Anaheim Canyon Station Project Definition Report

Prepared for: OCTA

CH2MHILL

RAILPROS

February 23, 2015

Project Study Report
Anaheim Canyon Station
Olive Subdivision
MP 0.65 to MP 1.35

I certify this Project Study Report was prepared by RailPros, in association with CH2M HILL, based on professional industry standards and the latest available information.

Submitted: _____ Date 2/25/15

Eric Hankinson, P.E.
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Revision	Author	Organization	Date	Description
0	IBI Groups	IBI Group	11/24/09	PSR Issued
1	C. Coffman	RailPros	06/26/14	PSR Revised and Updated
2	E. Hankinson	RailPros	02/23/15	PSR Revised and Updated

Approved: _____ Date 2-26-15

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Approved: _____ Date 2-26-15

Natalie Meeks, Director of Public Works
City of Anaheim

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Appendices

1. EXECUTIVE SUMMARY

Anaheim Canyon Station is the only Metrolink commuter rail station on the Inland Empire-Orange County (IEOC) Line in the City of Anaheim. The Anaheim Canyon Station provides commuters with local and community bus routes, Stationlink rail feeder routes, and Anaheim Transit Network (ATN) shuttle services. A Station Area Map is provided in Exhibit 1. It is located at 1039 N. PacifiCenter Drive in the northeast part of the City of Anaheim. The station is situated within a 100-foot wide right-of-way along the western edge of the PacifiCenter Development in the southwest quadrant of Tustin and La Palma Avenues. The current station consists of one platform with shade structures, benches and ticket vending machines. The City has an exclusive use easement with the adjacent PacifiCenter landowner for parking which includes 100 spaces. The station site also includes four bus bays.

The proposed Anaheim Canyon Station project, as approved to scope and funding by the Orange County Transportation Authority (OCTA) Board of Directors (Board), is being undertaken to meet current transit demand and to provide for growth requirements through 2035 and beyond. Specifically, OCTA proposes to construct a second station track and platform to allow more than one train to serve the station and/or pass through the station area at a time. This will increase the on time performance and safety of the train operations. The project will also include fully ADA compliant improvements to the pedestrian circulation elements at the station.

Existing passenger parking at the station is part of the exclusive use easement between the City of Anaheim and the PacifiCenter. Any future expansion of that parking will be subject to approval by the Pacific Center. A study of options for expansion of parking will be included in this project, and to the extent possible within the existing OCTA Board approved scope and budget expansion elements will be included in the project Previous studies have identified the potential of up to 106 additional spaces. See attached Exhibit 2 for exclusive use area. A new parking study may be required as part of the scope of work to re-assess the parking requirements of the station to meet the commuter demand.

Project Cost

The Project currently has approved funding for up to $20,051,000 as further detailed in Section 7 of this report. Estimated costs assume that no property acquisition will be required. A summary of estimated costs is provided below and a detailed preliminary cost estimate is provided in Appendix A.

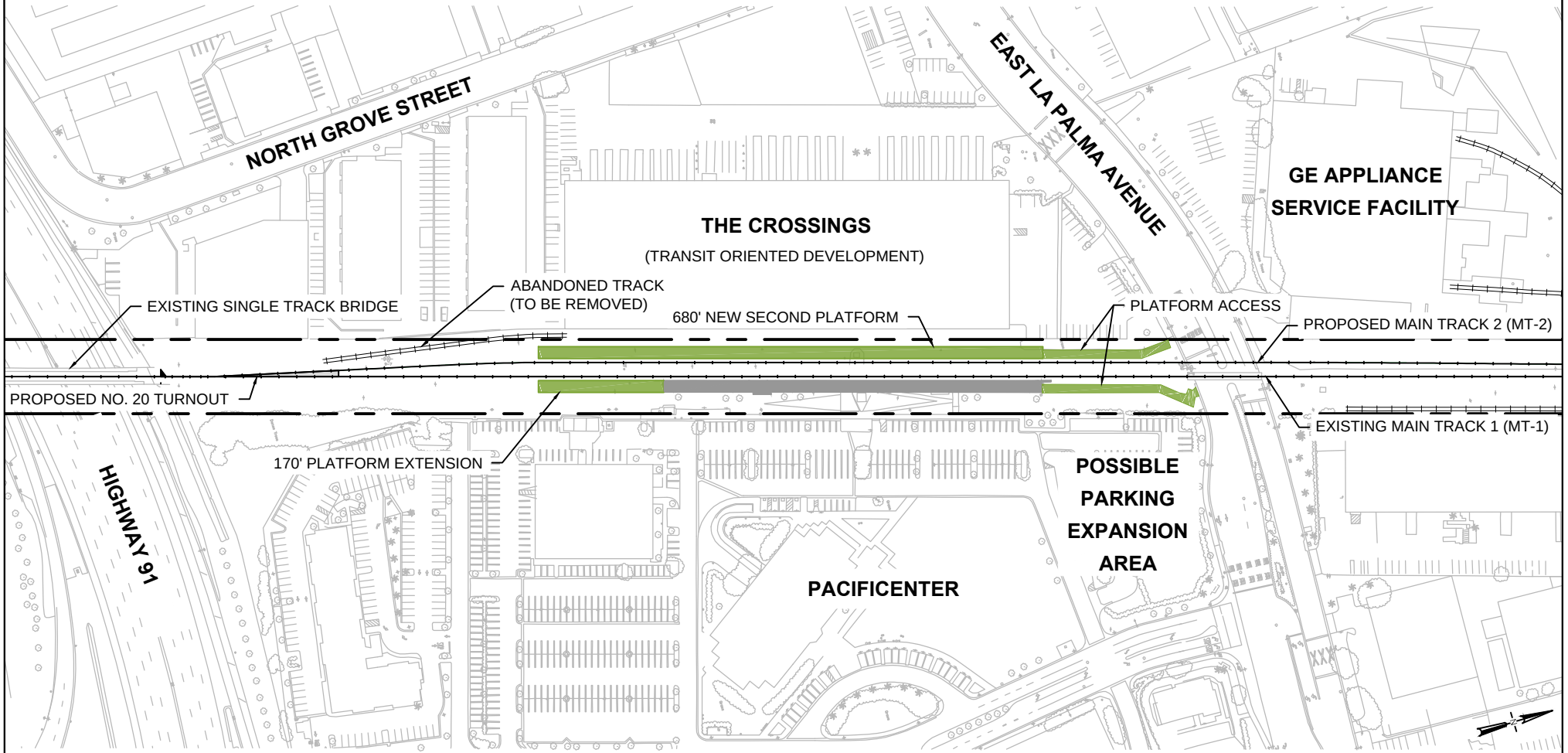
Preliminary Estimate –Double Track and 2nd Platform ***EXHIBIT 1A***

Item	**Total Project**
Project Design and Administration	$2,347,000
Right Of Way Acquisition	N/A
Construction Contract	$13,806,000
Agency Costs During Construction	$3,175,000
Total Estimated Project Cost	**$19,328,000**
Project Contingency/Reserve	$723,000
Total Funded Amount	**$20,051,000**

Summary of Major Project Components

The Anaheim Canyon Station will be a multi-modal transit center that will accommodate expanded Metrolink commuter rail service, OCTA local and community bus service, Stationlink rail feeder service and Anaheim Resort Transit, along with parking facilities. The key elements of the project, which are described in further detail in Section 4, include:

- Construct approximately 3,400 linear feet of new siding track (2nd track) to the west of the existing single track.
- Construct improvements to the existing at-grade crossings of East La Palma and Tustin to accommodate the new 2nd track; including new street improvements, relocation of existing railroad signal warning devices, and installation of pedestrian safety improvements.
- Extend the existing 510 foot long station platform to meet the current required Metrolink standard platform length of 680 feet to allow commuter rail service for train consists of up to eight passenger cars.
- Construct a new 680 foot long second platform and associated facilities on the west side of the tracks.
- Upgrades to parking lot to meet ADA compliance and parking demand as deemed necessary in subsequent studies as part of the scope of work as described herein.
- Study potential surface parking expansion opportunities and implement solutions as feasible to meet commuter needs.
- Review and development of technical memorandum reviewing the options and feasibility of a pedestrian, ADA compliant underpass to facilitate movement between the two station platforms



OCTA

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STATION AREA MAP

AUGUST 27, 2014

ANAHEIM CANYON STATION
PROJECT STUDY REPORT

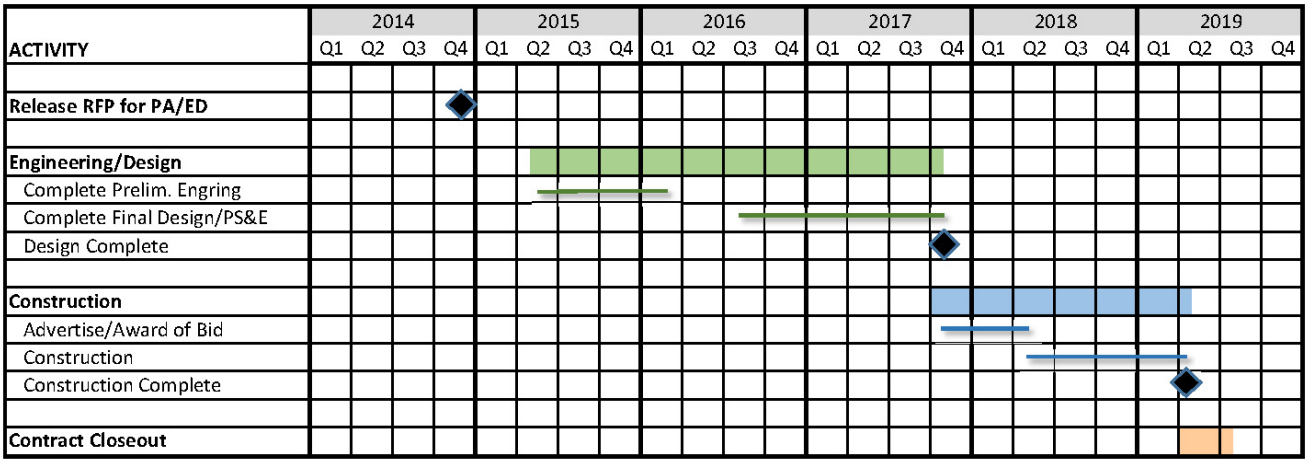
Anaheim, CA

EXHIBIT
1

2. CONCEPTUAL PROJECT SCHEDULE

The following schedule is anticipated for Project:

ACTIVITY	START	FINISH
Release RFP for Project Approval / Environmental Document (PA/ED)	February 2015	N/A
Engineering/Design Preliminary Engineering/Environmental Document (PA&ED) Final Plans, Specifications, & Estimate (PS&E)	 January 2016 August 2017	 October 2016 August 2018
Construction Advertise/Award of Bid Construction	 September 2018 April 2019	 March 2019 April 2020
Project Closeout	April 2020	August 2020



3. EXISTING CONDITIONS

Station and Transit Service

The current station operates with a single track and a single platform - which is 510 feet in length. The existing single track negatively affects reliability in the IEOC corridor. While the single track functions operationally for current levels of service of 8 westbound trains and 8 eastbound trains daily on weekdays, it will not allow for efficient operations with planned additional service of up to 28 commuter rail trains per day. The existing segment of track requires trains to wait outside the limits of the 4.8 mile long single track segment between Control Point (CP) Atwood (at MP 0.00) and CP Katella (MP 4.80), and take turns using the track during train meet and passing movements. This reduces the overall capacity of the system, resulting in increased travel time, reduction of operational flexibility, and resulting in delays to other trains if a train is late. Additionally, the existing single platform does not meet Metrolink's current standard platform length of 680 feet, which allows future station service for train consists of up to eight passenger cars.

Bus and shuttle services to the station are provided by OCTA and the ATN. There are currently two OCTA bus routes that stop at the station including: Routes 410, and 411. The ATN Canyon Shuttle service provides connections to downtown Anaheim seven times a day on weekdays - to correspond with Metrolink southbound trains arriving at the station at 5:50 a.m., 6:22 a.m., 6:58 a.m., 7:44 a.m. and 8:09 a.m. and northbound trains departing the station at 4:24 p.m., 4:36 p.m., 5:20 p.m., 5:55 p.m., and 7:09p.m.

Circulation

Vehicular access to the station occurs either from La Palma Avenue at N. PacifiCenter Drive, which is a signalized intersection; or from Tustin Avenue and N. PacifiCenter Drive, which is also signalized. Tustin Avenue provides access to and from the Riverside (SR-91) Freeway.

Parking

There are currently 149 spaces reserved for Metrolink parking on the PacifiCenter property. Of the existing 149 parking spaces, one hundred (100) of these spaces were granted in an exclusive easement[1] between the City of Anaheim and the PacifiCenter, dated July 15th, 1996. The station parking and access easement was recorded in the County of Orange on August 14th, 1996.

[1] Anaheim Canyon Commuter Rail Station Easement Agreement dated July 15, 1996, between the City of Anaheim and Catellus Development Corporation.
[2] Right of Entry and License Agreement (Parking for the Canyon Commuter Rail Station) dated October 1, 2009 between the City of Anaheim and Anaheim Investors LLC.

On October 1, 2009, a new agreement[2] was entered between the City of Anaheim and the then owners of the PacifiCenter for an additional seventy-nine (79) surface parking spaces for Metrolink users, on a temporary basis. The temporary spaces can be returned to office building use if tenancy rates at the office buildings located in the PacifiCenter increase. It is also noted that this agreement was not recorded so does not run with the land ownership.

The original exclusive easement for parking covers an area indicated on Exhibit 2, Exclusive Use Area. Not all of this area has been improved for parking and is currently a dirt lot. It is the desire of the City and OCTA to include the dirt lot area in this project for improvements including paving, striping, curb and gutter. This will allow the City full use of the 100 spaces in the agreement. Further studies will be needed to confirm if these improvements can be made.

Several parking demand and usage studies have been conducted for the Anaheim Canyon Station with varying results. The future parking demand will be dependent on, not only the level of train service at the station, but also on development that may occur near the station and the addition of a new Metrolink station in the City of Placentia that will service the Riverside County area. The Anaheim Canyon Station has typically been utilized as a destination station verses an origin station where riders drive to in the morning and park their cars. The station does serve a number of “station cars”, vehicles used for last mile commutes to final destination, that are left at the station each night.

Metrolink

Metrolink is planning on expanding service levels. The long-range expansion plan identified by the Southern California Regional Rail Authority (SCRRA), which operates the Metrolink system, is documented in the Strategic Assessment Report.[2]

The IEOC Line serving Anaheim Canyon Station currently operates 16 trains on weekdays (8 southbound, 8 northbound) and 4 trains (2 southbound, 2 northbound) on weekends. The Metrolink Commuter Rail Strategic Assessment Report proposed to increase weekday service to 24 trains by 2015, 26 trains by 2020, and an ultimate service level of 40 trains by 2030. Weekend service would increase to six trains by 2020 and 12 trains by 2030. SCRRA is in the process of completing the 2014 Metrolink 10 Year Strategic Assessment Report which will revise the planned service expansion to provide only 28 trains per day by 2024.

[3] *Metrolink Commuter Rail Strategic Assessment Report* (approved by SCRRA in January 26, 2007 and updated July 25, 2008).

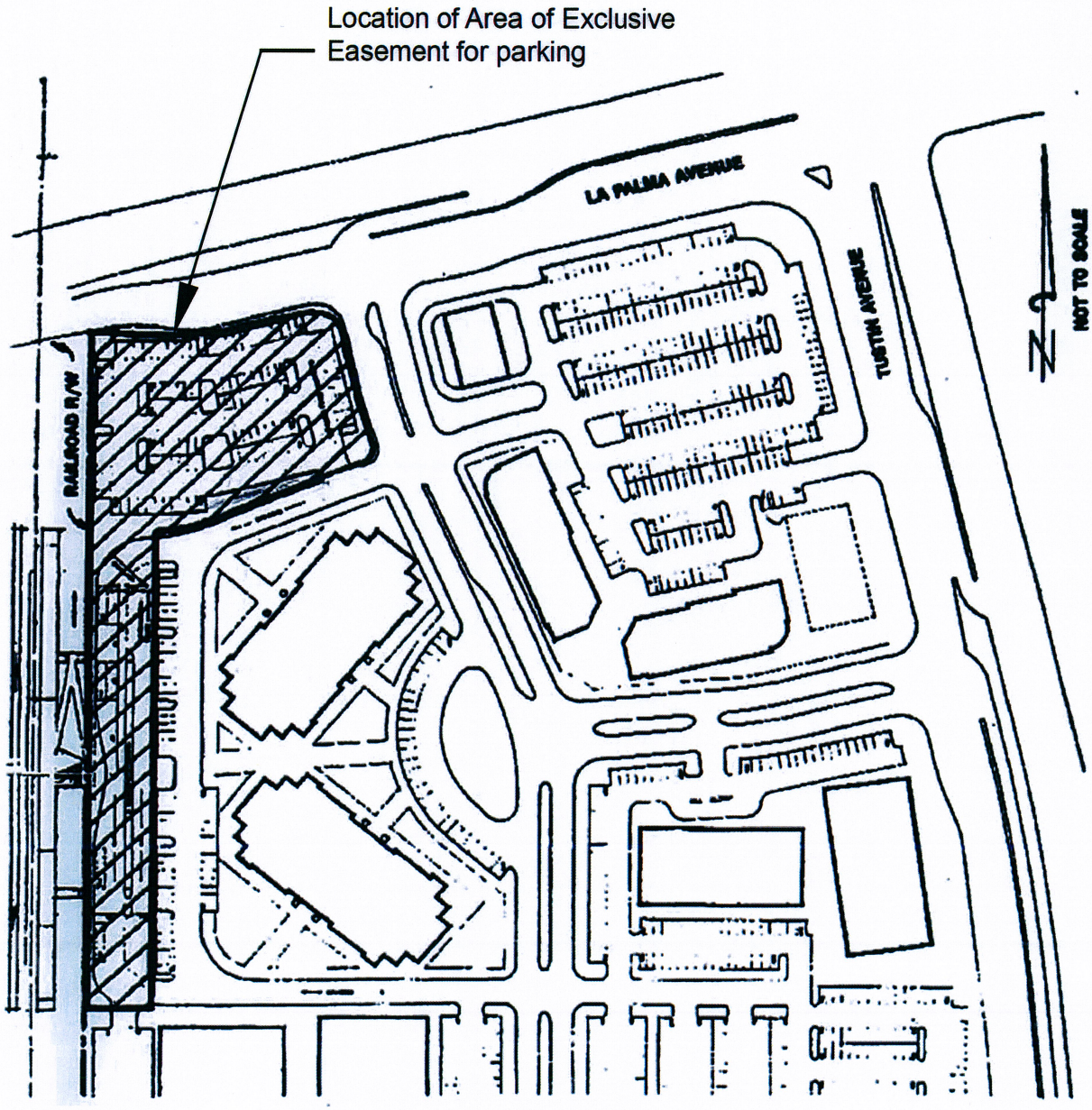


EXHIBIT 2

EXCLUSIVE USE AREA

4. PROJECT SCOPE OF WORK

DESIGN

Prepare design documents for bidding construction as follows:

- Finalize most beneficial track alignment
- Develop 30% Design Plan set
- Develop 60% Design Permit Plan set
- Develop 90% Design Plan, Specifications, and Estimate
- Develop Final Bid ready Design Plans, Specifications, Estimate, and Contract Package

Prepare design reports as follows:

- Alternatives Analysis Report
- Environmental Constraints Report
- An analysis and review of options for an ADA compliant pedestrian undercrossing with a supporting technical memorandum; as feasible, the design effort for the project will incorporate a reasonable option supported by this technical memorandum into the design plans to accommodate for this undercrossing in the future.
- Storm Water Pollution Prevention Plan (SWPPP)
- Water Quality Management Plan (WQMP)

Obtain environmental clearance as outlined in the Environmental Documentation section of this PDR.

CONSTRUCTION

Perform construction of project facilities as follows:

- Construct 3,400 feet of a new second track
- Construct two new Number 20 Turnouts to tie in the new second main track.
- Construct second crossing track and grade crossing modifications at E. La Palma Avenue
- Construct second crossing track and grade crossing modifications at N. Tustin Avenue
- Construct two new control points (one at each end of the new double track)
- Relocate the existing Signal House and Antenna Tower located at the new 2nd Platform site
- Protect in place existing high pressure gas pipeline adjacent to the west right-of-way line
- Modify the railroad signal system to accommodate the new configuration
- Extend the existing platform 170 feet, including lighting, message sign, a mini-high platform, and a (matching) canopy.
- Construct a new 680 foot long west platform including lighting, ticket vending and validation machines, changeable message signs, two mini-high platforms, decorative (colored) concrete, and canopies and facilities matching the existing platform.
- Modify the GE Appliance Service facility lead track connection in order to accommodate the new second main track (scope of modifications dependent upon alignment alternative selected).

- Modify, extend protection casings, and/or relocate any impacted utilities (at the grade crossing improvement locations).
- Construct various other ancillary civil and track improvements
- Construction scope will be modified through the design effort to include expansion of additional parking spaces using available right of way and approved by PacifiCenter as supported by the study of feasible options to expand parking to meet the demand.

5. PROJECT DETAILS

The Anaheim Canyon Station expansion and associated second main track improvements will increase the railroad operating reliability and capacity, and improve rail travel time. By adding a second track, the project would eliminate the need for trains to wait to enter the Station area or to pass a train stopped at the Station. This project will provide a second station platform and expansion of the station facilities as necessary to support the growth of commuter rail service through 2035 and beyond.

The project will benefit transportation and circulation within the surrounding freeway corridors (including but not limited to the I-5 Freeway, 91 Freeway, 57 Freeway and 55 Freeway). The project is expected to have overall positive operational impacts on regional air quality. Improving rider satisfaction, reliability and reducing travel times encourages train ridership and thereby reduces the number of vehicles that might otherwise travel on the roadway system.

This project will have the following positive benefits for the provision of rail service:

- Improve Operational Reliability – Schedule reliability on the IEOC Line will be improved by the provision of the new second track. The double track section will allow two trains to serve the Station at a time and will allow trains to make passes without the need for stopping; thereby improving schedule reliability by reducing delays.

- Improve Air Quality - The project will benefit transportation and circulation within the surrounding freeway and roadway system by improving public transit facilities and by facilitating interstate commerce. Providing alternate methods of transportation for both people and goods encourages the reduction of vehicles that might otherwise travel on the roadway system, reducing vehicular exhaust.

- Increase Capacity – The passing track will provide both train dispatchers and operations planners with additional train routing options as compared to the current configuration. This will result in a greater ability to meet changing operational requirements as they occur during day-to-day operations.

Additional Project details are included in the Concept Station and Double Track Alignment Plans (Appendix B). Each major project component is discussed in detail below:

New Second Main Track

A new second main track of approximately 3,400 feet in length will be constructed to serve as a station siding/passing track. A No.20 Turnout will be constructed at MP 00.70 (just south of Miraloma Avenue and the Sunny Delight tanker storage spur) to serve as the control point at the north end of the double track. A No.20 Turnout will be constructed at MP 01.35 (just north of the single track railroad bridge over the 91 Freeway) to serve as the control point at the south end of the double track. Track spacing will be at 19 foot track centers within the station area to allow construction of 780 feet of inter-track fencing. Track will be constructed at standard 15 foot track centers at the remaining double track to be constructed north of the station area.

If there were no project constraints, constructing the new second track parallel to the existing track without any curves would be the preferred design. However, there are two major site constraints on the west side of the existing track. The first site constraint is the existing Sunny Delight tanker storage spur, north of Tustin Avenue Grade Crossing, which is approximately thirty feet from the existing track and roughly 5 feet lower. The second main track could be constructed at 15 foot track centers between the existing main track and the spur; but it would require a retaining wall between the two tracks which adds significant expense to the construction cost. The second site constraint is the GE Appliance Service facility industrial lead (GE lead), which is constructed with an extremely tight curve 65 feet long that immediately abuts a turnout for the two warehouse tracks, which also have extremely tight curves. Constructing the new second track to the west of the existing track at this location would either require:

- Closing of the GE lead or;
- Closing of one of the warehouse tracks to allow removal of the associated turnout or;
- Complete realignment of the warehouse tracks (if possible) or;
- Acquisition of a portion of property to the north of the GE Appliance Service facility to allow relocation of the lead track.
- Exposing the Project to the risk of discovery of PCB contaminated soils underneath and surrounding the warehouse tracks to be relocated.

The current proposed alignment design is to construct a portion of the new second track to the east of the existing track (from the north end of the double track to the location of the GE lead); and construct the portion of the track south of the GE lead to the west of the existing track. This requires adding curves to the track alignment, but eliminates impacts to the GE lead, avoids additional risk of encountering hazardous materials, and eliminates the need for the additional retaining wall.

Track alignment alternatives will be evaluated in further detail during preliminary design and alternatives analysis for the Project. We confirmed that the alignment described above is feasible for design criteria of 50mph Passenger Rail / 40mph Freight Rail. Concept plans for the proposed alignment are provided in Appendix B.

In order to connect to the location of the new second platform at the station, the new track alignment must be constructed through an area where the soils were previously remediated due to Polychlorinated Biphenyls (PCBs). The area was fenced off in 2009 and remediated. However, a fifty (50) foot long by ten (10) foot wide parcel was not remediated due to its proximity to an existing underground high pressure natural gas pipeline. A legal description of the contaminated parcel and drawing exhibit showing both the parcel and fenced area are included in Appendix E. The proposed alignment will not be constructed through the contaminated parcel. However, the alignment will be constructed on top of the previously remediated soils. As an additional measure to reduce the risk of disturbing any unknown existing contamination, the project will be designed with no excavation of soils within the previously remediated area.

Extension of Existing Platform and Construction of a New Second Platform

The existing 570' station platform will be extended to the south by 170' for a total of 680'. This will allow for planned future use of train consists of up to 8 passenger cars. Access to the platform will remain at the current location with parking area connection ramps and stairs near the center of the platform and connection to East La Palma Avenue at the north end of the platform. A new mini-high platform will be constructed near the south end of the platform extension to allow ADA access at either end of the train in order to provide for future operational requirements.

A new 680' long commuter rail platform will be constructed on the west side of the main tracks. It will include lighting, ticket vending, changeable message signs, two mini-high platforms, decorative concrete, and canopies and facilities matching the upgraded existing platform. The existing signal & communications shelter and antenna tower will be relocated prior to construction of the new second platform. This will require installation of a new, operational signal shelter and antenna at the new location prior to disconnection of the existing facilities in order to avoid disruptions, delays, and potential positive train control (PTC) impacts to commuter rail service.

Improvements to At-Grade Crossings of East La Palma Avenue and Tustin Avenue

Improvements to the at-grade crossings will be constructed for the second track at both East La Palma Avenue and at Tustin Avenue. Required improvements include:

- New concrete grade crossing per SCRRA Standards;
- Relocation of all existing crossing warning devices, and pedestrian safety improvements impacted, civil improvements, signage and striping on the side of the crossing that the new track is constructed;
- Modification, steel casing extension, or relocation as appropriate for any impacted underground utilities.
- Modifications to the railroad signal system

Upon completion of the Project, Quiet Zone Status will be maintained at the La Palma Avenue and Tustin Avenue grade crossings.

Pedestrian Access to East La Palma Avenue and Parking Lot

In order to facilitate access to the station for pedestrians from La Palma Avenue, pedestrian walkways will be constructed at the north ends of each platform. These walkways will extend to the sidewalk located on the south side of E. La Palma Avenue.

Additional pedestrian access from the north end of parking lot to the existing platform will be included in the project.

The walkways will adhere to ADA standards. This will connect to the planned "Anaheim Canyon Metrolink Station Pedestrian Connection Project"[3], which includes pedestrian improvements along East La Palma Avenue between Kraemer Boulevard and North Tustin Avenue; and along Grove Street to Kaiser Hospital.

Existing High Pressure Natural Gas Pipeline

Southern California Gas Company owns a regional high-pressure gas main (36" diameter) that is located within the rail right-of-way, five feet to the east of its western boundary. The related easement is ten feet wide. It is not anticipated that this facility will be impacted under the current proposed concept design. The loading on the pipe will need to be calculated and a technical memo of the recommendations will be prepared.

The crossing warning devices for eastbound E. La Palma Avenue (two flashing light signal and gate arm assemblies with an additional flashing light cantilever assembly over the roadway) will be designed and constructed to be at least 5 feet clear of the edge of the high pressure gas pipeline right of way. Preliminary site measurements show that the relocated warning devices would be in conflict with the gas pipeline if the standard 15 foot offset from the centerline of the new track were used. The warning devices will need to be designed to be constructed further to the west (approximately 10 feet). Final exact placement of the devices will be confirmed during project design based on site surveys, potholing, and site measurements.

There is also an unrelated 4 inch natural gas line located at the E. La Palma Crossing that runs parallel to the south curb line and possibly to under the proposed location of the warning devices. As-built utility plans and previous site mark-outs for the 4 inch gas line are conflicting; it is unclear whether this line will need to be relocated or can be protected in place. This utility should be included for location as part of the potholing effort during project design.

[3] Refer to Engineering Report for Anaheim Canyon Metrolink Station Pedestrian Connection Project (August 28, 2009) prepared for the City of Anaheim Department of Public Works.

Contaminated Soil

As outlined earlier in this report, there is an area where the soils were remediated due to contamination with Polychlorinated Biphenyls (PCBs). The area is located north of La Palma Avenue (adjacent to the G.E. Facility) between the west right-of-way line and the existing main track. The area was fenced off in 2009 and remediated. However, a fifty (50) foot long by ten (10) foot wide parcel was not remediated due to its proximity to an existing underground high pressure natural gas pipeline. A legal description of the contaminated parcel and drawing exhibit showing both the parcel and fenced area are included in Appendix E.

Bus Bay Requirements

There are existing bus bays in the station area that serve Orange County Transportation Authority (OCTA) Station Link routes 410 and 411. Anaheim Transportation Network (ATN) also operates a rail feeder service on weekdays from the station to downtown Anaheim. The existing bus bays will remain in place; but improvements to the path of travel to the platforms will need to be made to bring the project into current ADA compliance.

Right-of-Way Requirements

Relocation of the crossing warning devices at grade crossings (both E. La Palma Avenue crossing and N. Tustin Avenue crossing) will require the warning devices to be placed on the City of Anaheim street right-of-way (outside of the OCTA right-of-way). This is not uncommon, and can be performed with an easement agreement between the City and OCTA and/or supplemental language in the Construction and Maintenance Agreement for the crossings. This should not have any impact to environmental document requirements to the project as long as the warning devices are placed within the existing transportation/street right-of-way (no outside property acquisition required).

Other than placement of the warning devices described above, no permanent easements, or right-of-way acquisition is anticipated for the Project based on the current design. Temporary construction easements may or may not be needed.

6. PROJECT FUNDING

OCTA and the City of Anaheim have worked closely with its state and federal partners to secure $20.051 million in funding for project implementation. The exhibit below provides a summary of the funding sources.

Funding Source	Phase[1]	Funding Amount
CMAQ[2]	Design[3]	$2,250,000
FTA Section 5337	Construction	$2,001,000
CMAQ[2]	Design/Construction	$15,800,000
Total		**$20,051,000**

1. The OCTA board approved the project funding without assigning amounts to a particular phase
2. Congestion Mitigation and Air Quality (CMAQ) Improvement Program
3. Transferred from the Federal Highway Administration (FHWA) to the Federal Transit Administration (FTA)

Potential funding sources for further consideration are:

- **Federal.** Additional discretionary or formula grant funding may be available through the Federal Transit Administration (FTA), Federal Railroad Administration (FRA), or Federal Highway Administration (FHWA). To date, federal sources identified for the Project include, FTA Section 5337 and Congestion Mitigation and Air Quality (CMAQ) Improvement Program funding. Additional federal funding could be made available in the future as determined on an ongoing basis, either through formula or discretionary funding.

7. ADDITIONAL REQUIRED STUDIES

Architectural / Engineering Design

Following the Project Definition Report and programming of funding, OCTA will prepare a Request for Proposal (RFP) and hire a design consultant to develop the Project through final design (including approval of permits and environmental documentation). Coordination and approval will be required with the City of Anaheim and Metrolink.

Environmental Documentation

This project will follow the Federal process for environmental permitting as described under the National Environmental Policy Act (NEPA) if Federal Funding is used. It is anticipated that the Federal environmental document would be a Categorical Exclusion (CE) prepared under the National Environmental Policy Act (NEPA). If for some reason the project requires construction outside the railroad right of way or requires property acquisition, an Environmental Assessment may be required. However, the federal lead agency would ultimately make the final determination of which NEPA environmental document would be required.

The project will also be subject to environmental clearance under the California Environmental Quality Act (CEQA). OCTA will be the CEQA lead agency for the project. It is anticipated that the CEQA environmental clearance will be a CE. However, If for some reason the project requires construction outside the railroad right of way, requires property acquisition or otherwise would create significant impacts, preparation of a CEQA Initial Study/Negative (or Mitigated) Declaration would be required.

The objective of the environmental scope of work will be to allow environmental clearance of the proposed station project under CEQA and NEPA.

A number of technical studies will need to be undertaken with respect to the NEPA and CEQA documentation, including:

- **Air Quality Analysis**. This will be undertaken in accordance with Transportation Project Level Carbon Monoxide (CO) Protocol, the EPA's fugitive dust conformity rule, and South Coast Air Quality Management District (SCAQMD) CEQA Handbook air quality guidelines. An evaluation of the project's impact to long-term particulate matter concentrations (PM2.5 and PM10) and mobile source air toxics, and construction-related emissions will also be quantified. The change in regional air quality emissions will need to be quantified. A discussion of the impacts of the project on climate change (greenhouse gas analysis) should also occur. Compatibility of the project with the Regional Transportation Plan (RTP) and Federal Regional Transportation Improvement Program (FRTIP) will also occur. The "Conformity Analysis Documentation for Project-Level Conformity Determinations in Metropolitan Nonattainment/Maintenance Areas" required for NEPA will be undertaken.

- **(Biological) Natural Environment Study Report (NESR).** Biological resources studies for the proposed project will be conducted in accordance with appropriate city, state and federal guidance to satisfy the requirements of CEQA and NEPA.

- **Cultural and Paleontological Resources.** This will be completed per appropriate City, State and federal guidelines.

- **Geotechnical Investigation.** A geotechnical report should be prepared to review available subsurface data within the project area. If this does not exist, field exploration should be performed to collect soil samples through borings for laboratory testing. Results will be used to develop geotechnical recommendations for the proposed improvements for site preparation and grading, and retaining wall design.

- **Hazards and Hazardous Materials.** A Phase 1 Environmental Site Assessment (ESA) may need to be performed in accordance with ASTM 1507-05, to investigate hazardous waste.

  There is an existing site contaminated with Polychlorinated Biphenyls (PCBs) that is located within the Project footprint. The area was fenced off in 2009 and remediated. However, a fifty (50) foot long by ten (10) foot wide parcel was not remediated due to its proximity to a high pressure gas line. A legal description of the contaminated parcel and drawing exhibit showing both the parcel and fenced area are included in Appendix E. A technical memorandum is included in Appendix F that details the remediation and testing of soils in the contaminated area and describes the contaminated parcel that was not remediated.

- **Hydraulics and Hydrology Report.** This will estimate the amount of runoff from the new track facilities and new platform facilities and determine how runoff should be handled.

- **Water Quality Assessment.** Runoff estimates and a determination of needed storm water treatment facilities will be identified through the Hydraulics and Hydrology Studies to evaluate the effect on water quality.

- **Storm Water Pollution Prevention Plan**. A plan to prevent storm water pollution will describe site operators best management practices to prevent storm water contamination, control sedimentation and erosion, to comply with requirements of the Clean Water Act.

  Water Quality Management Plan. The WQMP shall be prepared in conformance to the requirements of Section 7 “New Development/Significant Redevelopment” of the Orange County 2003 Drainage Area Management Plan. The City of Anaheim is in the Santa Ana Region.

- **Noise and Vibration.** This analysis will take into account residential sensitive receptors at the Crossings as well as future residential development planned on the PacifiCenter site. Noise and vibration analysis will follow Federal Transit Administration (FTA) protocols for estimating impacts. Mitigation measures will be identified as appropriate.

- **Traffic Impact Study.** A traffic impact study will be prepared consistent with City of Anaheim guidelines and the requirements of CEQA and NEPA (including a parking study).

- **Community Impact Assessment/Environmental Justice (NEPA Only).** This will be prepared in accordance with federal guidelines and will evaluate the station project's socioeconomic impacts using current demographics and assessor parcel information. A statement will be included identifying no potential impacts related to environmental justice.

California Environmental Quality Act, Initial Study/Negative Declaration

The following tasks will be required related to an Initial Study/Negative (or Mitigated) Declaration (if required):

- Administrative Draft Initial Study/ Negative Declaration
- Second Administrative Draft Initial Study/Negative Declaration
- Public Review Draft Initial Study/Negative Declaration
- Responses/ Final Initial Study/ Negative Declaration
- Mitigation Monitoring and Reporting Program
- CEQA Notices (Notice of Completion, Notice of Intent, Notice of Determination)

National Environmental Policy Act, Environmental Assessment (EA)

The following tasks will be required related to the EA:

- Voluntary Scoping Process
- Prepare Administrative Draft EA
- Prepare Second Administrative Draft EA
- Prepare EA for Approval to Circulate (One Copy for Signature)
- Response to Comments
- Prepare Draft FONSI
- Prepare Final FONSI

Project Estimate Summary - Anaheim Canyon Station PDR

Double Track and 2nd Platform

Revised: September 03, 2014 **Estimated By: C.Coffman**

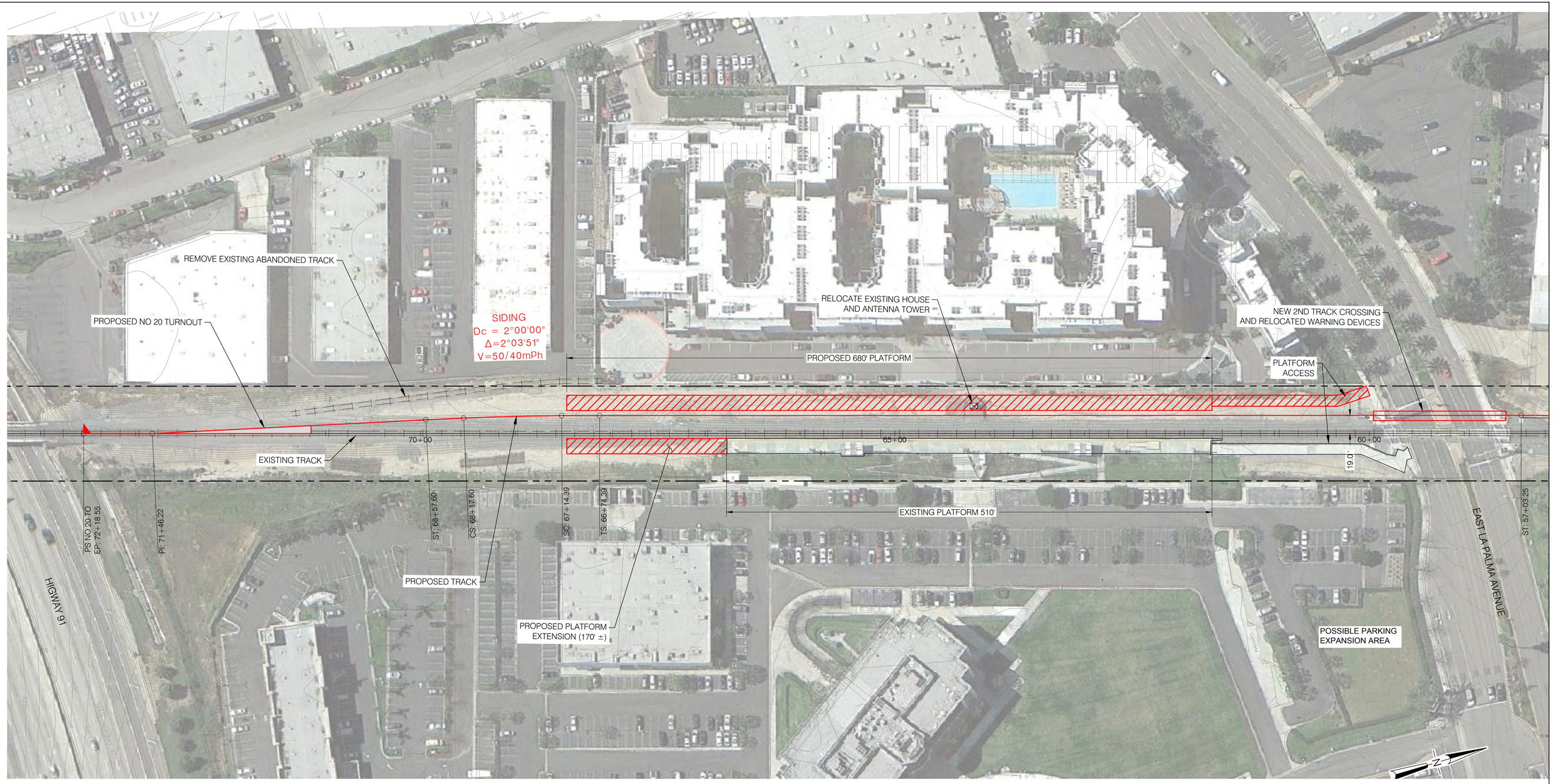
Item	Quantity	Unit	Unit Price	Amount	Subtotal
DESIGN					
Agency Management & Admin. During Design	4.00%	x	CCE	$ 552,200	
Civil Design & Design Support	10.00%	x	CCE	$ 1,380,600	
Signal &Comm. Design & Design Support	3.00%	x	CCE	$ 414,200	
				DESIGN TOTAL	**$ 2,347,000**
RIGHT OF WAY					
Property Acquisition	0	Acre		$ -	
				RIGHT OF WAY TOTAL	**$ -**
CONSTRUCTION CONTRACT ESTIMATE					
				CONSTRUCTION CONTRACT ESTIMATE (CCE)	**$ 13,806,100**
AGENCY CONSTRUCTION COSTS					
OCTA Management and Admin. During Constr.	2.00%	x	CCE	$ 276,100	
Construction Management	15.00%	x	CCE	$ 2,070,900	
Flagging Services	6.00%	x	CCE	$ 828,400	
				ANCILLARY CONSTRUCTION COSTS	**$3,175,400**
				SUBTOTAL PROJECT COST	**$19,328,500**
Project Reserves/Contingency	5.23%	x	CCE	$ 722,500	
				PROJECT RESERVES/CONTINGENCY	**$722,500**
TOTAL PROJECT COST ESTIMATE					**$20,051,000**

Construction Cost Estimate - Anaheim Canyon Station PDR

Double Track and 2nd Platform

Revised: September 03, 2014 **Estimated By: C.Coffman**

Item	Quantity	Unit	Unit Price	Amount	Subtotal
CONSTRUCTION					
General					
SWPPP Compliance	1	LS	$75,000	$ 75,000	
Track/Platform Embankment Fill	3,500	CY	$25	$ 87,500	
Landscaping and Irrigation (station platforms)	1	LS	$100,000	$ 100,000	
Subtotal					$262,500
Trackwork					
Construct Track, 136# CWR on Conc. Ties	3000	TF	$270	$ 810,000	
New No. 20 Power Operated Turnout	2	EA	$320,000	$ 640,000	
Shift Existing Track	1,200	TF	$45	$ 54,000	
Remove and Salvage Track	500	TF	$20	$ 10,000	
Remove and Dispose Abandoned Track	600	TF	$15	$ 9,000	
Subtotal					$1,523,000
Station Parking Expansion					
Demolition (also includes R/M 50,000 SF Asphalt)	1	LS	$40,000	$ 40,000	
Civil Surface Improvements (curb, gutter, etc)	1	LS	$55,000	$ 55,000	
ACP Parking Area (also includes signage and striping)	80,000	SF	$4.00	$ 320,000	
Drainage Improvements	1	LS	$125,000	$ 125,000	
Landscape and Irrigation	1	LS	$100,000	$ 100,000	
Subtotal					$640,000
Grade Crossings					
Grade Crossing, Std Plan ES4201 (La Palma)	131	LF	$2,500	$ 327,500	
Roadway & Ped. Improvements (La Palma)	1	LS	$75,000	$ 75,000	
Utilities Protection and Modification (La Palma)	1	LS	$100,000	$ 100,000	
Grade Crossing, Std Plan ES4201 (Tustin)	147	LF	$2,500	$ 367,500	
Roadway & Ped. Improvements (Tustin)	1	LS	$75,000	$ 75,000	
Utilities Protection and Modification (Tustin)	1	LS	$100,000	$ 100,000	
Subtotal					$1,045,000
Track Signal and Communications					
New Control Point at MP 0.70	1		$1,300,000	$ 1,300,000	
New Control Point at MP 1.35	1		$1,300,000	$ 1,300,000	
Relocate Xing Equipment and Cantilever (La Palma)	1		$300,000	$ 300,000	
Relocate Xing Equipment and Cantilever (Tustin)	1		$300,000	$ 300,000	
Replace Signal/PTC House and Antenna Tower	1		$1,200,000	$ 1,200,000	
Subtotal					$4,400,000
Existing (East) Platform Improvements					
Station Platform Extension (170')	2720	SF	$35	$ 95,200	
Mini-High Platform	1	EA	$25,000	$ 25,000	
Canopy	1	EA	$120,000	$ 120,000	
Comm & Security	1	LS	$60,000	$ 60,000	
Lighting	1	LS	$16,000.00	$ 16,000	
Site Furnishings, Railing, Signage	1	LS	$8,000.00	$ 8,000	
Subtotal					$324,200
New (West) Station Platform					
Station Platform (16' x 680')	10880	SF	$35	$ 380,800	
Platform Retaining Wall (approx. 5' height)	700	LF	$300	$ 210,000	
Mini-High Platform	2	EA	$25,000	$ 50,000	
Canopy	4	EA	$120,000	$ 480,000	
Ticket Equipment, Comm System, & Security	1	LS	$300,000	$ 300,000	
Site Furnishings, Railing, Signage	1	LS	$150,000	$ 150,000	
Lighting and Electrical System	1	LS	$96,000	$ 96,000	
				$ -	
Subtotal					$1,666,800
Base Construction Estimate (BCE)					**$9,861,500**
Contractor Mobilization	7.50%	x	BCE	$ 739,600	
Contractor Demobilization	2.50%	x	BCE	$ 246,500	
Contingency	30%	x	BCE	$ 2,958,500	
Subtotal					$3,944,600
CONSTRUCTION COST ESTIMATE (CCE)					**$ 13,806,100**



SHEET 1 OF 3

OCTA

RAILPROS
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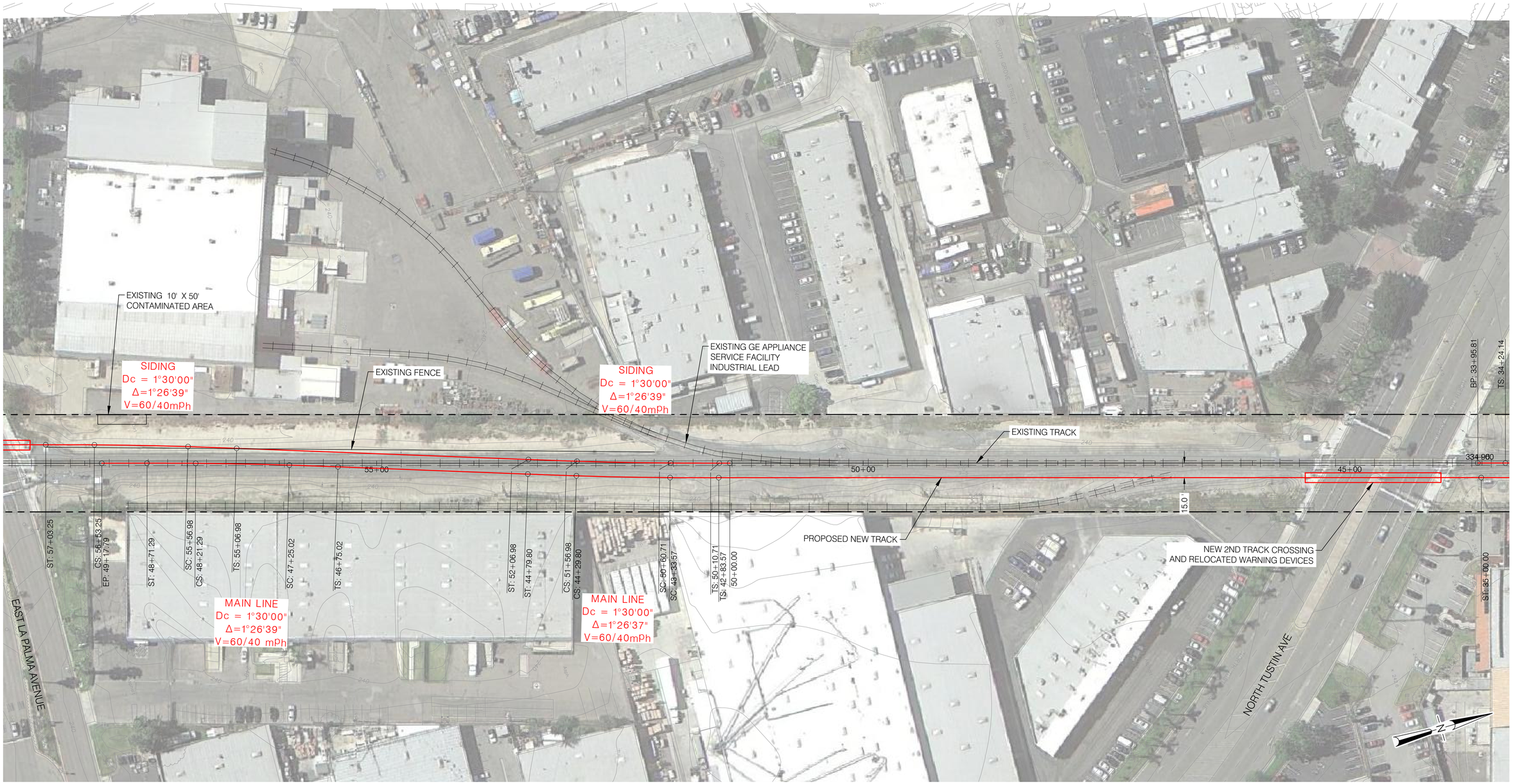
www.railpros.com

STATION EXPANSION AND TRACK ALIGNMENT CONCEPT PLANS

June 26, 2014

APPENDIX

B



SHEET 2 OF 3

OCTA

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STATION EXPANSION AND TRACK ALIGNMENT CONCEPT PLANS

June 26, 2014

APPENDIX

B

SIDING CONNECTION
Dc = 1°00'00"
Δ=0°53'30"
V=50/40mPh

PROPOSED No 20 TURNOUT

SUNNY DELIGHT FACILITY
TANKER STORAGE SPUR

EAST LA MIRALOMA AVENUE

SC: 34+74.14
CS: 35+63.29
ST: 36+13.29
PI: 38+08.10
PS No 20 TO
38+90.43

35+00
36+00
37+00
38+00
38+80
35+00
30+00

CS: 34+50.00
SC: 33+52.68
TS: 33+02.68

MAIN LINE
Dc = 1°00'00"
Δ=0°58'23"
V=60/40mPh

ST: 29+17.58
CS: 28+67.58
SC: 27+76.40
TS: 27+26.40
BP: 27+20.00

MAIN LINE
Dc = 1°00'00"
Δ=0°54'42"
V=60/40mPh

NORTH JEFFERSON STREET

0' 25' 50' 100' 150'
SCALE: IN FEET

SHEET 3 OF 3

OCTA

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STATION EXPANSION AND TRACK ALIGNMENT CONCEPT PLANS

June 26, 2014

APPENDIX
B

LEGEND

HMAC XING SURFACE

CONCRETE PANEL XING SURFACE

RUBBER PANEL XING SURFACE

AT-GRADE CROSSING

TUNNEL

CULVERT

OVERPASS

BRIDGE

SCHEMATIC

- SCRRA MAINLINE CTC
- SCRRA REVENUE TRACK
- OTHER THAN ML/REV. TRACK
- UPRR TRACK
- BNSF TRACK
- CONNECTING SUB.

PTC CRITICAL POINTS

- SIGNAL CANTILEVER
- SIGNAL BRIDGE
- DWARF SIGNAL
- SIGNAL W/ ONE HEAD
- SIGNAL W/ TWO HEADS
- SIGNAL W/ THREE HEADS
- HAND OPERATED SWITCH
- POWER OPERATED SWITCH
- CLEARANCE POINT
- SIGNAL HOUSE
- ANTENNA
- A — ACTIVE AUTOMATIC TRAIN STOP
- P — PASSIVE AUTOMATIC TRAIN STOP
- ELECTRIC LOCK SWITCH
- HAND OPERATED DERAIL
- POWER OPERATED DERAIL

OTHER TRACK FEATURES

- STANDARD 8A – CANTILEVERED FLASHING LIGHT
- STANDARD 9A – CANTILEVERED FLASHING LIGHT WITH GATE
- STANDARD 9 – FLASHING LIGHT WITH GATE
- STANDARD 9E – FLASHING LIGHT WITH GATE ON EXIT SIDE
- STANDARD 8 – DUAL FLASHING LIGHTS
- STANDARD 8 – SIGNAL FLASHING LIGHT
- MODIFIED STANDARD 9 – PEDESTRIAN GATE
- STANDARD 1R – CROSSBUCK
- STANDARD 1X – PRIVATE CROSSING SIGN
- RAIL LUBRICATOR
- DRAGGING EQUIPMENT DETECTOR
- HOT BOX DETECTOR
- HIGH WIDE LOAD DETECTOR
- HIGH WATER DETECTOR
- SLIDE FENCE DETECTOR
- BUMPER
- CTC — CENTRALIZED TRAFFIC CONTROL TERRITORY
- WESTBOUND SPEED DECREASE
- WESTBOUND SPEED INCREASE
- EASTBOUND SPEED DECREASE
- EASTBOUND SPEED INCREASE

MILEPOST LIMIT OF SPEED CHANGE — 9.8

TRACK GEOMETRY AND MAXIMUM AUTHORIZED SPEEDS

60/40

Ls L Ls — LEFT CURVE

CURVE NO.
Dc
Ea
Vmax=Vpass/Vfrt

60#/40

Ls L Ls — RIGHT CURVE

- L — TOTAL LENGTH OF CURVE INCLUDING SPIRALS
- Ls — LENGTH OF SPIRAL
- Dc — DEGREE OF CURVATURE
- Ea — ACTUAL SUPERELEVATION
- 60/40 — PASSENGER/FREIGHT SPEED TIMETABLE NO. 7
- 60#/40 — HIGH WIND RESTRICTION FOR PASSENGER
- Vmax — Vpass CALCULATED AT 3.5" UNBALANCE; Vfrt CALCULATED AT 2" UNBALANCE

TRACK COMPOSITION

- R99 — YEAR RAIL ROLLED
- INSULATED JOINT
- WELD JOINT
- BOLT JOINT
- CS — WOOD TIE WITH CUT SPIKE
- NF — WOOD TIES WITH FAST CLIP
- PC — WOOD TIES WITH PANDROL CLIP
- CONCRETE TIE WITH FAST CLIP
- CONCRETE TIE WITH MCKAY
- CONCRETE TIE WITH PANDROL CLIP
- STEEL TIE WITH PANDROL CLIP
- 136RE, JOINTED
- 136RE, CWR
- 133RE, JOINTED
- 133RE, CWR
- 132HF, JOINTED
- 132HF, CWR
- 119RE OR LOWER, JOINTED
- 119RE OR LOWER, CWR

T/R PROFILE**

AVG. GRADE — MP — ELEV. — MP — ELEV.

**VERTICAL DATUM BASED ON NAVD 88

MILE POST 0 — 0.5 — 1.0

BNSF ◄ ► SCRRA OLIVE SUB

0.0
CP ATWOOD
(BNSF JCT)

CP ATWOOD EAST LIMIT

SCHEMATIC

#20 — TO LOS ANGELES (BNSF)

BNSF–40.70
SOUTH VAN BUREN ST
DOT NO.025569T

RAIL LUBRICATOR
0.26
(O.F.C.D.)
2 – 10' x 8' x 74' RCB

CITY OF PLACENTIA
CITY OF ANAHEIM

1010L–0.40
JEFFERSON ST
DOT NO.027002S

1010L–0.60
MIRALOMA AVE
DOT NO.027003Y

OL000.60ET01 — #10 20/15

DRAGGING EQUIPMENT DETECTOR
HOT BOX DETECTOR

1010L–0.80
TUSTIN AVE
DOT NO.027004F

0.80 2 – 58" x 36" x 48' CMA

OL000.92ET01 — #10 20/15

SIG 12

SCRRA FXX … TRACK #1 CTC … SCRRA FXX

TRACK GEOMETRY AND MAXIMUM SPEEDS — MAIN TRACK

40/25 — 40/40

80' — 2672' — 220'

0.00–1
3°43'45" 3°26'30" 3°00'13"
3" 3" 3"
Vmax=49/43 Vmax=51/45 Vmax=55/48

TRACK COMPOSITION — MAIN TRACK

#20 LH CS — R94 R00 HC — R97 — R94 PC — R97 R95 R97 R94 R99 R00 R99 — #10 RH PC — R04 — R94 — R04 R03 — #10 RH PC — R04

PROFILE — MAIN TRACK

0.07 / 250.38 — −0.28 — 0.21 / 248.28 — −0.44 — 0.31 / 245.95 — −0.10 — 0.60 / 244.42 — 0.02

0.0 — 0.5

0B

MP 0 TO 1

FILENAME: PTC209OLTC01

REVISED: 10/01/10

SCALE: 1" = 500'

OLIVE SUB

METROLINK TRACK CHART

Dec 15, 2010 – 12:05pm H:\Projects\SCR09447\04-CAD\04.3-Subdivision\Orange\Sheets\TrackChart\PTC209OLTC01.dwg

tstiouis

LEGEND

HMAC XING SURFACE

CONCRETE PANEL XING SURFACE

RUBBER PANEL XING SURFACE

AT-GRADE CROSSING

TUNNEL

CULVERT

OVERPASS

BRIDGE

SCHEMATIC

SCRRA MAINLINE CTC
SCRRA REVENUE TRACK
OTHER THAN ML/REV. TRACK
UPRR TRACK
BNSF TRACK
CONNECTING SUB.

PTC CRITICAL POINTS

SIGNAL CANTILEVER
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DWARF SIGNAL
SIGNAL W/ ONE HEAD
SIGNAL W/ TWO HEADS
SIGNAL W/ THREE HEADS
HAND OPERATED SWITCH
POWER OPERATED SWITCH
CLEARANCE POINT
SIGNAL HOUSE
ANTENNA
A ACTIVE AUTOMATIC TRAIN STOP
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OTHER TRACK FEATURES

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DRAGGING EQUIPMENT DETECTOR
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HIGH WIDE LOAD DETECTOR
HIGH WATER DETECTOR
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BUMPER
CTC CENTRALIZED TRAFFIC CONTROL TERRITORY
WESTBOUND SPEED DECREASE
WESTBOUND SPEED INCREASE
EASTBOUND SPEED DECREASE
EASTBOUND SPEED INCREASE

MILEPOST LIMIT OF SPEED CHANGE

TRACK GEOMETRY AND MAXIMUM AUTHORIZED SPEEDS

L TOTAL LENGTH OF CURVE INCLUDING SPIRALS
Ls LENGTH OF SPIRAL
Dc DEGREE OF CURVATURE
Ea ACTUAL SUPERELEVATION
60/40 PASSENGER/FREIGHT SPEED TIMETABLE NO. 7
60#/40 HIGH WIND RESTRICTION FOR PASSENGER
Vmax Vpass CALCULATED AT 3.5" UNBALANCE
Vfrt CALCULATED AT 2" UNBALANCE

TRACK COMPOSITION

R99 YEAR RAIL ROLLED
INSULATED JOINT
WELD JOINT
BOLT JOINT
CS WOOD TIE WITH CUT SPIKE
NF WOOD TIES WITH FAST CLIP
PC WOOD TIES WITH PANDROL CLIP
CONCRETE TIE WITH FAST CLIP
CONCRETE TIE WITH MCKAY
CONCRETE TIE WITH PANDROL CLIP
STEEL TIE WITH PANDROL CLIP
136RE, JOINTED
136RE, CWR
133RE, JOINTED
133RE, CWR
132HF, JOINTED
132HF, CWR
119RE OR LOWER, JOINTED
119RE OR LOWER, CWR

T/R PROFILE**

**VERTICAL DATUM BASED ON NAVD 88

MILE POST 1.0 1.5 2.0

1.2
ANAHEIM CANYON (OB)
510'
SIG 12
SIG 11
TRACK #1
CTC
SCRRA FXX
1010L–1.1 DOT 027005M LA PALMA AVE
1010L–1.4–B RIVERSIDE FWY UP DOT NO.027006U 188.82' STG
QL001.42ETO1
#10 20/15
1.38 36" x 40' RCP
1.60 618' PCDBG
1.70 463.5' PCSBG
CITY OF ANAHEIM
CITY OF ORANGE
1010L–1.80 RIVERDALE AVE DOT NO.027007B
2.0 36" x 54' RCP
1.8

TRACK GEOMETRY AND MAXIMUM SPEEDS
MAIN TRACK
40/40
70#/40

TRACK COMPOSITION
MAIN TRACK
R04 R94 R04 R01 R04 R03 R06 R04 R95 R97 R96 R93 R04 R97 R04 R93 R94 R04
PC PC PC PC
#10 RH
R04 R94 R04 R01 R04 R07 R06 R04 R93 R97 R99 R04 R97 R04 R93 R94

PROFILE
MAIN TRACK
0.23 −0.14 −0.10 −0.31 −0.21
1.14 244.88
1.36 247.69
1.65 245.63
1.76 245.02
1.90 242.74
2.02 241.29

1 B
MP 1 TO 2
FILENAME: PTC2090LTC01
REVISED: 10/01/10
SCALE: 1" = 500'
OLIVE SUB
METROLINK TRACK CHART

tstlouis Jan 06, 2011 – 9:15am H:\Projects\SCR09447\04-CAD\04.3-Subdivision\Orange\Sheets\TrackChart\PTC2090LTC01.dwg

EXHIBIT "A"

LEGAL DESCRIPTION

BEING A DESCRIPTION FOR A PARCEL OF LAND LOCATED IN THE CITY OF ANAHEIM, COUNTY OF ORANGE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF PARCEL 3 AS SHOWN ON MAP RECORDED IN BOOK 59 PAGE 50 OF PARCEL MAPS IN THE OFFICE OF THE RECORDER OF SAID COUNTY, SAID POINT ALSO BEING THE INTERSECTION OF THE NORTH LINE OF THE LAND DESCRIBED IN BOOK 8346 PAGE 395, OFFICIAL RECORDS OF SAID COUNTY WITH THE WEST LINE OF THAT CERTAIN RAILROAD RIGHT OF WAY DESCRIBED IN BOOK 253 PAGE 168 OF DEEDS IN THE OFFICE OF THE RECORDER OF LOS ANGELES COUNTY; THENCE, SOUTHWESTERLY ALONG SAID WESTERLY LINE, S15°24'55"W, 528.37 FEET TO THE TRUE POINT OF BEGINNING FOR THIS DESCRIPTION; THENCE, CONTINUING ALONG SAID WESTERLY LINE, S15°24'55"W, 50.00 FEET; THENCE, SOUTHEASTERLY, NORMAL TO SAID WESTERLY LINE, S74°35'05"E, 10 FEET TO A POINT ON A LINE PARALLEL WITH AND 10.00 FEET SOUTHEASTERLY, MEASURED AT RIGHT ANGLES, FROM SAID WESTERLY LINE; THENCE, NORTHEASTERLY ALONG SAID PARALLEL LINE, N15°24'55"E, 50.00 FEET; THENCE, NORTHWESTERLY, NORMAL TO SAID PARALLEL LINE, N74°35'05"W, 10.00 FEET TO THE TRUE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 500 SQUARE FEET.

Prepared by:

Douglas Boynton, PLS4787
Dulin and Boynton Licensed Surveyors
(562) 426-6464

Date: May 11, 2005

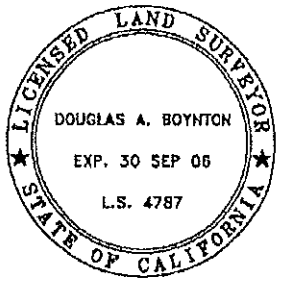
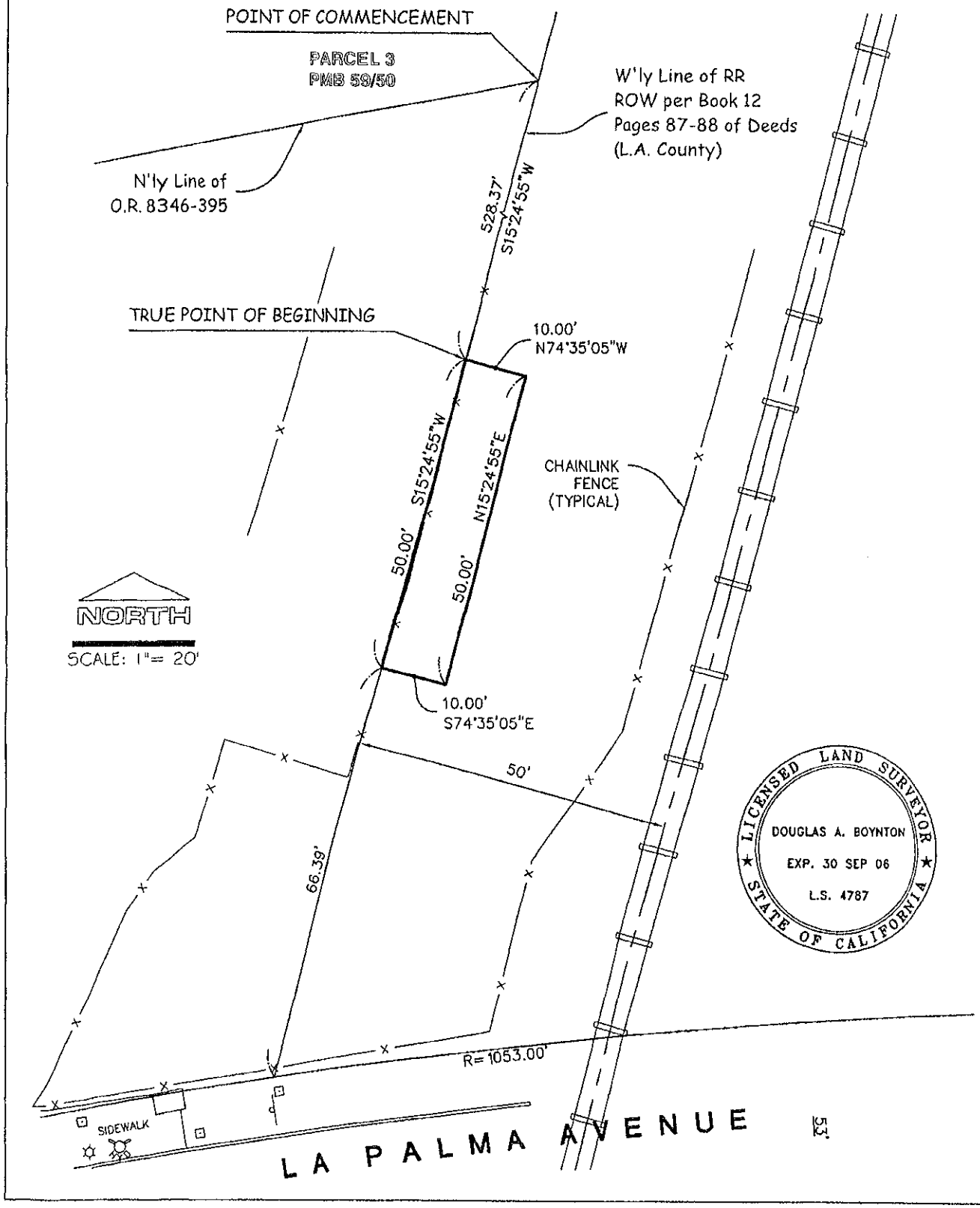


EXHIBIT "B"


POINT OF COMMENCEMENT
PARCEL 3
PMB 59/50
W'ly Line of RR
ROW per Book 12
Pages 87-88 of Deeds
(L.A. County)
N'ly Line of
O.R. 8346-395
528.37'
S15°24'55"W
TRUE POINT OF BEGINNING
10.00'
N74°35'05"W
S15°24'55"W
50.00'
N15°24'55"E
50.00'
CHAINLINK
FENCE
(TYPICAL)
NORTH
SCALE: 1"= 20'
10.00'
S74°35'05"E
50'
66.39'
R=1053.00'
SIDEWALK
LA PALMA AVENUE
LICENSED LAND SURVEYOR
DOUGLAS A. BOYNTON
EXP. 30 SEP 06
L.S. 4787
STATE OF CALIFORNIA