard under the No Action condition and Alternative 2/Option A. This is due to traffic moving through a gate to the Livernois-Junction Yard. This gate and the traffic problem it causes are eliminated under all other alternatives.

The data indicate there is so much capacity available on the roads serving the intermodal terminals, that congestion with the addition of intermodal truck traffic is acceptable in almost every condition (i.e., traffic volume lower than capacity). Only five intersections of the 100+ examined are expected to experience negative traffic effects as a result of improving/expanding intermodal terminals (Alternative 2) or consolidating intermodal activity at the Livernois-Junction Yard area (Alternatives 3 and 4). Proposed adjustments to traffic signal phasing will make the traffic operations at those five locations acceptable (i.e., volume will not exceed capacity). These signal timing changes will not negatively affect traffic-dependent businesses (e.g., gas stations, restaurants and the like).

It is also noted that the intersection of Wyoming Avenue and Michigan Avenue does not align with Wyoming at I-94, thereby forcing vehicles in the right lane of northbound Wyoming to turn right onto Michigan. It limits northbound through traffic to one lane. Wyoming at Michigan is forecast to have traffic volumes over capacity in the peak periods by 2025. This can be corrected by adding left-turn signal phases. Consideration should be given by MDOT to realign this intersection; but, the DIFT does not require this change.

Lonyo Avenue will be closed at the Livernois-Junction Yard railroad crossing. Its traffic (including pedestrian and bicycle traffic) will be channeled to Central Avenue, under Alternative 2, by rebuilding a section of John Kronk Street (Figures 1-3, 1-4, and 1-5) or by building a new perimeter road under Alternative 3 (Figure 1-6) and Alternative 4 (Figure 1-7). The railroad crossing at Central Avenue will be grade-separated under the Action Alternatives (Alternatives 2, 3 and 4), eliminating the risk of train/motor vehicle crashes at this location and the Lonyo Avenue location. While pedestrians and bicyclists will have one, rather than two, places they can cross the Livernois-Junction Yard, that crossing will be safer, and all pedestrian facilities will be constructed consistent with the Americans with Disabilities Act.

Table 1-2
Summary of Impacts

Impact ↓ / Terminal Area →		ALT 1 - 2025 NO ACTION			ALT 2 - 2025 IMPROVE/EXPAND			ALT 3 - 2025 CONSOLIDATE	ALT 4 - 2025 COMPOSITE	
		LIV-JCT-CP/EXP[a]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[b]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[c]	LIV-JCT-CP/EXP[d]	CN/MOTERM
Traffic and Safety		• Normal, non-DIFT traffic of all kinds increases. Truck traffic continues to use neighborhood streets. • Acceptable volume/capacity conditions at all intersections, except at the Dix/Waterman/ Vernor intersection. • Continued rail/vehicle conflicts at Central and at Lonyo.	• Normal, non-DIFT traffic of all kinds increases. Truck traffic continues to use neighborhood streets. • Acceptable volume/capacity conditions at all intersections.	• Normal, non-DIFT traffic of all kinds increases. Truck traffic continues to use neighborhood streets. • Acceptable volume/capacity conditions at all intersections.	• Grade separation of Central will reduce vehicle-rail conflicts and crashes. • I-94/Livernois interchange improvement will improve safety. • Acceptable volume/capacity conditions at all intersections but Dix/Waterman/ Vernor under Option A.	• Intermodal truck traffic on Artesian, Southfield Freeway service drive and other local roads reduced/eliminated. • Acceptable volume/capacity conditions at all intersections.	• Intermodal truck traffic and idling eliminated from Fair and Chesterfield. • Acceptable volume/capacity conditions at all intersections.	• Grade separation of Central will reduce vehicle-rail conflicts and crashes. • I-94/Livernois interchange improvement will improve safety. • Reduced truck traffic on local roads. • Acceptable volume/ capacity conditions at all intersections but five which can be made acceptable with modified signal phasing.	• Grade separation of Central will reduce vehicle-rail conflicts and crashes. • I-94/Livernois interchange improvement will improve safety. • Reduced truck traffic on local roads. • Acceptable volume/ capacity conditions at all intersections but five which can be made acceptable with modified signal phasing.	• Intermodal truck traffic and idling eliminated from Fair and Chesterfield. • Acceptable volume/capacity conditions at all intersections.
Community Cohesion		• Industrial/ commercial uses will continue to be mixed with residential uses. • Continued rail/vehicle conflicts at Central/Lonyo.	• Industrial/ commercial uses will continue to be mixed with residential uses.	• Industrial/ commercial uses will continue to be mixed with residential uses.	• Lonyo closed. Central railroad crossing grade separated. • Truck traffic reduced on neighborhood streets.	• Truck traffic reduced on neighborhood streets.	• Truck traffic reduced on neighborhood streets.	• Lonyo closed. Central railroad crossing grade separated. • Truck traffic reduced on neighborhood streets.	• Lonyo closed. Central railroad crossing grade separated. • Truck traffic reduced on neighborhood streets.	• Truck traffic reduced on neighborhood streets.
Environmental Justice		• No adverse disproportionate impact expected.	• No adverse disproportionate impact expected.	• No adverse disproportionate impact expected.	• No adverse disproportionate impact expected.	• No adverse disproportionate impact expected.	• No adverse disproportionate impact expected.	• No adverse disproportionate impact expected.	• No adverse disproportionate impact expected.	• No adverse disproportionate impact expected.
Land Use		• Maintains existing land use pattern.	• Maintains existing land use pattern.	• Maintains existing land use pattern.	• Consistent with Detroit and Dearborn land use plans.	• Detroit land use plan does not mention terminal.	• Consistent with Detroit and Ferndale land use plans.	• Consistent with Detroit and Dearborn land use plans.	• Consistent with Detroit and Dearborn land use plans.	• Consistent with Detroit and Ferndale land use plans.
Relocations	No. of Residential Units Affected (Acquisitions)	0	0	0	• Option A=0 • Option B = 0 • Option C = 0	• Option A=0 • Option B = 0	0	• 71 single-family plus 12 apartment units	• 29 single-family plus 4 apartment units	0
	No. of Business Units Affected (Acquisitions)	0	0	0	• Option A = 8 • Option B = 11 • Option C = 8	• Option A = 5 • Option B = 6	0	• 64	• 51	0
	Other Affected Properties (Acquisitions)	N/A	N/A	N/A	• One institutional property at CP/Expressway	N/A	• Approx. 35 acres of Fairgrounds property	N/A	N/A	• Approx. 35 acres of Fairgrounds property

[a] Includes the Livernois-Junction Yard, CP/Expressway, and NS/Delray and Triple Crown terminals.
[b] Includes the existing Livernois-Junction Yard and CP/Expressway terminals. The intermodal operations of NS will be transferred to the Livernois-Junction Yard. Terminals that once served intermodal activities would serve non-intermodal railroad business.
[c] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway, CP/Oak and CN/Moterm. These latter three terminals would serve non-intermodal railroad business.
[d] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway and CP/Oak. These latter two terminals would serve non-intermodal railroad business.
[e] Jobs relocated are those moved from within a terminal area to outside it due to terminal expansion. Net jobs are those gained in terminal area. Each terminal area is defined as an "impact zone" around each existing intermodal terminal.
[f] NPDES is the National Pollutant Discharge Elimination System.
[g] Funding will be a combination of government and railroad investment.
Source: The Corradino Group of Michigan, Inc.

Table 1-2 (continued)
Summary of Impacts

Impact ↓		ALT 1 - 2025 NO ACTION			ALT 2 - 2025 IMPROVE/EXPAND			ALT 3 - 2025 CONSOLIDATE	ALT 4 - 2025 COMPOSITE	
	Terminal Area →	LIV-JCT-CP/EXP[a]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[b]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[c]	LIV-JCT-CP/EXP[d]	CN/MOTERM
Farmland/Part 361 Lands		• No active farmland, or Part 361 land needed.	• No active farmland, or Part 361 land needed.	• No active farmland, or Part 361 land needed.	• No active farmland, or Part 361 land needed.	• No active farmland, or Part 361 land needed.	• No active farmland, or Pat 361 land needed.	• No active farmland, or Part 361 land needed.	• No active farmland, or Part 361 land needed.	• No active farmland, or Part 361 land needed.
Economic Impacts	Jobs[e] in terminal area	• Jobs Relocated: 0 • Net Jobs Gained: • Terminal Area 194 • Overall 1,029	• Jobs Relocated: 0 • Net Jobs Gained: • Terminal Area 130 • Overall 1,029	• Jobs Relocated: 0 • Net Jobs Gained: • Terminal Area 88 • Overall 1,029	• Jobs Relocated: 0 • Net Jobs Gained: • Terminal Area 786 • Overall 4,950	• Jobs Relocated: 596 • Net Jobs Gained: • Terminal Area 187 • Overall 4,950	• Jobs Relocated: 0 • Net Jobs Gained: • Terminal Area 390 • Overall 4,950	• Jobs Relocated: 286 • Net Jobs Gained: • Terminal Area 2,245 • Overall 9,050	• Jobs Relocated: 275 • Net Jobs Gained: • Terminal Area 1,956 • Overall 8,819	• Jobs Relocated: 0 • Net Jobs Gained: • Terminal Area 695 • Overall 8,819
Air Quality	Carbon Monoxide Hot Spots	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.	• No violations of CO standards at intersections.
	Pollutant Burden	• Terminal burdens less than existing conditions except for PM$_{10}$ and PM$_{2.5}$. • Roadway burdens less than existing conditions because of cleaner engines and fuels. • Regional burdens are reduced.	• Terminal burdens less than existing conditions except for PM$_{10}$ and PM$_{2.5}$. • Roadway burdens less than existing conditions because of cleaner engines and fuels. • Regional burdens are reduced.	• Terminal burdens less than existing conditions except for PM$_{10}$ and PM$_{2.5}$. • Roadway burdens less than existing conditions because of cleaner engines and fuels. • Regional burdens are reduced.	• Terminal burdens increase over No Action due to increased intermodal activity. • Roadway burdens virtually same as No Action. • Regional burdens are reduced.	• Terminal burdens increase over No Action due to increased intermodal activity. • Roadway burdens virtually same as No Action. • Regional burdens are reduced.	• Terminal burdens increase over No Action due to increased intermodal activity. • Roadway burdens virtually same as No Action. • Regional burdens are reduced	• Terminal burdens increase over No Action due to increased intermodal activity. • Roadway burdens slightly less than No Action. • Regional burdens are reduced.	• Terminal burdens about same as No Action even with increased intermodal activity. • Roadway burdens slightly less than No Action. • Regional burdens are reduced.	• Terminal burdens about same as No Action even with increased intermodal activity. • Roadway burdens virtually same as No Action. • Regional burdens are reduced.
Noise Considerations		• No perceptible increase.	• No perceptible increase.	• No perceptible increase.	• No perceptible increase with planned barrier walls.	• No perceptible increase with planned barrier walls.	• No perceptible increase with planned barrier walls.	• No perceptible increase with planned barrier walls.	• No perceptible increase with planned barrier walls.	• No perceptible increase with planned barrier walls.
Surface Water Impacts		• No change	• No change	• No change	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.	• Yard paving will improve drainage. • Storm drainage subject of NPDES[f] permitting. • Spill prevention plans will be in place.
Wetlands		• None	• None	• None	• 0.01 acres of Palustrine Emergent wetland of low quality	• None	• 0.07 acres of Palustrine Emergent wetland of low quality	• 0.01 acres of Palustrine Emergent wetland of low quality	• 0.01 acres of Palustrine Emergent wetland of low quality	• 0.07 acres of Palustrine Emergent wetland of low quality

[a] Includes the Livernois-Junction Yard, CP/Expressway, and NS/Delray and Triple Crown terminals.

[b] Includes the existing Livernois-Junction Yard and CP/Expressway terminals. The intermodal operations of NS will be transferred to the Livernois-Junction Yard. Terminals that once served intermodal activities would serve non-intermodal railroad business.

[c] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway, CP/Oak and CN/Moterm. These latter three terminals would serve non-intermodal railroad business.

[d] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway and CP/Oak. These latter two terminals would serve non-intermodal railroad business.

[e] Jobs relocated are those moved from within a terminal area to outside it due to terminal expansion. Net jobs are those gained in terminal area. Each terminal area is defined as an "impact zone" around each existing intermodal terminal.

[f] NPDES is the National Pollutant Discharge Elimination System.

[g] Funding will be a combination of government and railroad investment.

Source: The Corradino Group of Michigan, Inc.

Table 1-2
Summary of Impacts (continued)

Impact ↓ / Terminal Area →	ALT 1 - 2025 NO ACTION			ALT 2 - 2025 IMPROVE/EXPAND			ALT 3 - 2025 CONSOLIDATE	ALT 4 - 2025 COMPOSITE	
	LIV-JCT-CP/EXP[a]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[b]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[c]	LIV-JCT-CP/EXP[d]	CN/MOTERM
Threatened and Endangered Species	• None	• None	• None	• None	• None	• None	• None	• None	• None
Historic/Archaeological 4(f) Resources	• No effect	• No effect	• No effect	• Adverse effect on bridge deck at Michigan Central Depot.	• No effect	• No effect	• Removal of Michigan Box Company building and Federal Screw Works factory. Potential adverse effect on Markey and Tomms Houses.	• Removal of Michigan Box Company building.	• No effect
Parklands/ Recreational Land 4(f) Resources	• No effect	• No effect	• No effect	• No effect	• No effect	• Approx. 35 acres from State Fairgrounds, a 4(f) resource would be leased to CN.	• No effect	• No effect	• Approx. 35 acres from State Fairgrounds, a 4(f) resource would be leased to CN.
Visual Effects	• Unsightly properties and streetscapes remain.	• No change	• No change	• Unsightly properties and streetscapes remain, except for improvements along Kronk with barrier walls.	• Barrier wall along north edge of terminal.	• Barrier wall along east edge of terminal.	• Removal of some unsightly properties through acquisition. • Barrier wall along north edge of terminal.	• Removal of some unsightly properties through acquisition. • Barrier wall along north edge of terminal.	• Barrier wall along east edge of terminal.
Contaminated Sites	• No sites around terminal area expected to change • Potential to remediate up to 10 acres for non-terminal intermodal activity	• No sites around terminal area expected to change • Potential to remediate up to 5 acres for non-terminal intermodal activity	• No sites around terminal area expected to change • Potential to remediate up to 5 acres for non-terminal intermodal activity	• 9 sites around terminal area need additional testing • Potential to remediate up to 40 acres for non-terminal intermodal activity	• 6 sites around terminal area need additional testing • Potential to remediate up to 15 acres for non-terminal intermodal activity	• No sites involved • Potential to remediate up to 20 acres for non-terminal intermodal activity	• 45 sites need additional testing • Potential to remediate up to 120 acres for non-terminal intermodal activity	• 37 sites need additional testing • Potential to remediate up to 100 acres for non-terminal intermodal activity	• No sites involved • Potential to remediate up to 20 acres for non-terminal intermodal activity
Soils	• No change	• No change	• No change	• Former clay pits would need geotechnical testing prior to any construction of structures.	• No change	• No change	• Former clay pits would need geotechnical testing prior to any construction of structures.	• Former clay pits would need geotechnical testing prior to any construction of structures.	• No change

[a] Includes the Livernois-Junction Yard, CP/Expressway, and NS/Delray and Triple Crown terminals.
[b] Includes the existing Livernois-Junction Yard and CP/Expressway terminals. The intermodal operations of NS will be transferred to the Livernois-Junction Yard. Terminals that once served intermodal activities would serve non-intermodal railroad business.
[c] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway, CP/Oak and CN/Moterm. These latter three terminals would serve non-intermodal railroad business.
[d] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway and CP/Oak. These latter two terminals would serve non-intermodal railroad business.
[e] Jobs relocated are those moved from within a terminal area to outside it due to terminal expansion. Net jobs are those gained in terminal area. Each terminal area is defined as an "impact zone" around each existing intermodal terminal.
[f] NPDES is the National Pollutant Discharge Elimination System.
[g] Funding will be a combination of government and railroad investment.
Source: The Corradino Group of Michigan, Inc.

Table 1-2
Summary of Impacts (continued)

Impact		ALT 1 - 2025 NO ACTION			ALT 2 - 2025 IMPROVE/EXPAND			ALT 3 - 2025 CONSOLIDATE	ALT 4 - 2025 COMPOSITE	
↓	Terminal Area →	LIV-JCT-CP/EXP[a]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[a]	CP/OAK	CN/MOTERM	LIV-JCT-CP/EXP[a]	LIV-JCT-CP/EXP[a]	CN/MOTERM
Indirect and Cumulative		• Perpetuates current conditions/trends in traffic, economics, land use, community effects, noise, cultural resources, contaminated sites and water quality. Pollution reduced by cleaner engines/fuel.	• Perpetuates current conditions/trends in traffic, economics, land use, community effects, noise, cultural resources, contaminated sites and water quality. Pollution reduced by cleaner engines/fuel.	• Perpetuates current conditions/trends in traffic, economics, land use, community effects, noise, cultural resources, contaminated sites and water quality. Pollution reduced by cleaner engines/fuel.	• No negative congestion • Some business expansion expected. • Unwanted mixing of land uses must be resisted. • No adverse air quality effects. • Ambient noise levels may increase. • Existing controls must be enforced to avoid adverse cultural resource impacts. • Some contaminated property reclaimed. • Available infrastructure will be able to handle stormwater from additional development, but no certainty exists.	• No negative congestion. • Some business expansion expected. • Unwanted mixing of land uses must be resisted. • No adverse air quality effects. • Ambient noise levels may increase. • Existing controls must be enforced to avoid adverse cultural resource impacts. • Some contaminated property reclaimed. • Available infrastructure will be able to handle stormwater from additional development, but no certainty exists.	• No negative congestion. • Some business expansion expected. • Unwanted mixing of land uses must be resisted. • No adverse air quality effects. • Ambient noise levels may increase. • Existing controls must be enforced to avoid adverse cultural resource impacts. • Some contaminated property reclaimed. • Available infrastructure will be able to handle stormwater from additional development, but no certainty exists.	• No negative congestion. • Some business expansion expected. • Unwanted mixing of land uses must be resisted. • No adverse air quality effects. • Ambient noise levels may increase. • Existing controls must be enforced to avoid adverse cultural resource impacts. • Some contaminated property reclaimed. • Available infrastructure will be able to handle stormwater from additional development, but no certainty exists.	• No negative congestion. • Some business expansion expected. • Unwanted mixing of land uses must be resisted. • No adverse air quality effects. • Ambient noise levels may increase. • Existing controls must be enforced to avoid adverse cultural resource impacts. • Some contaminated property reclaimed. • Available infrastructure will be able to handle stormwater from additional development, but no certainty exists.	• No negative congestion. • Some business expansion expected. • Unwanted mixing of land uses must be resisted. • No adverse air quality effects. • Ambient noise levels may increase. • Existing controls must be enforced to avoid adverse cultural resource impacts. • Some contaminated property reclaimed. • Available infrastructure will be able to handle stormwater from additional development, but no certainty exists.
Energy		• Continues past trends.	• Continues past trends.	• Continues past trends.	• Energy used during construction. • Improved efficiencies from conversion of some freight shipments from truck to rail.	• Energy used during construction. • Improved efficiencies from conversion of some freight shipments from truck to rail.	• Energy used during construction. • Improved efficiencies from conversion of some freight shipments from truck to rail.	• Energy used during construction. • Improved efficiencies from conversion of some freight shipments from truck to rail.	• Energy used during construction. • Improved efficiencies from conversion of some freight shipments from truck to rail.	• Energy used during construction. • Improved efficiencies from conversion of some freight shipments from truck to rail.
Implementation Project Cost (millions 2004)	Land Acquisition and Remediation	No government investment			$97.5[g]			$125.0[g]	$114.9[g]	
	Construction	No government investment			$169.7[g]			$457.7[g]	$436.0[g]	
	Total	No government investment			$267.2[g]			$582.7[g]	$550.9[g]	

[a] Includes the Livernois-Junction Yard, CP/Expressway, and NS/Delray and Triple Crown terminals.
[b] Includes the existing Livernois-Junction Yard and CP/Expressway terminals. The intermodal operations of NS will be transferred to the Livernois-Junction Yard. Terminals that once served intermodal activities would serve non-intermodal railroad business.
[c] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway, CP/Oak and CN/Moterm. These latter three terminals would serve non-intermodal railroad business.
[d] Includes the expanded Livernois-Junction Yard to accommodate the intermodal operations of CP/Expressway and CP/Oak. These latter two terminals would serve non-intermodal railroad business.
[e] Jobs relocated are those moved from within a terminal area to outside it due to terminal expansion. Net jobs are those gained in terminal area. Each terminal area is defined as an "impact zone" around each existing intermodal terminal.
[f] NPDES is the National Pollutant Discharge Elimination System.
[g] Funding will be a combination of government and railroad investment.
Source: The Corradino Group of Michigan, Inc.

All three of the Action Alternatives for the DIFT project will have a regional safety benefit due to the reduction of truck traffic when some freight shipments are transferred from trucks to trains. The Action Alternatives will, therefore, reduce 2025 Wayne County annual injury crashes and fatalities by 25 and one, respectively, compared to the No Action Alternative. The Action Alternatives' safety effects in the seven-county Southeast Michigan region will reduce annual injury crashes and fatalities in 2025 by 97 and four, respectively, compared to the No Action Alternative.

In all Action Alternatives the interchange of I-94 with Livernois Avenue would be improved. The north side of the interchange functions poorly. The proposal is to reconstruct the northern part of the interchange to create a full diamond (Figure 1-15). This improvement is to facilitate more use of it by intermodal (and other large) trucks traveling to the Livernois-Junction Yard. Today, trucks now use a variety of routes, including Central Avenue via the I-94 service drive west of Livernois Avenue, to avoid this interchange. This is not a capacity improvement but one to improve access to the Livernois-Junction Yard and remove trucks from the surrounding neighborhood on the north.

Detroit Fire Station No. 37 uses Central Avenue to respond to emergencies north of the Livernois-Junction Yard. Police Precincts 3 and 4 are consolidating on Fort Street. Police functions for the Livernois-Junction Yard terminal area will be provided from that location for all Action Alternatives.

Lonyo and Central Avenues now provide redundant routes for fire and police services. In the future, there would be one route only (Central), but it would be less subject to closing, as it would pass under train lines. Without the project, Central and Lonyo will be closed to emergency vehicles more and more frequently due to passing trains. Grade separation with the project means that trains would not block emergency vehicles.

1.3.2 Relocations, Community Cohesion, Environmental Justice, Land Use, and Farmland

The Improve/Expand Alternative (Alternative 2) is expected to require the relocation of no housing units and a total of up to 18 businesses/institutions that provide approximately 700 jobs at four intermodal terminals. The Consolidate Alternative (Alternative 3) is expected to require the relocation from the area immediately adjacent to the Livernois-Junction Yard of 64 businesses that provide about 1,200 jobs and up to 83 dwelling units. The Composite Alternative (Alternative 4) is expected to require the relocation of 51 businesses that provide approximately 1,000 jobs and up to 33 dwelling units.

Adequate relocation housing and industrial/commercial space is available in the terminal area. So, most of these relocated jobs will remain in the terminal area.

Closing Lonyo Avenue at the railyard and channeling its traffic to Central Avenue, plus providing a grade-separation of Central from the railroad tracks, will improve community cohesion. This will occur with all Action Alternatives. If no action were taken, increased rail traffic will make it more difficult to cross by car or on foot the Livernois-Junction Yard, which is detrimental to community cohesion. The new Central Avenue underpass will offer an improved pedestrian/bicycle link that will be built to meet Americans with Disabilities Act requirements.

Figure 1-15
I-94/Livernois Interchange
LIVERNOIS AVE
I-94
N
SOURCE: Alfred Benesch & Company

Expanding the Livernois-Junction Yard under Alternatives 3 and 4, and placing a barrier wall on the north side, and most of the south side of the terminal, will support community cohesion by removing unsightly buildings and debris and creating visual and noise barriers between the neighborhood and terminal.

A review of data on low-income and minority populations finds the Action Alternatives will neither result in disproportionately high and/or adverse human health or environmental effects on minority or low-income populations, nor be associated with discrimination as prohibited by Title VI of the Civil Rights Act of 1964. Each area around an intermodal terminal is composed of predominantly low-income and minority populations. On balance, the investment and improvement will be beneficial to these areas compared to the No Action condition.

Land use changes are expected to be accelerated with growth in intermodal transportation and the associated and improved economic stimulus. Such growth can be accommodated around the terminals because a large amount of unused/undeveloped property exists. Nevertheless, such growth could be associated with a mixing of land use types that are unwanted, i.e., industrial/commercial with residential. This can be resisted/avoided by applying already-existing land use/zoning principles like those in the City of Detroit's Master Plan of Policies and the master plans of Dearborn, Ferndale, Hazel Park and Highland Park.

No farmland would be needed by the project. No prime or unique farmlands would be taken, nor any land enrolled in the Michigan Public Act 451, Part 361 Program.

1.3.3 Economics

Permanent Jobs

About 1,000 jobs that do not now exist are forecast to be produced by 2025 as intermodal growth continues under No Action conditions. About 3,900 more jobs than for the No Action condition would be generated by 2025 by Alternative 2: Improve/Expand the existing terminals. This latter figure includes the fact that expanding the CP/Oak terminal would cause almost 600 jobs to be relocated outside the immediate terminal area. But, those jobs would not be lost to the region.

If intermodal activity of all four railroads were to be consolidated (Alternative 3), the number of net new jobs generated (i.e., deducting for jobs in the No Action Alternative) is expected to total by 2025 about 8,000 more than No Action. The number of jobs created under Alternative 4 is forecast by 2025 at about 7,800 more than No Action. The net job gain by 2025 in Detroit is forecast to range from 1,760 to almost 4,000 depending on the Action Alternative. These are direct, indirect and induced jobs at an average annual wage of $40,000.[5]

Construction Jobs

Construction-related employment for Alternative 2 is expected to peak at about 375 fulltime jobs in 2007. It will peak in 2009 with Alternatives 3 and 4 at about 550 jobs. Overall, Alternatives 3 and 4 would create more construction jobs over a longer period than Alternative 2 because of the increased investment in Alternatives 3 and 4.

[5] Direct jobs are those directly associated with the facility. Jobs such as suppliers, service providers, and support services to the intermodal business are considered indirect jobs. Induced jobs include restaurant workers, teachers, retail clerks needed to serve the direct and indirect jobs.

1.3.4 Air Quality

The DIFT air quality analysis covered, among other items:

1. An estimate of the pollutant burden that will be generated by the No Action Alternative and Action Alternatives for each terminal for the National Ambient Air Quality Standard (NAAQS) pollutants and several key air toxics. "Burden" means the mass of a pollutant produced in a given period. Burden does not mean the amount of a pollutant concentrated at a specific location. In this analysis, pollutant burden is expressed in "tons per year."
2. An estimate of the pollutant burden produced by mobile source activities on the local public roadway network near each terminal that would experience traffic volume changes. This burden analysis included the NAAQS pollutants and several key air toxics.
3. A carbon monoxide (CO) hotspot analysis at key intersections in the terminal areas that compared CO concentrations to the one- and eight-hour NAAQS. This was not a burden analysis but a concentration analysis which defines the pollutant level at a specific location to which people are exposed.

The analysis found that overall air quality in the region is improving and is expected to continue to do so, despite the recent EPA designation of non-attainment of the new 8-hour ozone standard and the designation of non-attainment of the $PM_{2.5}$ standard.[6] This conclusion is based on new regulatory requirements that will substantially improve air quality nationwide, including Southeast Michigan. EPA predicts that on-road volatile organic compounds (VOCs) will decrease 76 percent from 2000 to 2025, and nitrogen oxides (NOx) will drop 87 percent over this period. Those are the primary precursors for ozone, so ozone will fall with its precursors. Meanwhile, EPA predicts $PM_{2.5}$ will decrease by 64 percent from on-road traffic. SEMCOG has predicted the primary pollutants of concern – VOCs, NOx and $PM_{2.5}$ – will all decline in the region even with increased vehicle miles of travel. Past pollution trends for periods up to 30 years at monitoring stations near the terminals show most NAAQS pollutants going down over time or being well within the standards. The exceptions are ozone and particulates, hence the non-attainment designations.

The terminals fall within the section of Southeast Michigan that was formerly in non-attainment for carbon monoxide. As a result, CO "hotspots" were analyzed for a dozen locations near the terminals to determine whether there might be any localized violations of the CO standards. All are forecast to fall well within standards with all alternatives, both in the design year of 2025 and in the intermediate year of 2015, the year by which all alternatives are expected to be fully complete.

[6] $PM_{2.5}$ refers to particulate matter that is 2.5 micrometers or smaller in size. Sources of $PM_{2.5}$ include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds (all of which are also products of fuel combustion) are transformed in the air by chemical reactions. Fine particles are of concern because they are so small they are able to penetrate to the deepest parts of the lungs, where the body has difficulty expelling them.

Terminal Area Pollution Burden

The burden analysis of the terminals for each alternative combined the pollution from: 1) visitor and employee traffic; 2) on-site truck traffic; 3) container handling; 4) locomotive activity; 5) dust; and, 6) travel within properties and on streets (such as John Kronk) that would be incorporated into the terminals. The most notable aspect of the results is that total terminal area pollution is expected to decrease in the future, regardless of intermodal development scenario, compared to the current condition (Table 1-3). Nitrogen oxides (NOx) are good indicators of the overall pollution effects of the alternatives because they are diesel-engine based (cars produce little) and the data do not involve other considerations (like the dust with PM data). NOx is expected to drop from existing conditions to 2025 No Action conditions, increase under Alternative 2, then decrease somewhat under Alternatives 3 and 4. This pattern reflects: 1) the future drop in emissions from cleaner engines and fuels; then, 2) the increases related to more lifts affected by the efficiencies of operation brought about by the Alternatives 3 and 4.

Alternative 1: No Action would experience reductions across the range of most pollutants, compared to current conditions, except for particulate matter (PM). This overall positive trend is forecast to result from lower on-road, non-road, and locomotive emissions factors associated with cleaner fuels and cleaner engines, as prescribed by EPA. The PM increase is the exception and that is mainly due to increased intermodal activity on the unpaved terminal surfaces under Alternative 1.

For Alternative 2: Improve/Expand Existing Terminals, most pollutants are forecast to be lower than existing conditions and to increase over 2025 No Action conditions as the intermodal activity (lifts) are forecast to increase by about 80 percent. PM_{10} would be reduced relative to the 2025 No Action conditions, as dust would be controlled by paving. $PM_{2.5}$ would be virtually unchanged overall.

For Alternative 3, which would consolidate all intermodal operations at the Livernois-Junction Yard area, terminal pollutant burdens would increase over both No Action and Alternative 2 conditions because of the significant increase in intermodal activity (80 to 130 percent, respectively).

Alternative 4 is forecast to be associated with pollutant burdens in the Livernois-Junction Yard area at virtually the same amounts as No Action and Alternative 2, even though the intermodal activity at the Livernois-Junction Yard area is forecast to double. A similar comparison exists for the CN/Moterm terminal under Alternative 4.

Increased intermodal activity will shift freight from trucks to rail. This would reduce truck mileage and pollution. The expected reduction for Wayne County and in the seven-county SEMCOG region is presented on Table 1-3a.

Table 1-3
Terminal Burdens – Annual Tons

	CO	HC	NOx	PM10	PM2.5	VOCs	DPM	BENZ	BUTA	FORM	ACET	ACRO
2004												
SW Detroit/E Dearborn[a]	41.3	7.0	93.9	177.3	43.5	7.1	6.3	0.13	0.02	0.63	0.29	0.04
CP/Oak	9.5	1.8	25.7	29.2	8.6	1.8	1.9	0.03	0.01	0.19	0.09	0.01
CN/Moterm	6.4	1.1	14.1	4.4	1.8	1.1	1.0	0.02	0.004	0.14	0.07	0.01
Totals	**57.2**	**9.9**	**133.7**	**210.9**	**53.9**	**10.0**	**9.2**	**0.18**	**0.03**	**0.96**	**0.45**	**0.06**
Alt. 1 – 2025 No Action												
SW Detroit/E Dearborn[a]	18.2	3.9	28.3	227.1	47.3	3.9	1.2	0.07	0.02	0.41	0.19	0.03
CP/Oak	4.1	1.1	7.8	36.9	10.9	1.1	0.3	0.02	0.005	0.13	0.06	0.01
CN/Moterm	1.5	0.5	5.2	5.1	1.4	0.5	0.2	0.01	0.003	0.05	0.02	0.003
Totals	**23.8**	**5.5**	**41.3**	**269.1**	**59.6**	**5.5**	**1.7**	**0.09**	**0.03**	**0.59**	**0.27**	**0.04**
Alt. 2 – 2025 Improve/Expand												
SW Detroit/E Dearborn[a]	21.4	5.8	37.9	185.8	47.2	5.9	1.6	0.10	0.02	0.65	0.30	0.04
CP/Oak	3.3	1.6	9.6	21.7	5.8	1.6	0.4	0.03	0.01	0.20	0.09	0.01
CN/Moterm	1.9	0.7	6.4	8.8	2.4	0.7	0.2	0.01	0.004	0.08	0.04	0.005
Totals	**26.6**	**8.1**	**53.9**	**216.3**	**55.4**	**8.2**	**2.2**	**0.13**	**0.03**	**0.93**	**0.43**	**0.06**
Alt. 3 - 2025 Consolidate												
Livernois-Junction	**15.2**	**8.1**	**46.5**	**204.8**	**52.8**	**8.1**	**2.1**	**0.13**	**0.03**	**1.00**	**0.47**	**0.07**
Alt. 4 - 2025 Composite												
SW Detroit/E Dearborn[a]	13.0	7.2	39.1	160.9	41.6	7.2	1.8	0.12	0.03	0.90	0.42	0.06
CN/Moterm	1.9	0.7	6.4	8.8	2.4	0.7	0.2	0.01	0.004	0.08	0.04	0.005
Totals	**14.9**	**7.9**	**45.4**	**169.8**	**44.0**	**7.9**	**2.0**	**0.13**	**0.03**	**0.98**	**0.46**	**0.06**

[a]Includes the Livernois-Junction Yard, Expressway, Delray, and Triple Crown terminals.
Note: VOCs are volatile organic compounds, DPM is diesel particulate mater, BENZ is benzene, BUTA is 1,3, butadiene, FORM is formaldehyde, ACET is acetaldehyde, and ACRO is acrolein.
Source: The Corradino Group of Michigan, Inc.

Table 1-3a
Reduction of Pollutants Due to Truck-to-Rail Diversion for Each Action Alternative

	CO	HC	NOx	PM10	PM2.5	VOCs	DPM	BENZ	BUTA	FORM	ACET	ACRO
In Wayne Co.												
Totals	**17.8**	**16.1**	**33.8**	**3.0**	**1.7**	**15.9**	**1.7**	**0.17**	**0.10**	**1.30**	**0.48**	**0.06**
In Southeast Michigan												
Totals	**48.7**	**37.7**	**128.9**	**11.8**	**6.7**	**37.2**	**6.7**	**0.41**	**0.24**	**3.05**	**1.12**	**0.14**

Note: VOCs are volatile organic compounds, DPM is diesel particulate mater, BENZ is benzene, BUTA is 1,3, butadiene, FORM is formaldehyde, ACET is acetaldehyde, and ACRO is acrolein.
Source: The Corradino Group of Michigan, Inc.

Roadway Network Pollution Burden

The pollutant burdens forecast for the local public road network around each intermodal terminal for each alternative is shown in Table 1-4 for autos and trucks. All Action Alternatives would have pollutant burdens that are less than existing conditions. The auto component of local road traffic produces the majority of the pollution, due to the much greater number of cars than trucks on the roadway system. This is particularly so for CO and hydrocarbons (HC). Trucks produce far more NOx per vehicle. Particulates are also produced more heavily by trucks, despite the fact that they are fewer in number. Nevertheless, even for NOx and particulates, no more than 30 percent is produced on the local road network by trucks.

Car traffic is also forecast to produce more air toxics than trucks for every pollutant for the roadway network around each terminal, with the exception of the Livernois-Junction Yard area, under Alternative 2. Under the latter scenario, the total truck contribution of the formaldehyde burden is about 55 percent of the total. For all other alternatives, and for all terminals, mobile source air toxics (MSATs) for trucks represent no more than 40 percent of all toxic burdens for the entire roadway network.

The roadway network pollution burden of Alternative 1, i.e., No Action in 2025, shows substantial decreases in the emission burden on the local roadways compared to current conditions, even with an increase in intermodal activity. This results from cleaner engines and fuel as mandated by EPA.

In 2025, the forecast pollutant burdens on the Alternative 2 roadway system display virtually no difference, compared to taking no action, even as the intermodal activity would increase. That condition exists because both roadway systems carry the same background traffic while DIFT truck traffic is a relatively small contributor to total traffic and total pollution burden. The only exception to this is when Lonyo is closed and auto and non-DIFT truck traffic is diverted, in part, to Central Avenue. Under Alternative 2, there are few business relocations in the area served by these streets. As a result, pollution burdens generated by auto/truck traffic are expected to increase on Central between John Kronk and St. Stephen Streets in 2025 by about 150 pounds per year for NOx compared to the 2025 No Action Alternative; by about 20 pounds per year for PM_{10}; and, by about ten pounds per year for $PM_{2.5}$. The change in the air toxics burden generated by auto/truck traffic on Central Avenue between Alternative 2 and the No Action condition in 2025 is expected to be about ten pounds annually. The section of Central Avenue under the terminal would have equipment to vent the air directly above the terminal. These increases in pollutants just noted for Central Avenue are forecast to be matched by decreases along Lonyo.

To gauge the level of these air toxic burdens, it is noted that the natural gas burned in 15 homes to run the furnace and hot water heater generates ten pounds of air toxics annually.[7]

Alternatives 3 and 4 would have the greatest number of lifts and the greatest number of trucks serving those lifts. Nevertheless, the pollutant burdens on the local roadway systems around the terminals would be slightly less than the No Action Alternative. The expansion of the Livernois-Junction Yard would require the relocation of a number of businesses, including several along John Kronk. The removal of the auto and truck trips of these businesses, and the more efficient

[7] Derived from data in U.S. EPA's AP-42, Compilation of Air Pollution Emission factors for natural gas combustion. Emissions are based on an average home natural gas use rate of 75,000 Btu/hr. for six months of the year.

Table 1-4
Public Roadway Pollutant Burden

	Auto												Truck												Auto Plus Truck											
	Tons Per Year												Tons Per Year												Tons Per Year											
	CO	HC	NOx	PM10	PM2.5	VOC	DPM	BENZ	BUTA	FORM	ACET	ACRO	CO	HC	NOx	PM10	PM2.5	VOC	DPM	BENZ	BUTA	FORM	ACET	ACRO	CO	HC	NOx	PM10	PM2.5	VOC	DPM	BENZ	BUTA	FORM	ACET	ACRO
2004																																				
Livernois-Junction	523.9	34.5	29.3	0.76	0.37	34.7	0.0	1.25	0.13	0.27	0.12	0.014	8.0	1.7	31.3	1.13	0.97	1.73	0.97	0.02	0.05	0.14	0.01	0.006	532.0	36.2	60.6	1.89	1.34	36.4	0.97	1.27	0.18	0.41	0.13	0.020
CP/Expressway	73.3	4.7	4.0	0.11	0.05	4.7	0.0	0.17	0.02	0.04	0.02	0.002	0.9	0.2	3.9	0.14	0.12	0.20	0.12	0.00	0.01	0.02	0.00	0.001	74.2	4.9	7.9	0.25	0.17	4.9	0.12	0.17	0.02	0.05	0.02	0.003
CP/Oak	181.1	10.9	9.6	0.25	0.12	10.9	0.0	0.40	0.04	0.09	0.04	0.005	1.4	0.3	6.9	0.25	0.21	0.31	0.21	0.00	0.01	0.03	0.00	0.001	182.5	11.2	16.5	0.50	0.33	11.2	0.21	0.41	0.05	0.11	0.04	0.006
CN/Moterm	486.2	28.8	25.7	0.67	0.32	28.9	0.0	1.07	0.11	0.24	0.10	0.012	3.7	0.8	18.2	0.65	0.56	0.79	0.56	0.01	0.02	0.06	0.01	0.003	489.9	29.5	43.9	1.32	0.88	29.7	0.56	1.08	0.13	0.30	0.11	0.015
Totals	1264.5	78.9	68.6	1.79	0.86	79.2	0.0	2.89	0.30	0.64	0.28	0.033	14.0	3.0	60.6	2.17	1.86	3.03	1.86	0.03	0.09	0.25	0.02	0.011	1278.6	81.8	129.0	3.96	2.72	82.2	1.86	2.93	0.38	0.87	0.30	0.044
2025 Alt. 1: No Action																																				
Livernois-Junction	315.4	10.4	7.7	0.87	0.39	10.4	0.0	0.41	0.04	0.08	0.04	0.004	1.0	0.9	2.5	0.25	0.14	0.94	0.14	0.01	0.03	0.08	0.01	0.003	316.4	11.3	10.1	1.11	0.53	11.4	0.14	0.42	0.07	0.16	0.04	0.008
CP/Expressway	43.9	1.4	1.0	0.12	0.05	1.4	0.0	0.06	0.01	0.01	0.00	0.001	0.1	0.1	0.3	0.03	0.02	0.11	0.02	0.00	0.00	0.01	0.00	0.000	44.0	1.5	1.4	0.15	0.07	1.5	0.02	0.06	0.01	0.02	0.01	0.001
CP/Oak	107.9	3.2	2.5	0.29	0.13	3.3	0.0	0.13	0.01	0.03	0.01	0.001	0.2	0.2	0.5	0.05	0.03	0.17	0.03	0.00	0.00	0.01	0.00	0.001	108.0	3.4	3.0	0.34	0.16	3.4	0.03	0.13	0.02	0.04	0.01	0.002
CN/Moterm	289.2	8.5	6.7	0.77	0.35	8.6	0.0	0.35	0.03	0.07	0.03	0.004	0.4	0.4	1.4	0.14	0.08	0.42	0.08	0.00	0.01	0.03	0.00	0.002	289.6	9.0	8.1	0.91	0.43	9.0	0.08	0.35	0.04	0.10	0.03	0.005
Totals	756.4	23.5	17.9	2.05	0.92	23.7	0.0	0.95	0.09	0.19	0.08	0.010	1.7	1.6	4.7	0.47	0.27	1.64	0.27	0.01	0.04	0.13	0.01	0.006	758.0	25.2	22.6	2.51	1.19	25.3	0.27	0.96	0.14	0.32	0.09	0.016
2025 Alt. 2: Improve/Expand																																				
Livernois-Junction	323.0	10.6	7.9	0.89	0.40	10.7	0.0	0.42	0.04	0.08	0.04	0.004	1.2	1.1	2.9	0.30	0.17	1.12	0.17	0.01	0.03	0.09	0.01	0.004	324.2	11.8	10.8	1.19	0.57	11.8	0.17	0.43	0.07	0.17	0.04	0.009
CP/Expressway	43.9	1.4	1.0	0.12	0.05	1.4	0.0	0.06	0.01	0.01	0.00	0.001	0.1	0.1	0.3	0.03	0.02	0.10	0.02	0.00	0.00	0.01	0.00	0.000	44.0	1.5	1.3	0.15	0.07	1.5	0.02	0.06	0.01	0.02	0.01	0.001
CP/Oak	107.6	3.2	2.5	0.29	0.13	3.2	0.0	0.13	0.01	0.03	0.01	0.001	0.2	0.2	0.5	0.05	0.03	0.15	0.03	0.00	0.00	0.01	0.00	0.001	107.7	3.4	3.0	0.34	0.16	3.4	0.03	0.13	0.02	0.04	0.01	0.002
CN/Moterm	289.2	8.5	6.7	0.77	0.35	8.6	0.0	0.35	0.03	0.07	0.03	0.004	0.4	0.4	1.4	0.14	0.08	0.41	0.08	0.00	0.01	0.03	0.00	0.002	289.6	9.0	8.1	0.91	0.43	9.0	0.08	0.35	0.04	0.10	0.03	0.005
Totals	763.7	23.7	18.1	2.07	0.94	23.9	0.0	0.96	0.09	0.19	0.07	0.010	1.9	1.8	5.1	0.52	0.30	0.78	0.30	0.01	0.04	0.14	0.01	0.007	765.5	25.7	23.4	2.59	1.23	25.7	0.30	0.97	0.14	0.33	0.09	0.017
2025 Alt. 3: Consolidate																																				
Livernois-Junction	300.0	9.9	7.3	0.82	0.37	10.0	0.0	0.39	0.04	0.07	0.03	0.004	0.8	0.7	1.9	0.19	0.11	0.74	0.11	0.01	0.02	0.06	0.00	0.003	300.8	10.6	9.3	1.02	0.48	10.7	0.11	0.40	0.06	0.14	0.04	0.007
CP/Expressway	43.9	1.4	1.0	0.12	0.05	1.4	0.0	0.06	0.01	0.01	0.00	0.001	0.1	0.1	0.3	0.03	0.02	0.10	0.02	0.00	0.00	0.01	0.00	0.000	44.0	1.5	1.3	0.15	0.07	1.5	0.02	0.06	0.01	0.02	0.01	0.001
CP/Oak	107.9	3.2	2.5	0.29	0.13	3.3	0.0	0.13	0.01	0.03	0.01	0.001	0.2	0.2	0.5	0.05	0.03	0.15	0.03	0.00	0.00	0.01	0.00	0.001	108.0	3.4	3.0	0.34	0.16	3.4	0.03	0.13	0.02	0.04	0.01	0.002
CN/Moterm	289.2	8.5	6.7	0.77	0.35	8.6	0.0	0.35	0.03	0.07	0.03	0.004	0.4	0.4	1.3	0.13	0.08	0.39	0.08	0.00	0.01	0.03	0.00	0.001	289.6	8.9	8.0	0.91	0.43	9.0	0.08	0.35	0.04	0.10	0.03	0.005
Totals	741.0	23.0	17.5	2.00	0.90	23.3	0.0	0.93	0.09	0.18	0.07	0.010	1.5	1.4	4.0	0.40	0.24	1.38	0.24	0.01	0.03	0.11	0.01	0.005	742.4	24.4	21.6	2.42	1.14	24.6	0.24	0.94	0.13	0.30	0.09	0.015
2025 Alt. 4: Composite																																				
Livernois-Junction	301.4	10.0	7.4	0.83	0.38	10.0	0.0	0.39	0.04	0.08	0.03	0.004	0.8	0.7	1.9	0.19	0.10	0.72	0.10	0.01	0.02	0.06	0.00	0.003	302.2	10.7	9.2	1.01	0.48	10.7	0.10	0.40	0.06	0.13	0.04	0.007
CP/Expressway	43.9	1.4	1.0	0.12	0.05	1.4	0.0	0.06	0.01	0.01	0.00	0.001	0.1	0.1	0.3	0.03	0.02	0.10	0.02	0.00	0.00	0.01	0.00	0.000	44.0	1.5	1.3	0.15	0.07	1.5	0.02	0.06	0.01	0.02	0.01	0.001
CP/Oak	107.9	3.2	2.5	0.29	0.13	3.3	0.0	0.13	0.01	0.03	0.01	0.001	0.2	0.2	0.5	0.05	0.03	0.15	0.03	0.00	0.00	0.01	0.00	0.001	108.0	3.4	3.0	0.34	0.16	3.4	0.03	0.13	0.02	0.04	0.01	0.002
CN/Moterm	289.2	8.5	6.7	0.77	0.35	8.6	0.0	0.35	0.03	0.07	0.03	0.004	0.4	0.4	1.3	0.13	0.08	0.39	0.08	0.00	0.01	0.03	0.00	0.001	289.6	8.9	8.0	0.91	0.43	9.0	0.08	0.35	0.04	0.10	0.03	0.005
Totals	742.4	23.1	17.6	2.01	0.91	23.3	0.0	0.93	0.09	0.19	0.07	0.010	1.5	1.4	4.0	0.40	0.23	1.36	0.23	0.01	0.03	0.11	0.01	0.005	743.8	24.5	21.5	2.41	1.14	24.6	0.23	0.94	0.13	0.29	0.09	0.015

Note: VOCs are volatile organic compounds, DPM is diesel particulate mater, BENZ is benzene, BUTA is 1,3, butadiene, FORM is formaldehyde, ACET is acetaldehyde, and ACRO is acrolein.
Source: The Corradino Group of Michigan, Inc.

movement of intermodal trucks to the terminal via expressway-to-arterial roadway connections, would mean less traffic on several neighborhood streets. So, for Alternatives 3 and 4, the roadway pollutant burden would be less than today and slightly less than No Action. For the CN/Moterm terminal, the roadway pollutant burdens would be virtually the same as No Action.

Conformity

The project's roadway changes must be included in SEMCOG's cost-feasible *Regional Transportation Plan* (RTP) to advance to design. To be included on the plan, it must be consistent with the *State Implementation Plan* (SIP). When analyzed together with other plan elements, the air pollution generated must not exceed "budgets" established for transportation sources under state air quality planning. After the public hearing, when a preferred alternative is determined, the DIFT project elements that cause changes to the transportation network will be evaluated by SEMCOG for air quality conformity. The results of this evaluation will be included in the Final Environmental Impact Statement.

1.3.5 Noise and Vibrations

The environmental analysis examined whether the proposed alternatives might change ambient noise levels at several sensitive receptors in a way that warranted consideration of noise abatement measures. The FHWA has established a noise guideline of 67 decibels (dBA), measured as an "average" of sound over a one-hour period (referred to as $Leq_{(1h)}$). The noise guideline is not to be "approached or exceeded" at the exterior of residences, places of worship, hospitals, parks and libraries, i.e., sensitive receptors. Should the guideline noise level at these sensitive receptors be approached or exceeded, noise abatement measures must be considered. "Approach" is defined in Michigan as 1 dBA, so the effective criterion is 66 dBA for consideration of mitigation. Noise mitigation must also be considered if a project results in a substantial increase (10 dBA or more) in noise. Barrier walls for security purposes included as a part of the project will be designed in areas of noise sensitivity so the noise criteria are met at sensitive receptors and a minimum 5-dBA noise reduction is achieved at those receptors (refer to Figures 4-42 through 4-47).

Predictions of train noise and roadway noise were made for 2025 for all alternatives and compared to established criteria. Train volumes were calculated on rail lines bordering the yards, focusing on sections where housing is present. Other sensitive receptors are largely absent from the terminal fringes. Commercial and industrial uses do not normally desire or require mitigation.

Noise level changes occur where there are changes in train volumes and/or where on-street traffic volumes change. For MDOT projects, noise is evaluated on the basis of the loudest hour, as expressed in $Leq_{(1h)}$, i.e., the equivalent noise level or "average" of sound over that loudest hour. Rail noise is often expressed in terms of "Ldn," the day-night noise equivalent level. It is the "average" sound level over a 24-hour period, with a 10-dBA penalty added to noise occurring during the nighttime hours of 10:00 p.m. to 7:00 a.m. The penalty is added because of the greater sensitivity to noise during the night. Future train volumes were forecast on the links around each of the terminals to determine whether noise levels would increase in the loudest hour and over the 24-hour period. Auto and truck volumes serving the terminals were projected.

There are many noise sources around the terminals today associated with truck traffic and the activities conducted on the prevailing industrial land uses. A portion of the truck traffic is related to intermodal terminal activity today and would be in the future, although in the future the trucks would be directed to streets away from residential areas, unlike the condition today at all terminals.

For many people, the most intrusive noise associated with train activity is the use of horns at rail-street crossings. Trains serving the CN/Moterm terminal presently use their horns in the area of Nine Mile Road and Hilton Road. There, intermodal trains will increase from two today to four movements daily in 2025, if the CN/Moterm were expanded (Alternative 2 and 4). Total train movements (Amtrak, conventional, freight, etc.) would increase from 11 to 27 per day. It has been indicated Amtrak will make up almost 80 percent of the passby traffic there. On the other hand, for the Livernois-Junction Yard, at the Lonyo Avenue and Central Avenue crossings, horn use will cease as Lonyo Avenue would be closed and Central Avenue reconstructed to pass under the rail yard under all Action Alternatives. With the No Action Alternative, horn blowing will increase with increased train volumes.

At the Livernois-Junction Yard, the analysis of train noise found that under all Action Alternatives a barrier wall, planned as part of the terminal's design for security purposes, will eliminate exceedances of noise criteria. This includes sensitive areas along John Kronk Street between Cabot Street and Trenton Avenue and between Martin Street and Livernois Avenue. Under Alternatives 3 and 4, property acquisition would remove a number of the homes in the Cabot Street/Trenton Avenue area, and the barrier wall that is part of the terminal's design along the north side of the expanded rail yard will serve to protect the remaining homes to the north from rail noise.

Under Alternative 2, there are no sensitive noise receptors near the CP/Expressway terminal that would require mitigation. The United Community Hospital is located inside the curve of I-75. Noise mitigation is not feasible at this location because the hospital is multi-story and immediately adjacent to I-75 and Michigan Avenue, both of which contribute noise to the hospital site greater than the expected rail noise. The change in intermodal train activity of Alternative 2 over No Action conditions will not affect this hospital. And, Alternatives 3 and 4 will remove intermodal activity at the CP/Expressway terminal.

Under Alternative 2, no noise impacts are expected to any sensitive receptor from train operations at the CP/Oak terminal. Nevertheless, a barrier wall for security purposes would be constructed on the northern edge of the terminal, if the terminal were expanded.

Under Alternatives 2 and 4, the CN/Moterm terminal would expand operations to the south of Eight Mile Road at the State Fairgrounds. To the east of the Fairgrounds is a residential neighborhood. Analysis indicates the train traffic of Alternatives 2 or 4 would cause the noise level criterion for this residential area to be exceeded. But, a barrier wall for security purposes is planned as part of the project along the east edge of the railroad right-of-way from a point south of Eight Mile Road to the Hunt Playground. It would eliminate noise impacts. A barrier wall is also planned between the terminal and the State Fairgrounds.

Under all Action Alternatives, roadway noise would not increase perceptibly because it takes a doubling of traffic to generate a perceptible noise level change (typically 3 dBA or more). The Action Alternatives will not double the forecast volume of traffic compared to the No Action condition.

Perceptible noise level reductions are expected at several residential locations, resulting from reduced truck traffic, most notably:

- Livernois-Junction Yard – Livernois Avenue and Dragoon Street south of Dix to I-75 (Alternatives 3 and 4).
- CP/Oak terminal (Alternatives 2, 3 and 4) – Artesian Street.

- CN/Moterm terminal (Alternatives 2, 3 and 4) – Fair Street and Chesterfield Street north of Eight Mile Road.

Detectable vibrations are normal where trains and trucks are active. During the feasibility study for the DIFT, vibration levels were measured at four locations in the vicinity of the Livernois-Junction Yard: 1) Beard Elementary School at 1551 Beard Street (along the rail line from the east Livernois-Junction Yard area to the Springwells/I-75 area); 2) the Bill Ford Family Services and Learning Center, 3401 Schaefer Road; 3) a vacant lot on Porath Court near Wyoming Avenue (next to the I-94 off-ramp); and, 4) a vacant lot at 3321 Clippert Street at John Kronk, approximately three blocks west of Livernois and north of John Kronk. At the first location train passbys were measured, at the second trucks, at the third trucks, and at the last trucks and trains. Although the measurements detected vibration levels perceptible to humans, the annoyance level was reached only at the Beard School. However, vibration at annoyance levels was noted at the school in the absence of trains as well as when a locomotive passes by. It is expected there will be 12 more intermodal train passbys per day, maximum, in 2025 between the No Action Alternative and the busiest Action Alternative. Today there are about 15 passby trains during the school day. This increase related to intermodal growth would amount to one additional locomotive passby per hour during the school day. No mitigation for vibrations is proposed for any Action Alternative.

At the CP/Expressway, CP/Oak and CN/Moterm terminals, train and truck passbys occur in a manner similar to the Livernois-Junction Yard, except that they are less frequent. At all sites there are multiple sources of vibration from non-intermodal truck or rail traffic, such as industrial processes, heating and air conditioning units, transformers, and a variety of other indoor and outdoor sources. The vibrations due to intermodal activity are detectable but not intrusive in these environments.

1.3.6 Ecological Resources

Approximately 0.08 acres of Palustrine Emergent wetlands would be directly affected by the Action Alternatives requiring replacement under a Moment of Opportunity[8] agreement between MDOT and the Michigan Department of Environmental Quality (MDEQ). The No Action Alternative would have no effect on wetlands. A summary of locations of wetlands, historic sites, and potentially contaminated sites, is presented in Figure 1-16.

There are no surface water bodies in any of the terminal areas. Surface water quality will not be affected by any of the alternatives. The railroads, like many other industries, are required to have pollution prevention plans to prevent impacts to stormwater, surface water and groundwater. These plans include, among other things, provisions requiring spill prevention, response, training and reporting.

No known federal- or state-listed threatened, endangered or otherwise significant species, natural plant communities, or natural features will be affected.

[8] A Moment of Opportunity is allowed under the General Permit Category of Part 303 of P.A. 451 (1994, as amended.)

Figure 1-16a
Livernois-Junction Terminal
Site Map

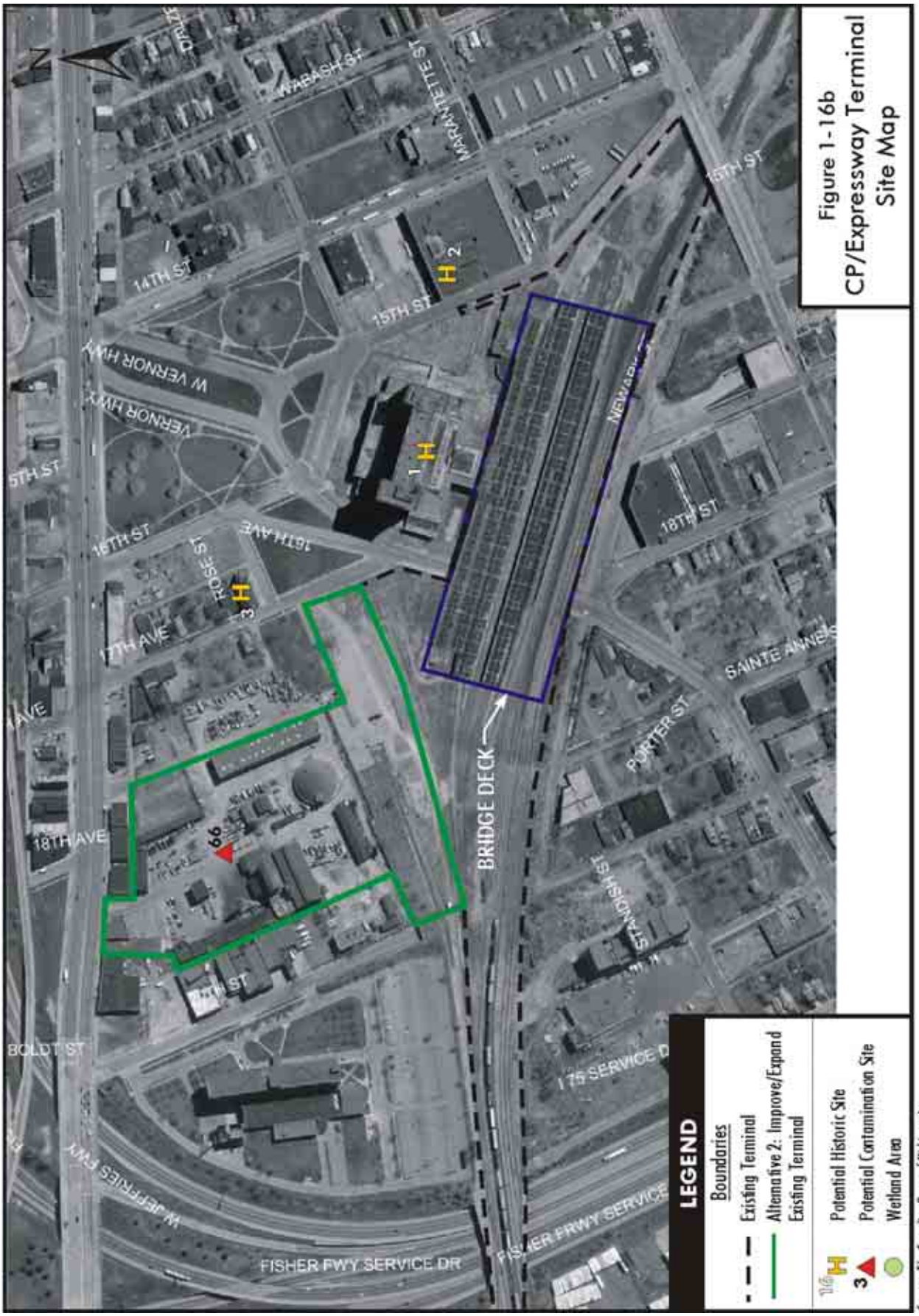
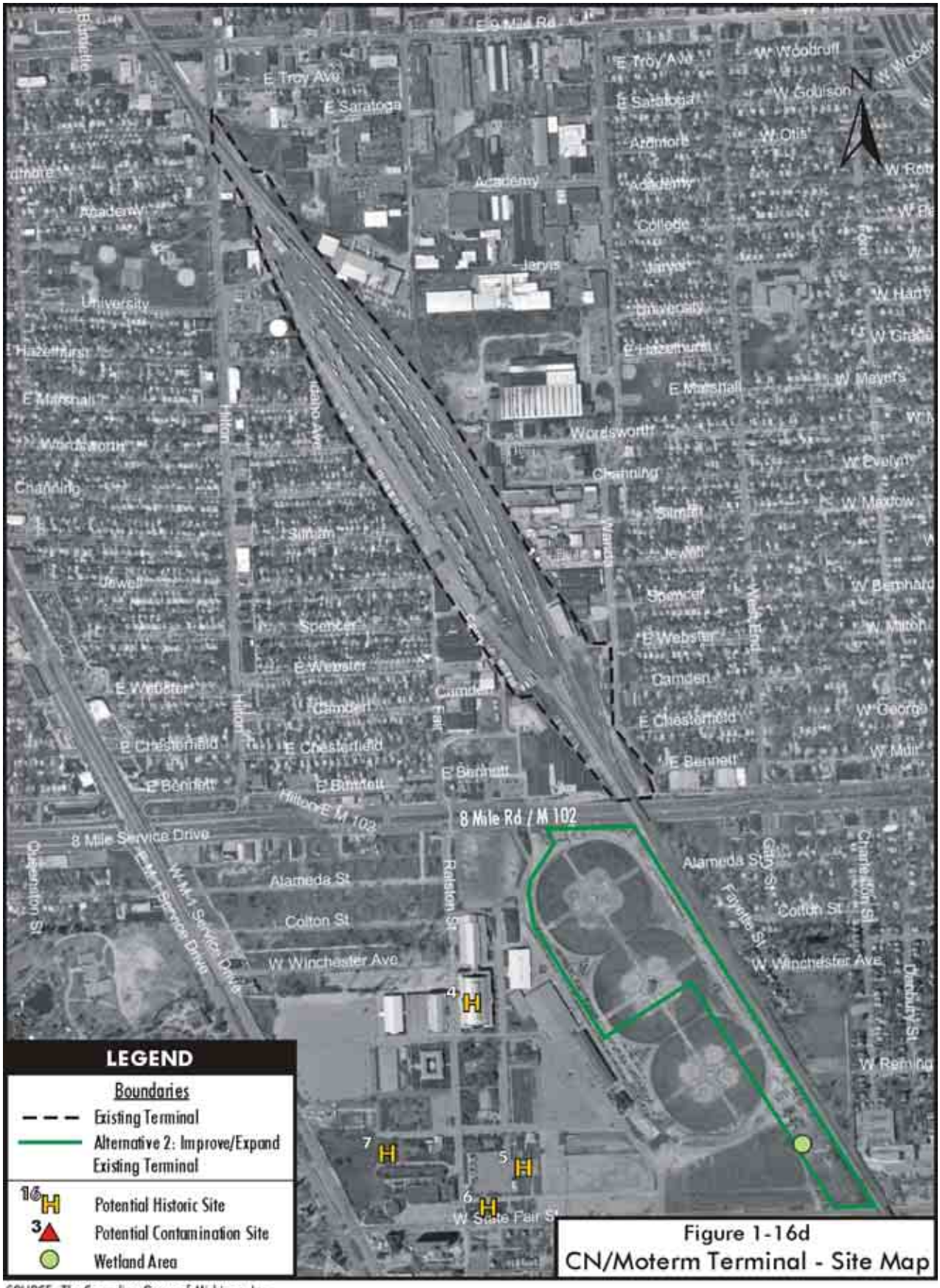


Figure 1-16b
CP/Expressway Terminal
Site Map
LEGEND
Boundaries
Existing Terminal
Alternative 2: Improve/Expand Existing Terminal
Potential Historic Site
Potential Contamination Site
Wetland Area
BRIDGE DECK
FISHER FWY SERVICE DR
W JEFFRIES FWY
BOLDT ST
18TH AVE
17TH AVE
16TH ST
15TH ST
14TH ST
W VERNOR HWY
VERNOR HWY
WABASH ST
MARIANETTE ST
PORTER ST
SAINTE ANNE
STANDISH ST
ROSE ST
NEWARK
DRIVE

Figure 1-16c
CP/Oak Terminal
Site Map
LEGEND
Boundaries
Existing Terminal
Alternative 2: Improve/Expand Existing Terminal
Potential Historic Site
Potential Contamination Site
Wetland Area
SOURCE: The Corradino Group of Michigan, Inc.
W Davison St
Artesian St
Glendale St
E Borman Ave
Capitol St
I-96
Fitzpatrick St
Heyden St
Kentfield St
59
60
61
62
63
64
65



SOURCE: The Corradino Group of Michigan, Inc.

1.3.7 Cultural Resources and Public Recreational Land

To satisfy Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act, MDOT conducted historic and archaeological surveys to locate sites eligible for listing on the *National Register of Historic Places*. Adverse effects on historic resources are avoided when prudent and feasible. When it is not prudent and feasible to avoid adverse effects, they are minimized and mitigation measures are developed. A project results in an adverse effect on an historic property when it diminishes those characteristics that make it historically significant. Activities that may result in an adverse effect include demolition, landscape changes, isolation of a property from its setting, and the introduction of visual, audible or atmospheric elements out of keeping with the character of the property.

The project would have adverse effects: a) on the Michigan Box Company building (Spranger Wire Wheel Company) under Alternatives 3 and 4 located at 7175 Clayton Street near the Livernois-Junction Yard; b) on the Federal Screw Works factory at 3301-3401 Martin Street under Alternative 3; c) on the Markey House at 3504 Martin Street under Alternative 3; d) on the Tomms House at 3434 Martin Street under Alternative 3; and, e) on the Bridge Deck at the Michigan Central Railroad passenger station complex at the CP/Expressway terminal under Alternative 2 (Figure 1-16 and Table 1-5). Those sites are considered eligible for the *National Register of Historic Places*, requiring a Memorandum of Agreement (MOA) with the State Historic Preservation Officer (SHPO), if they are part of the preferred alternative. Section 6 of this document includes the Draft Section 4(f) evaluation of these resources. Adverse effects on these resources are avoided when prudent and feasible. The Draft MOA with the SHPO can be found in Appendix C. Both documents are commitments to minimize and mitigate adverse effects. Continued consultation with the SHPO is ongoing to determine if there will be an adverse effect on other historic properties at the Livernois-Junction Yard area.

Approximately 35 acres of land at the Michigan State Fairgrounds would be used under Alternatives 2 and 4. This is considered use of recreational lands covered by Section 4(f) of the Department of Transportation Act of 1966. Section 6 of this DEIS includes a draft Section 4(f) evaluation for this site. No money from the Land and Water Conservation Fund (referred to as 6(f) funds) has been used on the Fairgrounds. The Fairgrounds were reviewed for historic resources. Historic resources were identified but the proposed improvements would have no adverse effect (Table 1-5).

No known National Register eligible archaeologic resources were found at any intermodal terminal for any alternative. However, the SHPO has agreed that field investigations at two archaeological sites at the Livernois-Junction Yard area should be conducted to determine whether archaeological deposits are present prior to any construction. See Section 4.13 for site maps and additional discussion on cultural resources.

1.3.8 Visual Conditions

Under Alternative 1 – No Action, no changes to visual conditions would occur at the Livernois-Junction Yard. Under Alternative 2: Improve/Expand Existing Terminals, the north edge of the Livernois-Junction Yard, and a portion of the south side, would have a barrier wall for security purposes. Nevertheless, abandoned properties, scrap yards, and industrial facilities would remain mixed with residential uses.

Table 1-5
Potential *National Register* Historical and Archaeological Sites Shown on Figure 1-16

Alt.	Terminal	ID No. on Figure 1-16	Site Name	Location	Description	Effect
2	CP/ Expressway	1	Michigan Central Railroad Passenger Station and Bridge Deck	West Vernor Highway	Railroad station and bridge decks, circa 1905-1915	Proposed/modified tracks on bridge deck. Adverse effect.
2	CP/ Expressway	2	Roosevelt Park Annex	Maranette St. and 14th St.	Post Office PWA Moderne, circa 1935	No property to be taken. No adverse effect.
2	CP/ Expressway	3	St. Paul's German Evangelical Lutheran Church district	17th and Rose Street	Gothic Revival and Italianate church, school, and residence, circa 1892	No property to be taken. No adverse effect.
2/4	CN/ Moterm	4	Exhibition Building Historic District	Michigan State Fairgrounds	Dairy Cattle Building, Coliseum, Agriculture Building, Poultry Building, and Whitehall	No property to be taken. No adverse effect.
2/4	CN/ Moterm	5	Band Shell	Michigan State Fairgrounds	Outdoor proscenium stage, circa 1938	No property to be taken. No adverse effect.
2/4	CN/ Moterm	6	Grant House	Michigan State Fairgrounds	Balloon-framed house associated with Ulysses S. Grant, circa pre-1850	No property to be taken. No adverse effect.
2/4	CN/ Moterm	7	Garland Stove	Michigan State Fairgrounds	Large wood carved stove for commercial advertising art, circa late 1800s	No property to be taken. No adverse effect.
3/4	Liv-Jct	8	Michigan Box Company/ Spranger Wire Wheel Company	7175 Clayton Street	Factory originally built to make auto parts. Now pallets are made at the site.	Area needed for Alternatives 3 and 4 would require this property. Adverse effect.
3/4	Liv-Jct	9	Rickenbacker Motor Company/Springfield Body Corporation	4815 Cabot	Former factory that produced automobiles	Alternative 3 would require a portion of the factory that is not eligible. Alternative 4 would require land south of the buildings but no parts of the building. No adverse effect.
3/4	Liv-Jct	10	Frederick Wolf and Sons historic homes	West side of Central near St. John St.	Three 1890s Queen Ann homes (one is outside APE)	No property to be taken. No adverse effect.
3/4	Liv-Jct	11	House	6332 John Kronk	Historic home	No property to be taken. Determination of adverse effect not yet made.
3/4	Liv-Jct	12	Tomms House	3434 Martin Street	Historic home	No property to be taken. Adverse effect under Alternative 3.
3/4	Liv-Jct	13	Markey House	3504 Martin Street	Historic home	No property to be taken. Adverse effect under Alternative 3.
3	Liv-Jct	14	Federal Screw Works Factory	3301-3401 Martin Street	Former factory that produced fasteners for the auto industry.	Area needed for Alternative 3 would require this property. Adverse effect.
3/4	Liv-Jct	15	Livernois Avenue Art Deco Bridge	Near Livernois and John Kronk	Bridge	No property to be taken. No adverse effect.
3/4	Liv-Jct	16	Southern Avenue Twin Warren Truss Bridge	Southern Avenue west of Wyoming Street	Bridge	No property to be taken. No adverse effect.
3/4	Liv-Jct	17	Clippert Brick Company office	10500 Southern Avenue	Former office building for area brick companies	Building will not be affected. No adverse effect.
3/4	Liv-Jct	18	Central Avenue Fire Station/Engine Company No. 37	2820 Central Avenue	Fire Station	No property to be taken. No adverse effect.

Source: Commonwealth Cultural Resources Group

Under Alternative 2 – Improve/Expand Existing Terminals, visual conditions would not be affected at/around the CP/Expressway terminal. Conditions would improve at the CP/Oak and CN/Moterm terminals because of the addition of a barrier wall for security at each to secure/ buffer the expanded rail yards.

Under Alternatives 3 and 4, a barrier wall for security would also be built on the north side, and part of the south side, of the Livernois-Junction Yard. A new perimeter road, including a landscaped buffer, on the north side of the terminal is also part of these two alternatives. These elements would shield the view of the terminal and provide a more visually pleasing setting than the existing conditions. Several abandoned properties, salvage yards, and industrial facilities would be relocated.

1.3.9 Contaminated Sites

A Project Area Contamination Survey (PACS) was conducted of all Action Alternatives. It included field reconnaissance of more than five dozen commercial/industrial sites, interviews with business owners, review of federal and state environmental records, and review of historical land use records (Table 1-6). Fifteen sites that would potentially be acquired for Alternative 2; 45 sites for Alternative 3; and, 37 sites for Alternative 4 were rated medium/high for contamination potential. Most of these sites are located adjacent to the Livernois-Junction Yard and predominantly occupied by salvage businesses, truck and automotive repair shops and motor freight terminals. The most common environmental issues associated with these land uses are soil impacts from oils, metals, and solvents and subsurface soil/groundwater impacts from leaking petroleum underground storage tanks.

The review of historical land use records revealed that several brickyards and clay pits were located along John Kronk in the late 1800s and early 1900s. Some historical references suggest that industrial wastes were used to backfill the clay pits. Sites located at former clay pits were rated medium/high in terms of potential environmental contamination because of the possibility of contaminated fill. These sites, and the Central Transport site at 4440 Wyoming, which was reportedly used as a landfill, will require more extensive investigations to characterize their environmental condition.

It is expected that many of the impacts identified during the PACS can be managed through use of measures such as limited soil removal. The survey did not identify any known contamination conditions that would significantly affect or impede any of the Action Alternatives.

A limited Preliminary Site Investigation (PSI) was also conducted as part of the environmental review process. The PSI involved soil borings in public rights-of-way because landowners would not grant permission to collect samples on their properties. Observations made during the PSI did not reveal any visual indications of soil contamination or fill in the public right-of-way adjacent to the Livernois-Junction Yard, the CP/Expressway and CP/Oak terminals in Detroit. No borings were conducted in Dearborn, or at the CN/Moterm terminal (Ferndale).

In all cases, additional soil borings will be required before a property is acquired/remediated. Impacts will be minimized by disposing contaminated materials properly by protected workers. A Risk Assessment Plan will be developed if the DIFT project goes forward, to include a Worker Health and Safety Plan. If monitoring wells are present, they will be abandoned properly. All contaminated areas will be marked on plans. A Utility Plan will also be prepared to ensure no deep utility cuts will impact and/or spread existing contamination.

Table 1-6
Potential Contamination Sites Shown on Figure 1-16

Alt.	Terminal	SID No.	Site Name	Address or Location	City	Records Observations							Alt.
						CERCLIS (non NPL)	MI Contam. Sites	LUST	UST	RCRIS – Haz. Waste Generators	Other[a]	Contamination Potential Rating[e]	
3/4	Liv-Jct	1	MNP Steel Service and Warehouse	3401 Martin	Detroit			X-C	X	X	X	M/H	3/4
3/4	Liv-Jct	2	Vacant Industrial	3601 Parkinson	Detroit		X[c]	X-O	X		X	M/H	3/4
3	Liv-Jct	3	Gal Cro Steel Processing	3631 Parkinson	Detroit		X[c]	X-O	X		X	M/H	3
3/4	Liv-Jct	4	Fontana Forest Products	7175 Clayton	Detroit				X		X	L	3/4
3/4	Liv-Jct	5	Red's Towing Service	7301 Clayton	Detroit						X	M/H	3/4
2/3/4	Liv-Jct	6	Advance Auto Glass and Parts	3600 Central	Detroit						X	M/H	2/3/4
2/3/4	Liv-Jct	7	Herman Brothers Pet Products/Trager Research & Manufacturing	3650 Central	Detroit						X	M/H	2/3/4
3/4	Liv-Jct	8	Heavy Ts Auto Parts/Rod Auto Parts	3760 Central	Detroit		X[d]				X	M/H	3/4
3	Liv-Jct	9	American Minority Sys/Luco Cartage/Priority Container Serv/PSA-AMSI	7414 Clayton	Detroit						X	L	3
3/4	Liv-Jct	10	Michigan Wholesale & Repair	3700 Central	Detroit						X	L	3/4
3/4	Liv-Jct	11	Lacaria Concrete Construction	3720 Central	Detroit						X	L	3/4
2/3/4	Liv-Jct	12	Crown Enterprises (ANR Freight System)	3685 Central	Detroit	X[b]	X[c]		X	X	X	M/H	2/3/4
3	Liv-Jct	13	Superior Diesel Repair	3735 Central	Detroit					X		M/H	3
3	Liv-Jct	14	Panacea - Property 1	4175-95 Central	Detroit			X-O	X		X	M/H	3
3	Liv-Jct	15	Panacea - Property 2	3936-40 Lonyo	Detroit				X			M/H	3
3	Liv-Jct	16	Panacea - Property 3	3950 Lonyo	Detroit			X-O	X	X		M/H	3
3	Liv-Jct	17	Stanley Cupp	4111 Central	Detroit					X		M/H	3
3/4	Liv-Jct	18	Dix Scrap Iron & Metal Co	3890 Lonyo	Detroit						X	M/H	3/4
3/4	Liv-Jct	19	Big B's Auto	3800 Lonyo	Detroit						X	M/H	3/4
3/4	Liv-Jct	20	Spartan Industrial	3896,3930-34 Lonyo	Detroit			X-C	X	X		M/H	3/4
3/4	Liv-Jct	21	Spartan Industrial Warehouse	8350 John Kronk	Detroit			X-C	X		X	L	3/4
3/4	Liv-Jct	22	Spartan Express	3901 Lonyo	Detroit			X-O	X	X		M/H	3/4
3	Liv-Jct	23	Jorgenson Collision Center	3949 Lonyo	Detroit					X		M/H	3
3	Liv-Jct	24	American International	4011 Lonyo	Detroit			X-O	X	X		M/H	3

[a] - Other potential contamination site identified by reconnaissance and/or other records.
[b] - Delisted CERCLIS NFRAP (No Further Remedial Action Planned) site.
[c] - Baseline Environmental Assessment has been conducted.
[d] - Michigan State Priority List site.
[e] - Ratings are: L = Low, M = Medium, H = High

LUST - Leaking underground storage tank; X-C = Closed case; X-O = Open case.
UST - Underground storage tank.
RCRIS - Resource Conservation and Recovery Information System.
CERCLIS - Comprehensive Environmental Response, Compensation and Liability Information System.
NPL - National Priority Listing.

Table 1-6 (continued)
Potential Contamination Sites Shown on Figure 1-16

Alt.	Terminal	SID No.	Site Name	Address or Location	City	Records/Observations							Alt.
						CERCLIS (non NPL)	MI Contam. Sites	LUST	UST	RCRIS – Haz. Waste Generators	Other[a]	Contamination Potential Rating[e]	
3/4	Liv-Jct	25	Motor City Corporation	3801 Trenton	Detroit					X	X	M/H	3/4
3/4	Liv-Jct	26	S L Cabot, LLC	4157 Cabot	Detroit		X[c]	X-C	X	X		M/H	3/4
3/4	Liv-Jct	27	Ferrous Processing Corp	9100 J Kronk	Detroit				X	X		M/H	3/4
3/4	Liv-Jct	28	Williams Detroit-Alison	4000 Stecker	Dearborn			X-C	X	X		L	3/4
3/4	Liv-Jct	29	Jebco Investments LC-Property 1	4200-4300 Stecker	Dearborn						X	L	3/4
3/4	Liv-Jct	30	National Industrial Maintenance	4400 Stecker	Dearborn					X		M/H	3/4
3/4	Liv-Jct	31	R.E. Leggette Company	9335 St. Stephens	Dearborn		X[d]	X-O	X	X		M/H	3/4
3/4	Liv-Jct	32	Truck City, Inc.	4121 Stecker	Dearborn					X		M/H	3/4
3/4	Liv-Jct	33	MCI Telecommunications Corp.	4401 Stecker	Dearborn			X-O			X	M/H	3/4
3/4	Liv-Jct	34	Jebco Investments LC-Property 2	4401 Stecker	Dearborn			X-O		X		M/H	3/4
3/4	Liv-Jct	35	K & R Express	4601 Stecker	Dearborn			X-C	X			M/H	3/4
3/4	Liv-Jct	36	TIP Trailer Leasing	10000 Southern	Dearborn						X	M/H	3/4
3/4	Liv-Jct	37	Advance Pool	10400 Southern	Dearborn			X-O		X	X	M/H	3/4
3/4	Liv-Jct	38	Nour's Investment Company	4210-20 Wyoming	Dearborn			X-O	X	X	X	M/H	3/4
3/4	Liv-Jct	39	GLS Leasco, Inc.	4410 Wyoming	Dearborn				X	X		M/H	3/4
3/4	Liv-Jct	40	Central Transport, Inc.	4440 Wyoming	Dearborn	X	X	X-O	X	X	X	M/H	3/4
3/4	Liv-Jct	41	Jouney, Inc. Steel Service/Seng Tire	4800 Wyoming	Dearborn						X	L	3/4
3/4	Liv-Jct	42	Action Tire Service Co	3969 Wyoming	Dearborn					X	X	M/H	3/4
2[f]/3/4	Liv-Jct	43	Ford Motor Vulcan Plant	3900 Wyoming	Dearborn					X	X	M/H	2[f]/3/4
2[f]/3/4	Liv-Jct	44	Cummins Michigan	3760 Wyoming	Dearborn			X-O		X		M/H	2[f]/3/4
2[f]/3/4	Liv-Jct	45	Wyoming Self-service	3740 Wyoming	Dearborn						X	L	2[f]/3/4
2[f]/3/4	Liv-Jct	46	Vacant Freight Terminal	10100 Mercier	Dearborn						X	L	2[f]/3/4
2[f]/3/4	Liv-Jct	47	Vacant Freight Terminal	9900 Mercier	Dearborn			X-O	X	X		M/H	2[f]/3/4
3/4	Liv-Jct	48	Boulevard & Trumbull Inv., Inc.	7700 Dix[g]	Detroit		X	X-O	X	X	X	M/H	3/4

[a] - Other potential contamination site identified by reconnaissance and/or other records.
[b] - Delisted CERCLIS NFRAP (No Further Remedial Action Planned) site.
[c] - Baseline Environmental Assessment has been conducted.
[d] - Michigan State Priority List site.
[e] - Ratings are: L = Low, M = Medium, H = High
[f] - These properties would be needed under Alternative 2 Option B, but not needed under Alternative 2 Options A and C.
[g] - This site also includes 7800, 7840, 7904 and 7950 Dix.

LUST - Leaking underground storage tank; X-C = Closed case; X-O = Open case.
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RCRIS - Resource Conservation and Recovery Information System.
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Table 1-6 (continued)
Potential Contamination Sites Shown on Figure 1-16

Alt.	Terminal	SID No.	Site Name	Address or Location	City	Records/Observations							Alt.
						CERCLIS (non NPL)	MI Contam. Sites	LUST	UST	RCRIS – Haz. Waste Generators	Other[a]	Contamination Potential Rating[e]	
2/3/4	Liv-Jct	49	Lafayette Recycling	7700,7730,7750 Dix	Detroit			X-O	X		X	M/H	2/3/4
3/4	Liv-Jct	50	M. Dick & S.F. Corbell	2881 Central[h]	Detroit						X	M/H	3/4
3/4	Liv-Jct	51	Central Avenue Properties LLC	2921, 2951 Central	Detroit		X				X	M/H	3/4
3/4	Liv-Jct	52	Thomas Adams, Jr.	2971,81,91 Central	Detroit						X	L	3/4
2/3/4	Liv-Jct	53	Chester Herman Warehouse	3005,11 21 Central	Detroit						X	L	2/3/4
2/3/4	Liv-Jct	54	Central Auto Parts	3022 Central/7276 Dix	Detroit						X	M/H	2/3/4
3/4	Liv-Jct	55	Central Auto Clinic	2910,2930 Central	Detroit						X	M/H	3/4
3/4	Liv-Jct	56	S. Corbell Property	2880-96 Central	Detroit						X	M/H	3/4
3/4	Liv-Jct	57	Vacant Commercial Lots	2803-2889 Stair	Detroit						X	L	3/4
3/4	Liv-Jct	58	Trimodal	7100,7256,60,7272 Dix	Detroit			X-C	X	X		M/H	3/4
2	CP/Oak	59	Milford Fabricating Company	12810 Auburn[i]	Detroit			X-C	X		X	M/H	2
2	CP/Oak	60	Madias Brothers/Grove Recycling/First Evergreen	12850 Evergreen	Detroit			X-C	X	X		M/H	2
2	CP/Oak	61	Gateway Detroit Assoc/Parsec/Roofing Ins/Piston Auto/Technicolor. LLC	12601 Southfield	Detroit			X-O	X	X	X	M/H	2
2	CP/Oak	62	T&B Properties/Michigan Glove & Safety, Inc.	12801 Auburn	Detroit					X	X	L	2
2	CP/Oak	63	Praxair Distribution	12820 Evergreen	Detroit			X-O	X	X	X	M/H	2
2	CP/Oak	64	L&M Leasing Associates/Ferrini Contracting Corp.	12735 Auburn	Detroit				X	X	X	M/H	2
2	CP/Oak	65	Metaldyne	19001 Glendale	Detroit				X	X	X	M/H	2
2	CP/Expressway	66	Department of Public Works	2633 Michigan	Detroit			X-O		X	X	M/H	2
2/3/4	Liv-Jct	67	Detroit Brake Parcel	5030 Military	Detroit						X	L	2/3/4

[a] - Other potential contamination site identified by reconnaissance and/or other records.
[b] - Delisted CERCLIS NFRAP (No Further Remedial Action Planned) site.
[c] - Baseline Environmental Assessment has been conducted.
[d] - Michigan State Priority List site.
[e] - Ratings are: L = Low, M = Medium, H = High
[f] - These properties would be needed under Alternative 2 Option B, but not needed under Alternative 2 Options A and C.
[g] - This site also includes 7800, 7840, 7904 and 7950 Dix.
[h] - This site also includes 2881, 2887, 2889 and 2897 Central.
[i] - This site also includes 12820 Auburn, 12620, 12646, 12650, 12660, and 12661 Westwood.

LUST - Leaking underground storage tank; X-C = Closed case; X-O = Open case.
UST - Underground storage tank.
RCRIS - Resource Conservation and Recovery Information System.
CERCLIS - Comprehensive Environmental Response, Compensation and Liability Information System.
NPL - National Priority Listing.

Source: The Corradino Group of Michigan, Inc.

1.3.10 Indirect and Cumulative Impacts

Indirect and cumulative impacts for the Action Alternatives are summarized below. For the No Action condition, these impacts are a continuation of past trends.

- Mobility: While there will be an increase in traffic due to both the growth in intermodal activity and the stimulated additional development, there are no negative congestion/mobility effects expected either on major arteries or local neighborhood streets, unless the proposed Jobs Tunnel project were to be implemented where the CP/Expressway terminal is located. That project proposes to convert two existing rail tunnels to truck use and build a third, more modern tunnel for rail. The proposal is in the discussion phase. Public information on details is limited.

  It should be noted that under Alternatives 3 and 4, where intermodal operations of either three or four railroads are consolidated at the Livernois-Junction Yard, the terminals at CP/Oak and CN/Moterm will continue to be used by the railroads for shipping freight by other means than intermodal. That activity will be associated with a smaller volume of truck traffic than if the terminals were to continue to serve intermodal.

- Economic Impacts: It is expected that local businesses will develop or expand in several sectors related to the growth in intermodal transportation. Likewise, such change will be associated with an increase in local jobs with greater income levels and buying power. This should then help grow the tax base. These expected conditions apply to each of the three terminal areas. But, they will be greater under Alternatives 3 and 4 (i.e., some form of intermodal consolidation) than Alternative 2 (no consolidation) and Alternative 1 (No Action).

- Land Use Changes: Land use changes are expected to be accelerated with growth in intermodal transportation and the associated and improved economic stimulus. Such growth could be associated with the mixing of land use types that are unwanted, i.e., industrial/commercial with residential. This can be avoided by local units of government applying already-existing land use/zoning principles, like those in the City of Detroit's Master Plan of Policies and the master plans of Dearborn, Ferndale, Hazel Park and Highland Park.

- Air Quality: Increased development will likely increase vehicular activity. But, results of the analysis of direct/indirect air quality impacts indicate that such increases will not cause standards to be violated if the development is properly located. This will happen if government actions are consistent with the planning policies in effect in each jurisdiction.

- Cultural Resources: Historic districts/properties may experience adverse effects from new private sector development associated with the growth in intermodal activity that could occur adjacent to their boundaries if already-existing local governmental controls are not applied.

- Community Cohesion: Development stimulated by intermodal activity/investment may create opportunities for use of abandoned residential parcels (the City of Detroit owns thousands of such parcels as a result of tax delinquencies). This development could lead to unwanted mixing of land uses if controls in the master plans of various

cities are not implemented. For example, tracts large enough to hold logistics businesses to support intermodal activity could locate along or near the Livernois-Junction Yard, such as the Ward Bakery at Toledo Avenue and West Grand Boulevard. This parcel is tucked in a residential area and, should it be allowed to develop, the increased truck activity will have a negative effect on the community.

- Noise: Traffic volumes and ambient noise levels will increase as economic conditions improve. Negative effects are not expected and can be avoided with care by the developer and local government agencies in locating this increased development away from sensitive uses.

- Water Quality: Increased development could lead to more impervious surface runoff and pollutant load. This could be offset by reclaiming properties now affected by contaminated materials for increased economic activity. Thousands of such properties exist, are abandoned, and have not been remediated. Use of some of these properties by DIFT-related activities will cause remediation which will improve the quality of the runoff into surface and subsurface drainage infrastructure, compared to the No Action Alternative.

The effects summarized above are those expected in each of the areas around the intermodal terminals. Broader regional effects are virtually impossible to quantify or locate geographically. But the possibility exists, with or without the DIFT, that the four Class I railroads will make other improvements on their own (like at interlockers discussed in Section 3.4.1) in the Southeast Michigan region. To the extent any of these require environmental clearances, they will be pursued.

It is also important to recognize what effects may occur in one key regional area: wealth distribution/redistribution, which occurs with shifts in population, employment and tax base. Shifts in tax base occur as land is developed for new housing and businesses. Shifts also occur within existing built-up areas as residents and businesses move. Both processes usually result in less taxable property in older communities that have little undeveloped land and room to grow. That is typically the case in southern Oakland County communities, such as Hazel Park and Ferndale and such Wayne County communities as Dearborn.

Market-driven actions and supporting public policy decisions underlie the dynamics of the wealth distribution pattern in the Detroit-centered region. All of these dynamics operate separately from the Action Alternatives. These dynamics include, as cited by SEMCOG in its report entitled *Land Use Changes in Southeast Michigan, Causes and Consequences*, "…residential segregation by race and income, federal tax subsidies for home mortgage interest and property taxes, school funding and quality, crime and public safety, societal ideals of lifestyle and urban design, constitutional protections of private property rights, infrastructure financing policies, and extent of personal vehicle ownership and use."

The DIFT has the ability to respond to this pattern in a positive way. By building on the transportation and industrial strength of the areas in which intermodal terminals function; by making improvements to move terminal traffic out of residential areas; by creating barrier walls that provide terminal security and reduce noise; by paving surfaces that are unpaved; by creating jobs which can be directed to the local areas around the terminals; and, by helping residents be prepared to take those jobs, the DIFT can have greater positive than negative impacts – direct, indirect and cumulative.

The DIFT can also be measured as a positive proposal by using a number of principles of Governor Granholm's Land Use Leadership Council, which promote use of existing infrastructure in communities to create public-private investments to address economic and other quality-of-life issues. These principles are:

- Supporting efforts to make Michigan cities more livable by expediting the reuse of abandoned properties, controlling blight, encouraging private investment, encouraging mixed-use development, improving transportation options, supporting a full range of housing options, and attracting and retaining residents who can contribute to the viability of our urban core areas.

- Making better use of existing public infrastructure by encouraging public and private investment in already developed areas.

- Creating incentives to encourage interagency and intergovernmental cooperation in addressing land use issues and public investments of more than local concern.

- Encouraging private investment in already developed areas by removing governmental barriers and creating incentives.

- Identifying "commerce centers" where infrastructure is already serving relatively dense populations to guide the future investment of state resources to support private investment and development.

1.3.11 Emergency Response Controls

Each of the Class I railroads operating intermodal freight terminals in Southeast Michigan has Emergency Response Plans in place to address transportation incidents involving U.S. DOT-regulated materials (hazardous materials, hazardous substances and hazardous wastes) and oils. These plans prescribe procedures to respond to spill incidents from derailments, leaks, fuel spills, etc.

Regulations governing Emergency Response Plans include OSHA's (the U.S. Occupational Health and Safety Administration) Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements, U.S. DOT's 49 CFR 130, the Oil Pollution Prevention and Response regulations (40 CFR Part 112) and other programs of the Clean Water Act. Components of Emergency Response Plans include pre-emergency planning coordination with local agencies; assignment of personnel, their roles and responsibilities; hazard recognition; specialized personnel training; site security and control; emergency notification procedures; spill response equipment; and, emergency medical treatment provisions.

Spill prevention and response at fixed facilities (including railroad terminals) that store quantities of oil and hazardous materials above threshold amounts are addressed with Spill Prevention Control and Countermeasures Plans (SPCC) and Stormwater Pollution Prevention Plans that have been prepared by the railroads. These plans focus on prevention of releases to streams and other water bodies.

These procedures are part of the No Action Alternative and all Action Alternatives, as well.

1.3.12 Terminal Security

For all Action Alternatives, barrier walls, fencing, other physical barriers, and electronic systems (e.g., sensors, alarms) are part of each Action Alternative to protect areas within an intermodal terminal from unauthorized access. Access controls at points for personnel and vehicles to move through the terminal boundary lines (such as gates, doors, guard stations, and electronically controlled or monitored portals) are also included in each Action Alternative's design. Measures that will enhance these boundaries/access points include:

- Clear areas on both sides of perimeter fencing to facilitate surveillance and maintenance to deny cover to vandals and trespassers.
- Lighting on both sides of gates and selected areas of fencing.
- Closed-circuit television (CCTV) monitoring, particularly of low-traffic gates and maintenance access points that are removed from principal activity areas.
- Signage on certain security boundaries and access points.

VACIS (Vehicle and Cargo Inspection Station) is an X-ray-type device that is able to see into containers/trailers to detect any unusual cargo. VACIS systems are now being installed by each of Canadian Pacific and Canadian National Railroads to screen trains on the Canadian side of the international border before they enter the U.S. Consideration by all DIFT project participants (public and private) will be given to installing a VACIS system at the Livernois-Junction Yard under Alternatives 2, 3 or 4, if an Action Alternative is chosen for implementation. The allocation of cost will be determined at that time.

1.3.13 Terminal Lighting

The CP/Expressway and the CP/Oak terminals are surrounded by railroad tracks, major roadways, industrial properties, and commercial properties. Because of this, no sensitive areas such as residential neighborhoods will be affected by lighting at those terminals. Directional lighting will be used at the CN/Moterm terminal, in areas near the residential neighborhood east of the proposed expansion area in Alternatives 2 and 4, and at the Livernois-Junction Yard near residential areas such as along Cabot, Lawndale, and Trenton Avenues, and the area south of Dix Avenue at the central/east ends of the terminal. Nevertheless, it is noted that lighting will increase at each terminal under Alternatives 2, 3 and 4.

1.3.14 Soils

There are former clay pits near the Livernois-Junction Yard. Areas where structures (e.g., bridges, retaining walls) are built in association with Alternatives 2, 3 and 4 will need to be tested to determine what type of soils/materials were used to backfill the former clay pits. The potential for the existence of contaminated materials causes this need, as defined in Section 4.16.

1.3.15 Energy

Energy will be used to construct an Action Alternative. Fuel savings should be realized in the long term due to improved efficiencies in the movement of freight on rail and reductions of truck traffic on area roadways.

1.3.16 Implementation Cost

Estimated construction costs (in 2004 dollars) are $170 million for Alternative 2, $458 million for Alternative 3, and $436 million for Alternative 4. Right-of-way/property-related costs are estimated to be $98 million for Alternative 2, $125 million for Alternative 3, and $115 million for Alternative 4. Total estimated project implementation costs are $267 million for Alternative 2, $583 million for Alternative 3, and $551 million for Alternative 4. These costs will be borne by both government and the railroads.

1.4 Areas of Controversy

The principal areas of controversy, in addition to issues arising out of right-of-way needs, are impacts to the tax and employment base, impacts to the sustainability of the areas near the terminals, and air quality impacts.

1.5 Permits

For each Action Alternative, construction activities will involve obtaining permits in several areas to ensure appropriate steps are taken to protect existing/remaining resources. Impacts on wetlands will require permits under federal and state law:

Federal

- Executive Order 11990 (Wetland Protection)
- Clean Water Act of 1977, as amended: Section 401, State Water Quality Certification; Section 402(p), National Pollutant Discharge Elimination System, stormwater permit; and, Section 404, related to dredge and fill.

Federal Executive Order 11990 (Wetland Protection) states that when federal funds are used on a project, impacting any wetland (regardless of size) requires that there be no practicable alternative to impacts on that wetland.

Section 401 of the Clean Water Act of 1977, as amended, requires certification from the state's water quality agency (MDEQ) to ensure that the discharge of dredged or fill material complies with the provisions of the Federal Water Pollution Control Act.

Section 402(p) of the Clean Water Act and subsequent regulation under 40 CFR 122.26 requires a National Pollutant Discharge Elimination System Storm Water permit for construction projects that involve land clearing of one acre or greater. The intent of these requirements is to reduce impacts on water quality during and after construction.

State

Michigan Natural Resources and Environmental Protection Act, 1994 PA 451, as amended:

- Part 55, Air Pollution Control
- Part 303, 1979 Goemaere-Anderson Wetland Protection Act

All bituminous and Portland Cement concrete proportioning plants and crushers must meet the requirements of the rules of Part 55 of Act 451. For any portable bituminous or concrete plant or

crusher, the contractor must apply for a permit-to-install or general permit. This permit should be applied for a minimum of 45 calendar days before plant installation with an active MDEQ permit (or 75 calendar days for plants not previously permitted in Michigan).

A Part 303 wetland permit is required for any wetland disturbance, permanent, as well as temporary. At the Livernois Yard, MDOT, through an agreement with the MDEQ, would provide wetland mitigation using a "Moment-of-Opportunity" site allowed under the General Permit Category for Part 303. The Part 303 permit is issued with the Part 301 permit.

Final mitigation measures proposed in areas requiring the above permits will be developed in consultation with the appropriate agencies, and will be included in the design plans and permit application for implementing the project.

1.6 Unresolved Issues

Consultation with the State Historic Preservation Office (SHPO) is ongoing to determine if there will be an adverse effect on the house at 6332 John Kronk (refer to Table 1-5 and Figure 1-16 for identification/location) under Alternative 3 at the Livernois-Junction Yard and to develop mitigation measures for any adverse effects.

1.7 Project Status

The environmental clearance for this project is tentatively scheduled for completion in 2006. After the environmental clearance is completed, final design and right-of-way acquisition could begin, if an Action Alternative were chosen. The EIS and early preliminary engineering portions of the Detroit Intermodal Freight Terminal Study are included in the SEMCOG 2030 Regional Transportation Plan.