3. ALTERNATIVES CONSIDERED

3.1 Alternatives Analysis

In 2003, the NJSEA, NJ TRANSIT and NJDOT conducted an examination of the range of rail access alternatives and alignments to provide passenger rail service to the Meadowlands area sports venues, entertainment development and racetrack destinations.

A range of modal technologies was initially considered for providing rail service including:

- commuter rail using diesel locomotives hauling commuter coaches,
- commuter rail using diesel multiple unit (DMU) vehicles,
- light rail transit (LRT),
- monorail/automated guideway transit (AGT), and
- busway.

This list of modal technologies was screened to select commuter rail as the preferred technology. For this technology, a group of seven alignment alternatives was examined. These conceptual alternatives were developed to a level of detail, including preliminary alignment configurations capital costs and environmental effects. All alternatives assume a new Meadowlands rail station to be located parallel and to the west of NJ Route 120, approximately between Giants Stadium and the Continental Airlines Arena. The section that follows describes the alternatives examined. Alternatives 1 through 7 could use either locomotive-hauled coaches or DMU equipment. Alternative 8, the No-Action Alternative, was also analyzed.

3.1.1 No-Action Alternative

In the No-Action Alternative, the proposed Meadowlands Railroad and Roadway Improvement Project would not be constructed and the primary transportation methods for reaching the Meadowlands Sports Complex would continue to be automobile and bus. The No-Action Alternative assumes existing conditions, plus any committed project. The Meadowlands Sports Complex would consist of the existing Giants Stadium, the Meadowlands Racetrack, the Continental Airlines Arena, ancillary buildings, parking areas and an enclosed pedestrian walkway. The proposed Meadowlands Xanadu Redevelopment Project is a new major entertainment/commercial development project included in the No-Action Alternative, as well as its associated roadway improvements. Under the No-Action Alternative, no other additional facilities or transportation infrastructure would be introduced at the Sports Complex. It would not enable the NJSEA to fulfill the purposes and needs which can be met in a manner that avoids significant adverse impacts on the ecology of the Meadowlands. Therefore, the No-Action Alternative was rejected.

3.1.2 Alignment Alternatives Considered

Alignment alternatives are predicated upon potential locations for the Meadowlands rail station, linking the proposed rail station to the NJ TRANSIT rail system, while still achieving the basic purpose and need for the project.

The location of the alignment must take several site constraints into consideration. The project can be divided into two separate site areas: 1) upland or pre-disturbed areas, and 2) Berry's Creek and tidal wetland areas. The internal traffic circulation, parking and operational requirements of the sports complex limit the area in which the rail alignment could be constructed in upland areas. Each alternative must cross over Berry's Creek at some point and affect tidal wetland areas. The proposed station must also be located so that each of the Sports Complex venues can benefit from the proposed project.

Preliminary evaluation indicates that there are no upland areas that could be utilized to avoid potential impacts to wetlands that do not have other adverse environmental impacts or other consequences, such as economic impacts to existing commercial or industrial operations. The only significant upland areas are existing parking lots or other operational areas associated with the sports complex. Existing transportation infrastructure, which limits rail alignments both from a horizontal and vertical perspective, also surrounds the site.

All of the alignment alternatives involve the same site constraints and constructability issues. The two major issues are: Construction Access and Soil Conditions. The design of the proposed Meadowlands Railroad and Roadway Improvement Project seeks to minimize the footprint of the facility in order to limit wetland impacts. This would be achieved through the use of specific construction techniques including the use of viaduct sections where appropriate. The alignments of the various alternatives are proposed on predominantly existing upland areas to reduce the permanent wetland impacts, however a portion of the alignment would require construction access and construction activity in wetland areas. Use of temporary timber matting could provide a means of vehicle access through the soft soil conditions in the wetlands. Use of the timber matting during construction and its subsequent removal at the completion of construction would not permanently impact the wetland areas. Timber matting can provide a means of traveling adjacent to the construction area to permit the transport of materials and equipment to the site. This method of construction access would also provide working platform areas in the vicinity of viaduct piers. It is anticipated that the wetland permits for the construction of the proposed Project may require restoration of wetland vegetation in the area of the temporary access roadway.

The existing soils through the areas of the alternate alignments exhibit two general conditions. The natural soil condition includes a combination of soft, wet, compressible, organic and inorganic materials. The man-made elements include historic fill. Several of the proposed alignments traverse sites that contain contaminants. There is a probability that the soil under any of the proposed alternatives could contain materials that could require special handling or clean-up provisions during construction. Soil evaluations will be performed during the project to provide detailed information, particularly in final pier and retaining wall locations.

The soil boring information will be used in determining the location and limits of foundation options for the proposed structures. Based on preliminary soils data, pile foundations are anticipated to be used for the piers of the viaduct structure. Depending on the depth of the wet compressible material and any evidence of contamination that is found during the boring operation, the limits and the types of viaduct foundations will be adjusted. The project proposes the utilization of displacement piles that would greatly reduce the amount of contaminated material that would be removed or require treatment. The final selection of the construction methods would consider the overall construction cost as well as the constructability of the system.

Utilizing aerial mapping and wetland inventories, the extent and types of wetlands were located for each alternative corridor. An estimation of the area of wetland disturbance for each alternative was then computed by using a 32-foot right-of-way for the rail alignment and the associated full footprint.

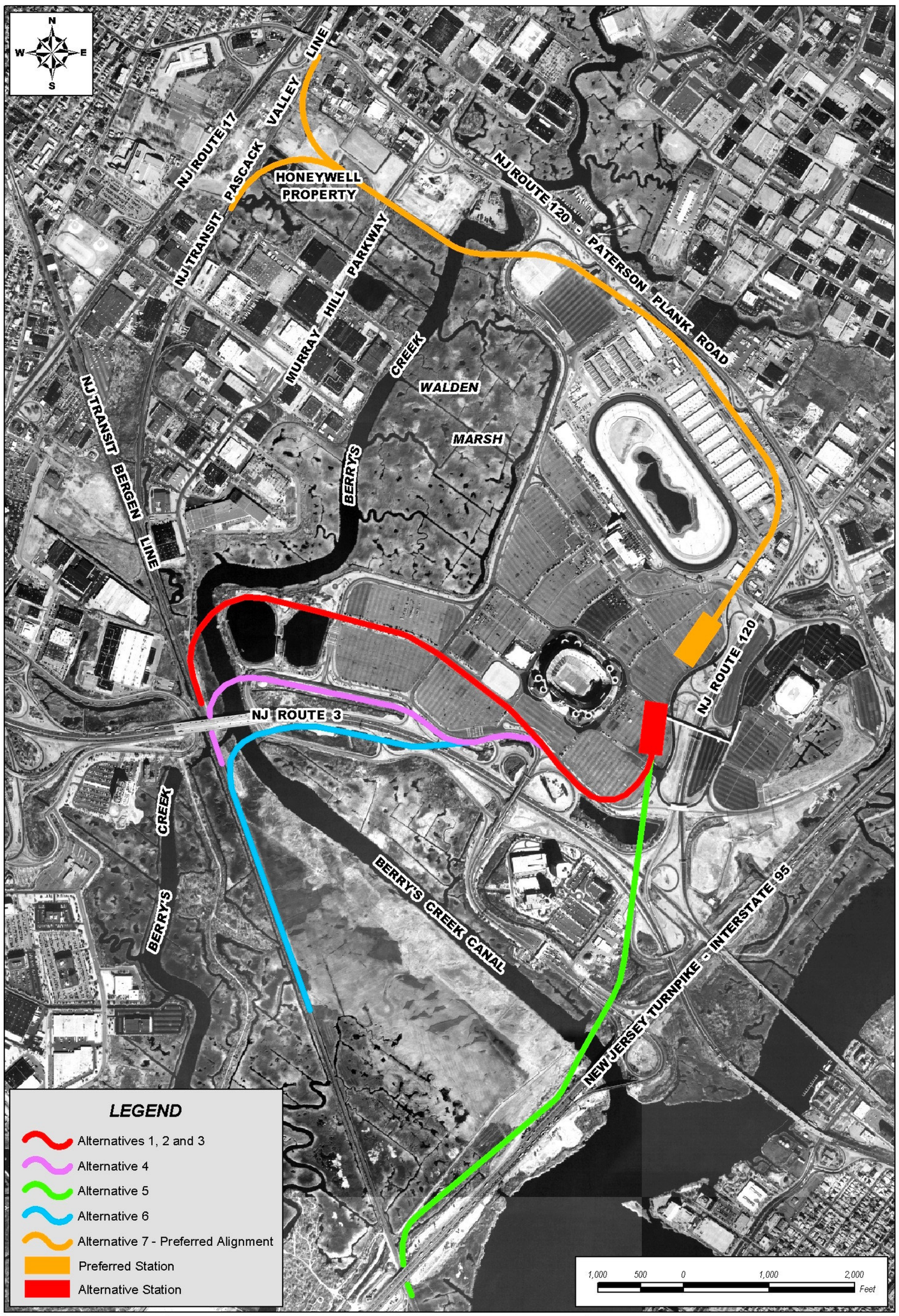
Vertical constraints proposed include maintaining a minimum elevation for the crossing of the Berry's Creek Canal and Berry's Creek as well as NJ Route 3 and the New Jersey Turnpike (NJ Turnpike). The proposed bridge heights were determined by design constraints for the necessary slope to achieve an adequate rail crossing of the waterways. This clearance would require the approval of the US Coast Guard. As discussed during a meeting with the US Coast Guard in October 2004, the vertical clearance would be subject to approval consistent with the General Bridge Act of 1946. The Bridge Permit, along with the other environmental permits required for the project, would be prepared during the final design phase of the Project.

Each alternative proposes the pile/pier supported design alternative would greatly minimize the amount of wetland disturbance. The pile/pier design alternative would also provide the minor impact of shading, depending on the height of the structure and the amount of daylight that is available, rather than the filling of wetlands, which would be required for the construction of slope embankments and retaining walls. The use of concrete piles would also allow for the necessary ecological function of the wetlands such as tidal floodwater storage, sediment and water filtration and the exchange of nutrients.

The location of the proposed station has been determined by two specific constraints: the proximity to existing venues within the Meadowlands Complex (Giants Stadium, the Meadowlands Racetrack and Continental Airlines Arena) and the potential future extension of the alignment to the NJ TRANSIT Bergen County Line. The proposed connection to the Bergen County Line would be addressed as a separate project in the future; however, the station location is required to be sited so as to provide the proper rail alignment to the proposed station from both the Pascack Valley Line and the Bergen County Line.

3.1.3 Description of Alternatives

The following section describes each of the alternatives identified by the NJSEA. Figure 3.1-1 depicts these alternatives and Table 3-1 summarizes the features of these alternatives.



Source: NJDEP Digital Aerial Photography 2002

Edwards and Kelcey

NJSEA

NJ TRANSIT

MEADOWLANDS RAILROAD AND ROADWAY IMPROVEMENT PROJECT
ENVIRONMENTAL IMPACT STATEMENT

FIGURE 3.1-1
ALTERNATIVES CONSIDERED
April 2005

Table 3-1
Meadowlands Rail Alternatives Analysis Summary

ALTERNATIVE	PROPERTY ACQUISITION ACRES (Right-of-Way)	PERMANENT WETLAND IMPACT	ADVANTAGES	DISADVANTAGES
1	**0.5 Acres**	**1.1 Acres**	• Elevated rail alignment would reduce impact to internal traffic circulation and parking; • The alignment would be in mostly upland areas reducing wetland impact.	• Elevated rail alignment and station, EnCap Station and pedestrian bridge modifications result in a high construction cost; • The crossing of Berry's Creek is skewed; • Station location does not provide adequate access to existing and proposed complex venues; • Highest construction cost.
2	**0.5 Acres**	**1.1 Acres**	• Partially elevated rail alignment would reduce impact to internal traffic circulation and parking; • The alignment would be in mostly upland areas reducing wetland impact.	• Elevated rail alignment and station, EnCap Station and pedestrian bridge modifications result in a high construction cost; • The crossing of Berry's Creek is skewed; • Station location does not provide adequate access to existing and proposed complex venues; • Partially elevated rail alignment would require interruption of internal traffic circulation and parking during construction activities.
3	**0.5 Acres**	**1.1 Acres**	• Partially elevated rail alignment and at-grade station minimizes construction cost; • Partially elevated rail alignment reduces impact to internal traffic circulation and parking; • The alignment would be in mostly upland areas reducing wetland impact.	• Elevated rail alignment and station, EnCap Station and pedestrian bridge modifications result in a high construction cost; • The crossing of Berry's Creek is skewed; • Station location does not provide adequate access to existing and proposed complex venues; • Partially elevated rail alignment would require interruption of internal traffic circulation and parking during construction activities.
4	**1.5 Acres**	**2.5 Acres**	• Significant wetland impact; • Alignment borders internal roadway system eliminating construction impacts to internal traffic circulation and parking.	• High Construction costs; • Two water crossings of Berry's Creek; • The alignment and station are required to be fully elevated because of the number and spacing of ramps that the alignment crosses above does not provide adequate space for the alignment to be at grade; • Station location does not provide adequate access to existing and proposed complex venues; • The northern crossing of the Berry's Creek is skewed.
5	**3.5 Acres**	**3.95 Acres**	• Berry's Creek crossing would be able to maintain existing NJ Turnpike crossing of 35 feet; • Perpendicular creek crossing.	• High construction cost; • Substantial wetland disturbance; • The crossing of the Berry's Creek is skewed; • Existing stormwater retention lagoon would be affected; • Station location does not provide adequate access to existing and proposed complex venues.
6	**3.0 Acres**	**3.95 Acres**	• Close to perpendicular creek crossing; • Utilizes upland areas south of creek; • Lowest construction costs and small property acquisition costs.	• High construction cost; • Pier within the median of NJ Route 3; • Substantial wetland disturbance; • The crossing of the Berry's Creek Canal is skewed; • Station location does not provide adequate access to existing and proposed complex venues.
7 (Preferred)	**58.34 Acres**	**1.59 Acres**	• Alignment would be in areas which would have little impact on internal traffic circulation and parking areas; • No impact to perimeter roads NJ Route 120 (Paterson Plank Road); • Most perpendicular crossing of Berry's Creek; • Proposed station is designed to accept Bergen County Line alignment, if pursued in the future.	• Walden Marsh considerations; • Honeywell site contamination issues; • Right of way acquisition of Honeywell parcel(s).

Source: Edwards and Kelcey, 2005

3.1.3.1 Alternative 1

Description

Elevated Rail/Elevated Station – The alignment diverges from the Bergen County Line on an 800-foot radius curve as it passes under NJ Route 3. It crosses to the north of the ponds and continues along the boulevard entrance to the south of the New York Giants' covered practice field. The alignment curves to the south crossing along the southwest corner of the VIP parking area. A curve to the north aligns the new station parallel to NJ Route 120 just inside the parking lot area. The profile for this alternative would be fully elevated and would include an elevated station.

Geometry

The profile provides for 11,800 feet of rail line and has maximum slopes of two percent. This alignment provides less clearance over Berry's Creek than the existing NJ Route 3 bridge due to the constraints of the recently lowered NJ Route 3 Bridge. Furthermore, there is a design constraint because the alignment would have to go under NJ Route 3, which would not permit the required vertical elevation to cross Berry's Creek. The profile of this alignment would be a fully elevated rail alignment and a fully elevated station platform. The rail alignment is designed for a maximum speed of 30 miles per hour.

Environmental Impacts

This alignment would traverse 1.1 acres of tidal wetland areas on both the west and east side of Berry's Creek Canal. Based upon past site investigation data and construction activities, soil and groundwater contamination can be expected. If Alternative 1 is selected a specific wetland mitigation plan would then be formulated with the Army Corps of Engineers and NJDEP during the permit review period.

Construction Cost

The alternative cost would include an entirely elevated rail alignment over existing internal roadways and parking lot areas. There are no property acquisition costs.

Advantages/Disadvantages

Advantages

The alternative is entirely elevated which provides for minimal impact to internal site traffic circulation and parking. The environmental impact would be minimized due to the rail alignment being located in mostly upland areas.

Disadvantages

The elevated rail alignment and station platform contribute to a high construction cost. An interruption to the internal traffic circulation and parking lot can be expected during construction activities. The alignment crossing Berry's Creek is skewed. There is a design constraint because the alignment would have to go under NJ Route 3, which would not permit the required vertical elevation to cross Berry's Creek. The proposed station associated with this alternative would not provide the necessary access to Meadowlands Complex venues. Major cost variables include modifications to the Bergen County Line, the existing pedestrian bridge over NJ Route 120 and parking lots.

3.1.3.2 Alternative 2

Description

Partially Elevated Rail/Elevated Station – The alignment for Alternative 2 is the same as described in Alternative 1. The profile for this alternative would be partially elevated and would include an elevated station.

Geometry

The profile provides for 11,800 feet of rail line and has maximum slopes of two percent. This alignment provides less clearance over Berry's Creek than the existing NJ Route 3 due to the constraints of the recently lowered NJ Route 3 Bridge. Furthermore, there is a design constraint because the alignment would have to go under NJ Route 3, which would not permit the required vertical elevation to cross Berry's Creek. The profile of this alignment would be a partially elevated rail alignment and a fully elevated station platform. The rail alignment is designed for a maximum speed of 30 miles per hour.

Environmental Impacts

This alignment would traverse 1.1 acres of tidal wetland areas on both the west and east side of Berry's Creek. Based upon past site investigation data and construction activities, soil and groundwater contamination can be expected. A specific wetland mitigation plan would need to be formulated with the Army Corps of Engineers during the permit review period.

Construction Cost

The alternative cost includes an entirely elevated rail alignment over existing parking lot areas. The station would also be entirely elevated within an existing parking lot area. There are no property acquisition costs.

Advantages/Disadvantages

Advantages

The alternative is partially elevated which provides for minimal impact to internal site traffic circulation and parking. The environmental impact would be minimized because the rail alignment would be located in mostly upland areas.

Disadvantages

The partially elevated rail alignment and station platform contribute to a high construction cost. An interruption to the internal traffic circulation and parking lot can be expected during construction activities. The alignment crossing Berry's Creek is skewed. There is a design constraint because the alignment would have to go under NJ Route 3, which would not permit the required vertical elevation to cross Berry's Creek. The proposed station associated with this alternative would not provide the necessary access to Meadowlands Complex venues. Major cost variables include modifications to the proposed EnCap Station, the existing pedestrian bridge over Route 120 and parking lot modifications.

3.1.3.3 Alternative 3

Description

Partially Elevated Rail/At-Grade Station - The alignment for Alternative 3 is the same as described in Alternatives 1 and 2. The profile for this alternative would be partially elevated and would include an at-grade station.

Geometry

The profile provides for 11,800 feet of rail line and has maximum slopes of two percent. This alignment provides less clearance over Berry's Creek than the existing NJ Route 3 due to the constraints of the recently lowered NJ Route 3 Bridge. Furthermore, there is a design constraint because the alignment would have to go under NJ Route 3, which would not permit the required vertical elevation to cross Berry's Creek. The profile of this alignment would be a partially elevated rail alignment and an at-grade station platform. The rail alignment is designed for a maximum speed of 30 m.p.h.

Environmental Impacts

This alignment would traverse 1.1 acres of tidal wetland areas on both the west and east side of Berry's Creek. Based upon past site investigation data and construction activities, soil and groundwater contamination can be expected. A specific wetland mitigation plan would need to be formulated with the USACOE during the permit review period.

Construction Cost

The alternative costs include a partially elevated rail alignment over existing parking lot areas. The station would be at-grade within an existing parking lot area. There are no property acquisition costs.

Advantages/Disadvantages

Advantages

The partially elevated rail alignment and at-grade station result in a lower construction cost for Alternative 1 as compared to Alternatives 1 and 2. The alternative is partially elevated which provides for minimal impact to internal site traffic circulation and parking. The environmental impact would be minimized because the rail alignment would be located in mostly upland areas.

Disadvantages

An interruption to the internal traffic circulation and parking lot can be expected during construction activities. The alignment crossing Berry's Creek is skewed. There is a design constraint because the alignment would have to go under NJ Route 3, which would not permit the required vertical elevation to cross Berry's Creek. The proposed station associated with this alternative would not provide the necessary access to Meadowlands Complex venues. Major cost variables include modifications to the proposed EnCap Station, the existing pedestrian bridge over NJ Route 120 and parking lots.

3.1.3.4 Alternative 4

Description

Elevated Rail/Elevated Station – The alignment for Alternative 4 would diverge from the Bergen County Line on a 500-foot radius curve as it passes under NJ Route 3 but to the south of the ponds. It would generally follow the alignment of the Sports Complex perimeter roadway system. The alignment would cross into the Sport Complex parking lot southwest of the tolls area within the infield area of the NJ Route 3 and NJ Route 120 interchange ramp system and continues north to the location of the new station.

Geometry

The profile provides for 10,800 feet of rail line and has maximum slopes of two percent. This alignment provides less clearance over Berry's Creek than the existing NJ Route 3 due to the constraints of the recently lowered NJ Route 3 Bridge. Furthermore, there is a design constraint because the alignment would have to go under NJ Route 3, which would not permit the required vertical elevation to cross Berry's Creek. The profile of this alignment would be a fully elevated rail alignment and a fully elevated station platform. The rail alignment is designed for a maximum speed of 30 miles per hour.

Environmental Impacts

This alignment would traverse 2.5 acres of tidal wetland areas on both the west and east side of Berry's Creek. This alignment would require two separate crossings of Berry's Creek. Based upon past site investigation data and construction activities, soil and groundwater contamination can be expected. A specific wetland mitigation plan would need to be formulated with the USACOE during the permit review period.

Construction Costs

The alternative cost includes a fully elevated rail alignment over existing internal roadways and parking lot areas. The station would be elevated within an existing parking lot area. There are no property acquisition costs.

Advantages/Disadvantages

Advantages

This alternative borders the existing internal roadway system; therefore, there would be minimal impact to internal site traffic circulation and parking. The environmental impact would be minimized because the rail alignment would be located in mostly upland areas.

Disadvantages

The construction cost of this alternative would be high. The proposed alternative exhibits a high wetland impact (2.5 acres). The rail alignment and station are required to be fully elevated because of the number and spacing of ramps that the alignment crosses above does not provide adequate space for the alignment to be at grade. This alignment would require two separate crossings of Berry's Creek. The northern alignment crossing of Berry's Creek is skewed. There is a design constraint because the alignment would have to go under NJ Route 3, which would not permit the required vertical elevation to cross Berry's Creek. The 500-foot radius curve for the crossing of Berry's Creek would require slow operating speeds. The proposed station associated with this alternative would not provide the necessary access to Meadowlands Complex venues. Major cost variables include modifications to the proposed EnCap Station, the existing pedestrian bridge over Route 120 and parking lots.

3.1.3.5 Alternative 5

Description

Bergen County Line Scheme A/Turnpike Alternative – This alignment would diverge from the Bergen County Line on a 546-foot radius curve as it passes under the existing NJ Turnpike Bridge. It would then parallel the NJ Turnpike, rising on viaduct and passing over Berry's Creek Canal. It would continue on viaduct to the proposed new station.

Geometry

The profile provides for 10,000 feet of rail line and has maximum slopes of 1.4 percent. This alignment would provide the required clearance of 35 feet over Berry's Creek Canal. The profile of this alignment proposes a partially elevated rail alignment and a fully elevated station platform. The rail alignment is designed for a maximum speed of 30 miles per hour.

Environmental Impacts

This alignment would traverse 3.9 acres of tidal wetland areas on both the west and east side of the Berry's Creek Canal including Oritani Marsh, a designated HMD Environmental Conservation Area. Based upon past site investigation data and construction activities, soil and groundwater contamination can be expected. A specific wetland mitigation plan would have to be formulated with the USACOE during the permit review period.

Construction Costs

The estimated construction cost for this alternative would be high. This cost includes a fully elevated rail alignment over existing internal roadways and parking lot areas. The alternative would also require structural upgrades to the NJ Turnpike Bridge as the alignment passes under the roadway. The station would be elevated within an existing parking lot area. There would be private property acquisition costs.

Advantages/Disadvantages

Advantages

The crossing of the Berry's Creek Canal would be able to maintain a 35-foot clearance, which is the existing height of the existing NJ Turnpike Crossing.

Disadvantages

The construction costs associated with this alternative are high. This alternative would have a substantial impact on tidal wetland areas associated with Berry's Creek Canal and Oritani Marsh. The alignment would traverse a large area of existing roadway infrastructure and a storm water retention lagoon. The alternative would also require structural upgrades to the NJ Turnpike Bridge as the alignment passes under the roadway. The proposed station associated with this alternative would not provide the necessary access to Meadowlands Sports Complex venues. An interruption to the internal traffic circulation and parking lot would be expected during construction activities. Major cost variables would include modifications to the existing pedestrian bridge over NJ Route 120 and parking lot modifications. There would be private property acquisition costs.

3.1.3.6 Alternative 6

Description

Bergen County Line Scheme B - This alignment would require a new track adjacent to the Bergen County Line 1,000 feet east of the proposed EnCap Station, diverging through a turnout. It would require modification to NJ Route 3 to accept a pier in the median. The alignment would remain out of the parking areas as long as possible before turning north to the proposed new station, using the infield areas of the existing roadway system.

Geometry

The profile provides for 11,300 feet of new rail line and has maximum slopes of two percent. It continues west as a single track to the proposed EnCap Station then rises on viaduct to clear Berry's Creek Canal and curves to the east just south of NJ Route 3. This alignment would provide the required clearance of 35 feet over the Berry's Creek Canal. The profile of this alignment proposes a partially elevated rail alignment and a fully elevated station platform. The rail alignment is designed for a maximum speed of 30 miles per hour.

Environmental Impacts

This alignment would traverse 3.95 acres of tidal wetland areas on both the west and east side of Berry's Creek Canal including Oritani Marsh, a designated HMD Environmental Conservation Area. Based upon past site investigation data and construction activities, soil and groundwater contamination can be expected. A specific wetland mitigation plan would have to be formulated with the Army Corps of Engineers during the permit review period.

Construction Costs

The cost would include new rail alignment construction and NJ Route 3 improvements to accommodate a median pier. The proposed EnCap Station and the existing pedestrian bridge over NJ Route 120 would also need to be modified. The station would be elevated within an existing parking lot area. There are no property acquisition costs.

Advantages/Disadvantages

Advantages

The alternative would have minimal impacts on internal roadways and parking areas.

Disadvantages

The placement of new tracks for this alignment would require the disturbance of a significant amount of tidal wetland associated with Berry's Creek Canal and Oritani Marsh. The construction costs are high due to the proposed improvements to NJ Route 3 and the placement of a pier within the median of NJ Route 3. The alignment crossing the Berry's Creek Canal is skewed. The

proposed station associated with this alternative would not provide the necessary access to Meadowlands Sports Complex venues.

3.1.3.7 Alternative 7 (Preferred Alternative)

Description

Pascack Valley Line Connection/Elevated - This alignment would diverge from the Pascack Valley Line with a "Wye" connection. It would cross Murray Hill Parkway and over Berry's Creek, then would continue to the north of the racetrack, turn to parallel NJ Route 120 and enter the station.

Geometry

The profile would provide for 9,500 feet of rail line and has maximum slopes of two percent. This alignment provides the United States Coast Guard recommended clearance of 23 feet over Berry's Creek, based on the 1929 National Geodetic Vertical Datum (NGVD) system and surveys performed for the Project. The profile of this alignment proposes a fully elevated rail alignment over all wetland areas and is predominantly at-grade in upland areas and through the station area. The rail alignment is designed for a maximum speed of 30 miles per hour.

Environmental Impacts

The alternative would impact 1.6 acres of tidal wetlands associated with Berry's Creek and Walden Marsh. The rail alignment would cross approximately 800 linear feet of wetland and state-regulated open water including Berry's Creek itself between Berry's Creek Road and Murray Hill Parkway. On the west side of Murray Hill Parkway the alignment would continue westward where it would cross approximately 300 feet of wetland as it begins to diverge and form the Wye connection to the Pascack Valley Line. The eastbound alignment of the Wye would cross a predominantly upland area consisting of a vacant industrial site while the westbound alignment of the Wye would pass through nearly 700 linear feet of wetland and state open water before connecting to the Pascack Valley Line. Portions of these tidal wetland areas are located in HMD designated Environmental Conservation Areas. The results of a subsurface evaluation are currently being reviewed to assist in identifying potential contaminated soil disposal and/or construction issues for the proposed rail alignment. A specific wetland mitigation plan would have to be formulated with the USACOE during the permit review period.

Construction Costs

The costs include an at-grade station within an existing parking lot area. There would be acquisition costs for parcels to the west of Berry's Creek known as the Honeywell International (Honeywell) Site.

Advantages/Disadvantages

Advantages

The alignment alternative would utilize areas behind the Racetrack of the Meadowlands Complex, which would not affect internal traffic circulation and parking. There would be no impact to the perimeter roads, in this case NJ Route 120 (Paterson Plank Road). The alternative would optimize NJ TRANSIT rail operations as it would connect into a new PVL rail siding that will be under construction later this year. The alternative would allow for most of the alignment support structure to be at-grade, providing a lower construction cost. The alignment for this alternative would provide the least visual impact to the surrounding area and would have the least impact on NJSEA internal site operations. The new station would be situated to serve each existing and proposed Sports Complex venue efficiently. The crossing of Berry's Creek is the most perpendicular of the seven alignment alternatives and would meet the United States Coast Guard vertical clearance requirements. The station would also be designed to facilitate the future extension of the new tracks to the Bergen County Line, which may be pursued as a separate independent project in the future.

Disadvantages

The alignment would require the traversing of a tidal wetland area to the east of Berry's Creek known as the Walden Marsh. The Marsh has been designated by the NJMC as an area of environmental sensitivity. The Honeywell parcel to the west side of the canal is a known Superfund Site. This would require mitigative measures to be implemented to manage the disposition of any contaminated soils during construction of the rail alignment.

3.1.3.8 No Action Alternative

The No-Action alternative would not create any new potential environmental impacts, but would not provide an enhancement or an improvement of the existing or proposed traffic conditions at the Meadowlands Sports Complex or for future developments.

3.2 Meadowlands Rail Project Value Engineering

In the summer of 2004, the NJDOT conducted a Value Engineering analysis of the proposed Meadowlands Railroad and Roadway Improvement Project. The purpose of the Value Engineering analysis was to examine all elements of the Project for cost-effectiveness. Findings of the Value Engineering analysis included:

- **Alternative Railroad Alignment and Station Location** – NJDOT proposed an alternate alignment through existing parking areas designated as Lots 5, 6, 7 and 8 and an alternate station parallel to and just north of Giants Stadium, in order to decrease impacts to wetlands. This alternate alignment was not recommended as viable as it does not meet the NJSEA's site-specific parking, vehicular and patron circulation requirements. The alternative station was not recommended as this location is undesirable to the NJSEA, the New York Giants and

the New York Jets from an operational and aesthetic standpoint, and does not meet NJSEA's patron accessibility goals relative to existing and future entertainment and sports venues.

- **Elevated Railroad and Signalized Egress from the Sports Complex to Paterson Plank Road** – NJDOT proposed a vertical profile change to elevate the railroad over the Plaza A Service Road. This alternative would include an at-grade intersection with a new signal on Paterson Plank Road to accommodate a double left turn from the Sports Complex site onto Paterson Plank Road Northbound. This alternative would be a lower cost alternative as it replaces a flyover ramp in the previous plan. Based on this proposal, a revised foundation system plan was developed which would permit the railroad to be elevated and still be economically and environmentally feasible. This proposed elevated railroad and signaled egress at the Plaza A Service Road was recommended for inclusion in the project to be advanced.

- **North Connector Road Alignment Shift** – NJDOT proposed a southerly shift in the horizontal alignment of the North Connector Road. This value engineering proposal could somewhat facilitate the staged construction of the North Connector Road, however it would have impacts on parking as it would result in a loss of parking spaces, and would impact the area where buses and park and ride would operate. Implementation of that proposal may not be necessary, but was recommended for further consideration again during final design to determine its viability.

3.3 Preferred Alternative

Alternative 7 – Pascack Valley Line Connection/Elevated using commuter rail (diesel locomotives hauling commuter coaches) was selected for advancement and further analysis. This alternative met the goals established for the project in the most cost-effective manner. Challenges to the implementation of the other alternatives included costs, wetland impacts, NJ Route 3 bridge clearances, Berry's Creek clearances, existing site parking and circulation impacts, need for future new rail stations, property acquisitions, implementation of new type mode/vehicle and vehicle capacity. In addition, the other alternatives did not meet the project's purpose, to provide rail access to all Meadowlands Sports Complex venues.