CITY OF ADELANTO
INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM

This form and the descriptive information in the application package constitute the contents of Initial Study pursuant to Section 15063 of the State CEQA Guidelines.

PROJECT LABEL:

APN:	0459-432-29 and 50
APPLICANT:	Industrial Integrity Solutions, LLC
COMMUNITY:	City of Adelanto
LOCATION:	Northeast corner of Yucca Road, and Muskrat Avenue
PROJECT No:	Conditional Use Permit (CUP) 16-37 & Location and Development Plan (LDP) 16-23
STAFF:	Reuben Arceo, Project Manager, RPG Inc.
REP('S):	Daniel Pocius, Industrial Integrity Solutions, LLC
PROPOSAL:	A Conditional Use Permit and Location and Development Plan to establish a medical cannabis cultivation, manufacturing, distribution, transportation, and testing facility consisting of six (6) buildings totaling 628,425 square feet on 30.97 acres.

General Plan:	LM Light-Manufacturing
Zoning:	LM Light-Manufacturing

PROJECT CONTACT INFORMATION:

Lead agency: City of Adelanto
Planning Department
11600 Air Expressway
Adelanto, CA 92301

Contact person: Reuben Arceo, Project Manager, RPG Inc.
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Project Sponsor: Industrial Integrity Solutions, LLC
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PROJECT DESCRIPTION:

The Project Applicant, Industrial Integrity Solutions, LLC, submitted the following applications to the City of Adelanto, which comprises the proposed Project: Location and Development Plan (LDP) 16-23 and Conditional Use Permit (CUP) 16-37. The Project's application materials are on file with the City of Adelanto Planning Department, 11600 Air Expressway, Adelanto, CA 92301 and are hereby incorporated by reference.

A. Location and Development Permit (LDP) 16-23

The proposed Project consists of the construction of six (6) industrial concrete tilt-up buildings totaling 628,425 square feet and related site improvements, such as parking areas and landscaping. Five (5) of the buildings will be 120,000 square feet each and will contain four (4) 30,000 square-foot units. One (1) building will be 30,000 square feet and will contain one (1) unit.

Street Improvements and Access

Access to the Project site is proposed from Yucca Road and Muskrat Avenue. Yucca Road is a paved two-lane roadway with no curb, gutter, or sidewalk as it abuts the site. Muskrat Avenue is a paved two-lane roadway with no curb, gutter, or sidewalk as it abuts the site. In addition, there is vehicle parking taking place along the east side of Muskrat Avenue across from the industrial development located on the west side of Muskrat Avenue. Joshua Avenue is an unimproved dirt roadway as it abuts the northern boundary of the site. Raccoon Avenue is located approximately 160 feet east of the site and is a paved two-lane roadway with no curb, gutter, or sidewalk. No access is proposed along Raccoon Avenue.

The Project proposes to construct the following street improvements:

- Yucca Road (North Side): Half-width improvements within a 72-foot right-of-way consisting of pavement, curb, gutter, and sidewalk.
- Muskrat Avenue (East Side): Half-width improvements within a 60-foot right-of-way consisting of pavement, curb, gutter, and sidewalk.
- Joshua Road (South Side): Half-width improvements within a 60-foot right-of-way consisting of pavement, curb, gutter, and sidewalk. In addition, an 8-foot travel lane is proposed 8-feet beyond the centerline the right-of-way.

Water and Sewer Improvements

Water

There is an existing 8-inch water line in Muskrat Avenue and an existing 12-inch water line in Yucca Road. The Project will tie into both water lines to create a looped system throughout the Project.

Sewer

The Project is proposing to construct an 8-inch sewer line offsite that travels north beneath Panther Avenue and then east beneath Air Expressway and will tie into the existing 18-inch sewer line at the intersection of Air Expressway & Raccoon Avenue.

Drainage Improvements

The primary drainage design elements are the roads, drive aisles, curb and gutter, and the curb opening structures out letting to the proposed basin(s). Drive aisles and curb and gutter within the project will be used to carry runoff.

Off-Site Improvements

The Project is proposing to construct an 8-inch sewer line offsite that travels north beneath Panther Avenue and then east beneath Air Expressway and will tie into the existing 18-inch sewer line at the intersection of Air Expressway & Raccoon Avenue. It should be noted that throughout this Initial Study Checklist the terms "Project site" or "Project area" includes the 60-foot right-of-way for Panther Avenue.

Future Street Vacation

Development of the site will require the vacation of Panther Avenue within the boundaries of the Project site south of Joshua Avenue. This will be considered under a separate application.

Operational Characteristics

The Project proposes six (6) industrial buildings totaling 628,425 square feet. The intended use is for medical cannabis cultivation, manufacturing, distribution, transportation, and testing.

B. Conditional Use Permit (CUP) 16-37

Pursuant to City requirements, approval of a Conditional Use Permit is required to establish and operate a medical cannabis cultivating, manufacturing, distribution, transportation, and testing facility on the subject property in the Light Manufacturing District. The CUP is intended to ensure that the proposed use is compatible with

surrounding uses, or, through the imposition of development and use conditions, can be made compatible with surrounding uses.

ENVIRONMENTAL/EXISTING SITE CONDITIONS:

CEQA Guidelines §15125 establishes requirements for defining the environmental setting to which the environmental effects of a proposed project must be compared. The environmental setting is defined as "...the physical environmental conditions in the vicinity of the project, as they exist at the time the Notice of Preparation is published, or if no Notice of Preparation is published, at the time the environmental analysis is commenced..." (CEQA Guidelines §15125[a]).

In the case of the proposed Project, the Initial Study Checklist determined that a Mitigated Negative Declaration is the appropriate form of CEQA compliance document, which does not require a Notice of Preparation. Thus, the baseline environmental setting for the Project is the approximate date that the Project's Initial Study Checklist commenced in October of 2016.

A. Air Quality

The Project site is located within the Mojave Desert Air Basin (MDAB). The Basin includes the desert portion of San Bernardino County and the far eastern end of Riverside County. The MDAB has mountain ranges intermingled with vast valleys and dry lakes. Prevailing winds come from the west and the southwest. The Basin is managed by the Mojave Desert Air Quality Management District (MDAQMD).

The closest monitoring station to the Project site is located in Victorville, approximately 7.5 miles southeast of the Project site. Local air quality in the vicinity of the Project site has exceeded air quality standards for O3 one-hour and eight-hour and particulate matter ($PM_{2.5}$), as recorded at the nearest air monitoring station during each of the last two years for which data is available.

B. Geology/Soils

The property is situated in the Mojave Desert geomorphic province. The Mojave Desert province is a wedge-shaped area that is enclosed on the southwest by the San Andreas fault zone, the Transverse Ranges province and the Colorado Desert province, on the north and northeast by the Garlock fault zone, the Tehachapi Mountains and the Basin and Range province, and on the east by the Nevada and Arizona state lines, and the Colorado River. The area is dominated by broad alluviated basins that are mostly aggrading surfaces that are receiving non-marine continental deposits from the adjacent upland areas. Alluvial materials were encountered in all of the hollow-stem auger borings excavated on the site. In general, the alluvial materials typically consist of interlayers of medium dense to very dense silty sand and sand and very stiff to hard silt.

The primary fault zones of the area are found in the western half of the province and have a general northwest-southeast trend. These zones are the San Andreas, Helendale, Lenwood and Lockhart in the subject site vicinity. In addition to these major zones, there are numerous secondary fault zones in the area and many smaller fault zones in the eastern half of the province. Many of the secondary fault zones in the province have a general east-west trend. More specific to the subject property, the site is located in an area geologically mapped to be underlain by alluvium (Dibblee, T.W., 1960). No faults are shown presently in the immediate site vicinity on the maps reviewed for the area.

Based on the San Bernardino County Land Use Services geologic hazard maps, the site is not mapped within a zone of potentially liquefiable soils.

C. Hazards

The Project site is located within a "moderate" fire hazard area. There are no other hazardous conditions affecting the site.

D. Hydrology and Drainage

The Project site is located within Zone X of FEMA Flood Panel No. 06071C578OH. This is an area identified as a 500-year Floodplain with a "moderate" to "low" risk for flooding (0.2% Annual Flood Chance Hazard).

The Project site is vacant, undeveloped and undisturbed land with uniform slope of approximately 1.5 percent. The topography indicates that the runoff drains in a northerly direction in the form of sheet flow, and there is a dirt road at the north end of the site, at the future alignment of Joshua Avenue that routes the flow to the west, where it currently ponds due to the low point created by the past construction of Muskrat below existing ground elevations. There is no evidence of defined washes on site. There are two exit points for onsite flows. One previously described at the intersection of Joshua Avenue and Muskrat Avenue that drains the bulk of the Project site, and another that drains a small area along the east side of the site. The eastern sheet flow continues northerly as surface flow.

E. Land Use

The Project site consists of approximately 30.97 acres. The site is vacant. Surrounding land uses are shown on Table 1.

Table1. Existing Land Use and General Plan Land Use/ Zoning Districts

Location	Existing Use
Site	Light Manufacturing (LM)
North	Light Manufacturing (LM) Greenbelt Corridor Easement (GCE) Greenbelt Corridor Drainage (GCD)
South	Manufacturing/Industrial (MI)
East	Greenbelt Corridor Easement (GCE)
West	Light Manufacturing (LM)

Source: Field Inspection, April 2016

F. Noise

Ambient or background noise levels are typically a composite of sounds from many sources located both near and far, without any particular sound being dominant. The primary existing noise sources in the Project area are transportation facilities. Traffic on Yucca Road, Muskrat Avenue, and Raccoon Avenue contribute to the ambient noise levels in the Project vicinity. Also contributing the noise environment are the industrial uses located to the west and south of the Project site.

G. Topography

The Project site is relatively flat. Elevations range from approximately 2,928 feet (above mean sea level) along the southern boundary of the Project site to 2,916 feet along the north property line.

H. Transportation/Access

Under existing conditions, the Project site has no traffic issues because it is vacant land.

Existing roadway conditions in the immediate vicinity of the Project site include the following:

- Yucca Road is a paved two-lane roadway with no curb, gutter, or sidewalk as it abuts the site.

- Muskrat Avenue is a paved two-lane roadway with no curb, gutter, or sidewalk on the west side of the roadway. There are no improvements adjacent to the Project site which lies on the east side of Muskrat Avenue. In addition, there is vehicle parking taking place along the east side of Muskrat Avenue across from the industrial development located on the west side of Muskrat Avenue.

- Joshua Avenue is an unimproved dirt roadway as it abuts the northern boundary of the site.

- Raccoon Avenue is located approximately 160-feet east of the site and is a semi-paved two-lane roadway with no curb, gutter, or sidewalk.

There is a Stop Control at the intersection of Yucca Road and Muskrat Avenue and Yucca Road and Raccoon Avenue.

I. Water & Sewer

Water service is provided by the Adelanto Public Utility Authority. The water service area encompasses about 50 square miles and provides water for drinking and fire protection. This is accomplished with a network of water wells, pumps, storage tanks, and water transmission lines. Water service is available in Yucca Road to serve the Project site from an existing 12-inch water line.

Sewer service is provided by the Adelanto Public Utility Authority through a network of gravity and force main sewer pipelines. There is an existing line in Yucca Road but it is too shallow to serve the Project site.

J. Vegetation

The site supports a highly disturbed creosote bush (Larrea tridentata) community; therefore, the site only supports a few species including creosote bush (Larrea tridentata), Joshua tree (Yucca brevifolia), and brome grass (Bromus sp.).

K. Wildlife

The site supports limited wildlife species on the site due to past ground disturbance, and a limited number of species was observed during the field investigations. California ground squirrel (Otospermophilus beecheyi), and ravens (Corvus corax) were the only wildlife observed, however; jackrabbits (Lepus californicus), desert cottontails (Sylvilagus audubonii), and coyotes (Canis latrans) occur in the surrounding area and may potentially occur on the site. Various other species were previously observed in the area, but not observed during the October 2016 survey.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED (e.g., permits, financing approval, or participation agreement.):

- Lahonton Regional Water Quality Control Board (Construction Activity General Construction Permit; NPDES Permit),

- San Bernardino County Fire Department Certified Unified Program Agency (Hazardous Materials Release Response Plan and Inventory - Business Plan)

The above mentioned agencies are not meant to be an all-inclusive list and other agencies may have responsibility over some aspect of the project.

EVALUATION FORMAT

This Initial Study Checklist has been prepared in compliance with the California Environmental Quality Act (CEQA) Guidelines. The Project is evaluated based on its potential effect on seventeen (17) environmental factors categorized as follows, as well as Mandatory Findings of Significance:

1. Aesthetics
2. Agriculture & Forestry Resources
3. Air Quality
4. Biological Resources
5. Cultural Resources
6. Geology & Soils
7. Greenhouse Gas Emissions
8. Hazards & Hazardous Materials
9. Hydrology & Water Quality
10. Land Use & Planning
11. Mineral Resources
12. Noise
13. Population & Housing
14. Public Services
15. Recreation
16. Transportation & Traffic
17. Utilities & Service Systems
18. Mandatory Findings of Significance

Each factor is analyzed by responding to a series of questions pertaining to the impact of the Project on the particular factor in the form of a checklist. This Initial Study Checklist provides a manner to analyze the impacts of the Project on each factor in order to determine the severity of the impact and determine if mitigation measures can be implemented to reduce the impact to less than significant without having to prepare an Environmental Impact Report.

CEQA also requires Lead Agencies to evaluate potential environmental effects based to the fullest extent possible on scientific and factual data (CEQA Guidelines §15064[b]). A determination of whether or not a particular environmental impact will be significant must be based on substantial evidence, which includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts (CEQA Guidelines §15064f[5]).

The effects of the Project are then placed in the following four categories, which are each followed by a summary to substantiate why the Project does not impact the particular factor with or without mitigation. If "Potentially Significant Impacts" that cannot be mitigated are determined, then the Project does not qualify for a Mitigated Negative Declaration and an Environmental Impact Report must be prepared:

Potentially Significant Impact	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
Potentially significant impact(s) have been identified or anticipated that cannot be mitigated to a level of insignificance. An Environmental Impact Report must therefore be prepared.	Potentially significant impact(s) have been identified or anticipated, but mitigation is possible to reduce impact(s) to a less than significant category. Mitigation measures must then be identified.	No "significant" impact(s) identified or anticipated. Therefore, no mitigation is necessary.	No impact(s) identified or anticipated. Therefore, no mitigation is necessary.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

	Aesthetics		Land Use and Planning
	Agriculture and Forest Resources		Mineral Resources
☒	Air Quality		Noise
☒	Biological Resources		Population and Housing
☒	Cultural Resources		Public Services
	Geology and Soils		Recreation
	Greenhouse Gas Emissions		Transportation/Traffic
	Hazards and Hazardous Materials	☒	Utilities and Service Systems
	Hydrology and Water Quality		Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation, the following finding is made:

☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier ENVIRONMENTAL IMPACT REPORT document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. A MITIGATED NEGATIVE DECLARATION will be prepared to analyze only the effects that remain to be addressed.

☐ Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Reuben Arceo, Project Manager, RPG Inc. _____ Date _____

APPENDICES (Under Separate Cover or on Compact Disk)

A1. Air Quality, Greenhouse Gas Emission CalEEMod Outputs (Annual)

A2. Air Quality, Greenhouse Gas Emission CalEEMod Outputs (Summer)

A3. Air Quality, Greenhouse Gas Emission CalEEMod Outputs (Winter)

A4. Air Quality, Greenhouse Gas Emission CalEEMod Outputs (Mitigation Report)

B. Biological Resources Assessment

C. Protected Plant Preservation Plan

D. Geotechnical Report

E. Addendum to Geotechnical Report

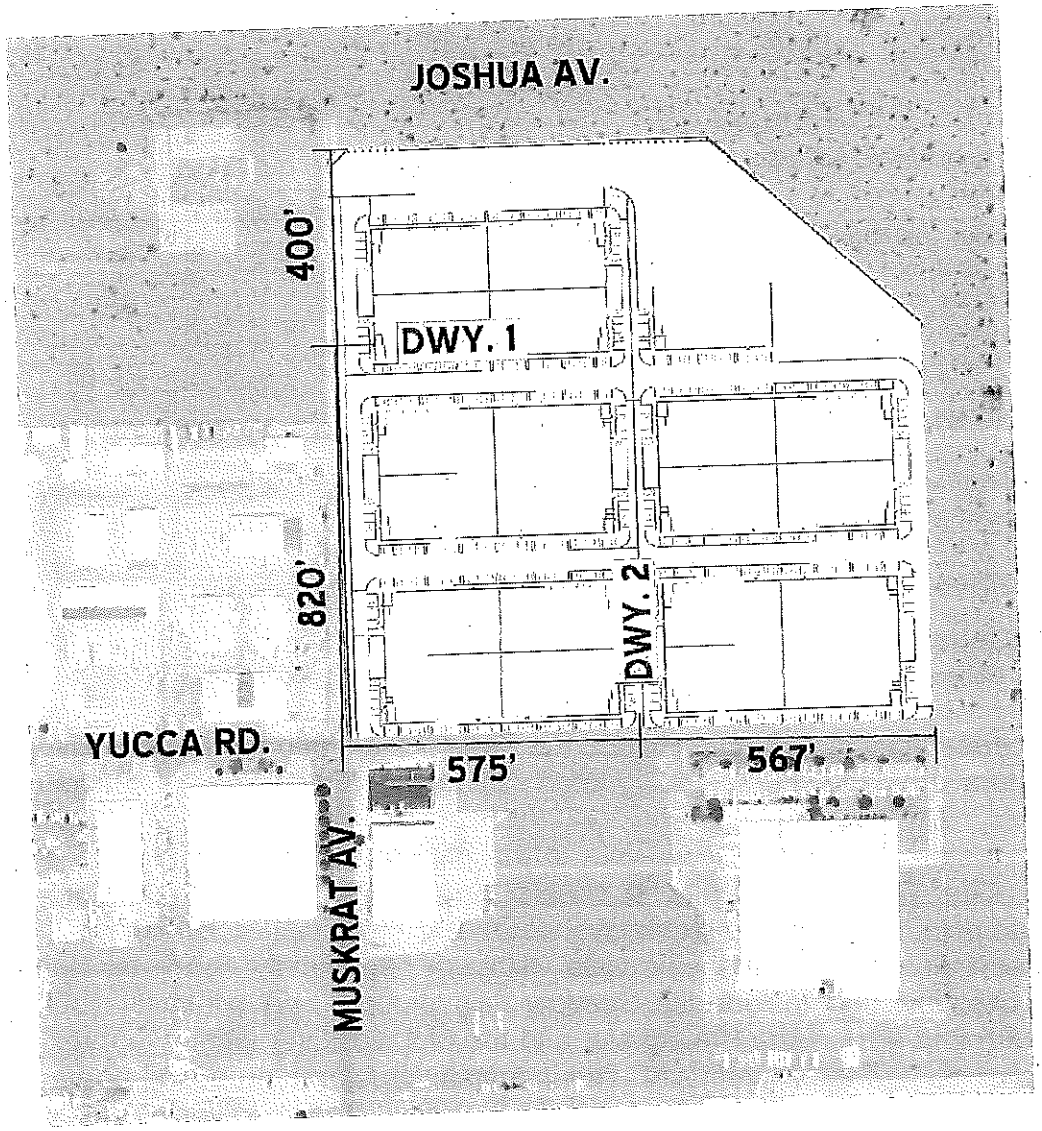
F. Phase I Environmental Site Assessment

G. Preliminary Drainage Report

H. Traffic Impact Analysis

H1. Traffic Impact Analysis (Appendices)

Project Location Map/Aerial Photo | **Exhibit 1**



Site Plan | **Exhibit 2**

I. AESTHETICS

Would the Project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?				☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				☒
c. Substantially degrade the existing visual character or quality of the site and its surroundings?			☒	
d. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			☒	

I (a) Have a substantial adverse effect on a scenic vista?

Determination: No Impact.

Sources: General Plan, Zoning Ordinance, Project Application Materials, Google Earth.

Scenic resources in Adelanto include the Shadow Hills and the Mojave River, as well as the natural drainage courses designated as Drainage/Open Space Corridors.

Scenic vistas are points, accessible to the general public, that provide a view of the countryside. More specifically, a scenic vista is defined as a publically accessible vantage point that provides expansive views of a highly valued landscape. Landforms or features that constitute a scenic vista visible or periodically visible on clear days from the Project's vicinity include the Shadow Hills located approximately four (4) miles to the north and east of the Project site and the Mojave River located approximately eight (8) miles east of the Project site. The industrial structures proposed of the property are restricted to 50 feet in height by Adelanto Municipal Code Section 17.30.080, Table 30-1. As such, the proposed structures would not block or completely obstruct views from surrounding public vantage points (i.e. Yucca Road, Muskrat Avenue, or Raccoon Avenue to the Shadow Hills located north of the Project site. In addition, the Project will not impact views of the Mojave River because it is located approximately 8.5 miles to the east of the Project site and is separated from the Project site by intervening development.

The Project site is also adjacent to land designated as Greenbelt Corridor Drainage (GCD) and Greenbelt Corridor Easement (GCE). The Greenbelt Corridor Drainage district provides for storm water drainage and storm water detention uses that may also contain bicycle and hiking trails, and recreational parking areas. The Greenbelt Corridor

Easement district provides for transmission and power lines uses that may also contain bicycle and hiking trails and recreational park areas. The Project is not placing any development that would impact any scenic resources within these areas.

I (b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Determination: No Impact.
Source: General Plan, California Department of Transportation "Scenic Highway Program Eligible and Officially Designated Routes,"

California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

According to the California Department of Transportation, the Project site is not located within a State Scenic Highway. According to the *Adelanto General Plan*, the Project site is not adjacent to a local Scenic Highway. Therefore, construction and the long-term operation of the Project would have no impact on scenic resources within a scenic highway and no mitigation measures are required.

I (c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Determination: Less that Significant Impact.
Sources: General Plan, Project Application Materials.

The Project site is located in an area characterized by primarily developed industrial/commercial land. The site is bounded by Joshua Avenue (a dirt roadway), followed by vacant land, to the north; Muskrat Avenue (an asphaltic and concrete paved roadway), followed by commercial/industrial development and vacant land, to the west; Yucca Road (an asphalt paved roadway), followed by commercial/industrial development and vacant land, to the south; and a transmission line easement, followed by Raccoon Avenue (a semi-paved) roadway, followed by vacant land, to the east.

At buildout of the proposed Project, the visual character of the Project site would change from vacant desert land to six (6) industrial concrete tilt-up buildings. A project is generally considered to have a significant impact on visual character if it substantially changes the character of the Project site such that it becomes visually incompatible or visually unexpected when viewed in the context of its surroundings.

The Project site is planned for light industrial uses by the *Adelanto General Plan.* The Project is proposing concrete tilt-up buildings with various colors of panels, anodized window mullions, and accented parapet walls. Implementation of these thematic elements will ensure that the Project blends into the existing visual character and quality

of its surroundings. Therefore, the Project will have a less than significant impact on the visual quality and character of the area and no mitigation measures are required.

I (d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Determination: Less that Significant Impact.
Sources: Municipal Code, Project Application Materials.

The Project would increase the amount of light in the area above what is currently being generated by directly adding new sources of illumination including security and decorative lighting for the proposed industrial structures. All lighting would be designed in accordance with the City of Adelanto Performance Standards as described in Section 17.90.040 of the Zoning Ordinance. This section requires that all on-site lighting shall be stationary and directed away from adjoining properties and public rights-of-way, that light fixtures be shielded so no light is emitted above the horizontal plane of the bottom of the light fixture, and light fixtures be shielded so no light above 0.5 foot-candle spills over onto adjacent properties and rights-of-way.

In addition, the proposed building materials primarily consist of concrete tilt-up building panels, anodized window mullions, and windows with anti-reflective glazing. These materials are non-reflective and would not contribute to glare.

Based on the above analysis, impacts would be less than significant and no mitigation measures are required.

II. AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?				☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				☒

II (a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Determination: No Impact.
Source: California Department of Conservation "Farmland Mapping and Monitoring Program.

The California Department of Conservation does not designate the Project site as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Because there is no land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on the Project site, the Proposed Project will not result in the conversion of such land to non-agricultural use; therefore, no impacts are identified or anticipated and no mitigation measures are required.

II (b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Determination: No Impact.
Sources: General Plan/Zoning Map,

Agricultural Zoning

The Project site is designated as Light Manufacturing (LM) by the General Plan/Zoning Map which allows a variety of light industrial uses. The LM district does not allow agricultural uses as a primary use. As such, there is no impact. No mitigation measures are required.

Williamson Act

Pursuant to the California Land Conservation Act of 1965, a Williamson Act Contract enables private landowners to voluntarily enter into contracts with local governments for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments based upon farming and open space uses as opposed to full market value. According to the latest Williamson Act Map for the County of San Bernardino (FY 2015/2016) the Project Site is not under a Williamson Act contract. As such, there is no impact. No mitigation measures are required.

II (c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?

Determination: No Impact.
Sources: General Plan/Zoning Map, Zoning Ordinance.

The Project site is designated as Light Manufacturing (LM). The Project site does not contain any forest lands, timberland, or timberland zoned as Timberland Production, nor are any forest lands or timberlands located on or nearby the Project site. Because no lands on the Project site are zoned for forestland or timberland, the Project has no potential to impact such zoning. No impact would occur and no mitigation measures are required.

II (d) Result in the loss of forest land or conversion of forest land to non-forest use?

Determination: No Impact.

Sources: General Plan/Zoning Map,

The Project site and surrounding properties do not contain forest lands, are not zoned for forest lands, nor are they identified as containing forest resources by the *General Plan*. Because forest land is not present on the Project site or in the immediate vicinity of the Project site, the Project has no potential to result in the loss of forest land or the conversion of forest land to non-forest use. No impact would occur and no mitigation measures are required

II (e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Determination: No Impact

Sources: General Plan/Zoning Map, Field Survey.

The Project site consists of approximately 30.97 acres. The Project site is located in an area characterized by primarily developed commercial/industrial land. The site is bounded by Joshua Avenue (a dirt roadway), followed by vacant land, to the north; Muskrat Avenue (an asphaltic and concrete paved roadway), followed by commercial/industrial development and vacant land, to the west; Yucca Road (an asphalt paved roadway), followed by commercial/industrial development and vacant land, to the south; and a transmission line easement, followed by Raccoon Avenue (a semi-paved roadway), followed by vacant land, to the east. There is no land being used primarily for agricultural purposes in the vicinity of the site. As such, the Project would not result in conversion of Farmland to non-agricultural use and no impacts would occur. No mitigation measures are required.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Conflict with or obstruct implementation of the applicable air quality plan?			☒	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		☒		
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			☒	
d. Expose sensitive receptors to substantial pollutant concentrations?			☒	
e. Create objectionable odors affecting a substantial number of people?			☒	

III (a) Conflict with or obstruct implementation of the applicable air quality plan Mojave Desert Air Quality Management District)?

Determination: Less Than Significant Impact.

Sources: Mojave Desert Air Quality Management District, California Emissions Estimator Model (CalEEMod) Outputs. (Appendix A).

The project is within the Mojave Desert Air Basin and under the jurisdiction of the Mojave Desert Air Quality Management District. Under the Federal Clean Air Act the Mojave Desert Air Quality Management District has adopted a variety of attainment plans (i.e. "Air Quality Management Plans") for a variety of non-attainment pollutants. A complete list of the various air quality management plans is available from the Mojave Desert Air Quality Management District located at 14306 Park Avenue, Victorville, CA 92392 or on their website at:

http://www.mdaqmd.ca.gov/index.aspx?page=357

The Mojave Desert Air Quality Management District is responsible for maintaining and ensuring compliance with the above described Air Quality Management Plans. A project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project may also be non-conforming if it increases the gross number of dwelling units, increases the number of trips, and/or increases the overall vehicle miles traveled in an affected area (relative to the applicable land use plan).

A project is conforming if it complies with all applicable Mojave Desert Air Quality Management District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan).

Consistency with Emission Thresholds and Rules

As shown in Tables 4 through 6 below, the Project would not exceed Mojave Desert Air Quality Management District significance thresholds for any criteria pollutant during construction or during long-term operation. Accordingly, the Project's air quality emissions are less than significant.

Consistency with Control Measures

The project must comply with all applicable Mojave Desert Air Quality Management District rules, regulations, and control measures. These are mandatory requirements. As such, impacts are less than significant.

Consistency with Growth Forecasts

The Project site has a General Plan/Zoning designation of Light Manufacturing (LM). The project is not proposing the change the underlying land use designation. The Light Manufacturing (LM) designation was used in the land use assumptions to prepare the Mojave Desert Air Quality Management Plans listed above.

Conclusions

Based on the consistency analysis presented above, the proposed project will not conflict with the applicable Mojave Desert Air Quality Management Plans described above

III (b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Determination: Less Than Significant Impact With Mitigation Incorporated.
Sources: Mojave Desert Air Quality Management District, California Emissions Estimator Model (CalEEMod) Outputs. (Appendix A).

Federal Air Quality Standards

Under the Federal Clean Air Act, the Federal Environmental Protection Agency establishes health-based air quality standards that California must achieve. These are called "national (or federal) ambient air quality standards" and they apply to what are called "criteria pollutants." Ambient (i.e. surrounding) air quality standard establish a concentration above which a criteria pollutant is known to cause adverse health effects to people. The national ambient air quality standards apply to the following criteria pollutants:

- Ozone (8-hour standard)
- Respirable Particulate Matter (PM10)
- Fine Particulate Matter (PM2.5)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NOx)
- Sulphur Dioxide (SO2), and
- Lead.

State Air Quality Standards

Under the California Clean Air Act, the California Air Resources Board also establishes health-based air quality standards that cities and counties must meet. These are called "state ambient air quality standards" and they apply to the following criteria pollutants:

- Ozone (1-hour standard)
- Ozone (8-hour standard)
- Respirable Particulate Matter (PM10)
- Fine Particulate Matter (PM2.5)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NOx)
- Sulphur Dioxide (SO2), and
- Lead

Regional Air Quality Standards

The City of Adelanto is located within the Mojave Desert Air Basin which is under the jurisdiction of the Mojave Desert Air Quality Management District. The District develops plans and regulations designed to achieve both the national and state ambient air quality standards described above.

As with any new development project, the Project has the potential to generate pollutant concentrations during both construction activities and long-term operation. The following provides an analysis based on the applicable regional significance thresholds established by the Mojave Desert Air Quality Management District in order to meet national and state air quality standards.

Table 2. Mojave Desert Air Quality Management District Air Quality Significance Thresholds

Pollutant	Daily Emissions (pounds/day)
Carbon Monoxide (CO)	548
Oxides of Nitrogen (NOx)	137
Volatile Organic Compounds (VOC)	137
Oxides of Sulphur (SOx)	137
Particulate Matter (PM10)	82
Particulate Matter (PM 2.5)	82

Source: Mojave Desert Air Quality Management District

Note: Emission thresholds are given as a daily value because the Project phase are shorter than one year.

Both construction and operational emissions for the Project were estimated by using the California Emissions Estimator Model which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as California Environmental Quality Act (CEQA) documents and is authorized for use by the Mojave Desert Air Quality Management District.

Construction Emissions

Construction activities associated with the Project will result in emissions of CO, VOCs, NOx, SOx, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following onsite and offsite construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coatings (Painting)

Assumptions for equipment use and duration used to estimate air quality emissions are shown in Table 3.

Table 3. Construction Equipment List

Phase	Equipment Type	Number of Units	Hours/Day	Horse Power
Site Preparation	Rubber Tired Dozer	3	8	247
Site Preparation	Tractor/Loader/Backhoe	4	8	97
Grading	Tractor/Loader/Backhoe	2	8	97
Grading	Grader	1	8	187
Grading	Rubber Tired Dozer	1	8	247
Grading	Excavators	2	8	158
Building Construction 1-8	Crane	1	7	231
Building Construction 1-8	Forklifts	3	8	89
Building Construction 1-8	Tractor/Loader/Backhoe	3	7	97
Building Construction 1-8	Welders	1	8	46
Building Construction 1-8	Generator Sets	1	8	84
Architectural Coating 1-8	Air Compressors	1	6	78
Paving 1-8	Pavers	1	8	130
Paving 1-8	Paving Equipment	1	8	132
Paving 1-8	Rollers	1	8	80
Building Construction 9-16	Crane	1	7	231
Building Construction 9-16	Forklifts	3	8	89
Building Construction 9-16	Tractor/Loader/Backhoe	3	7	97
Building Construction 9-16	Welders	1	8	46
Building Construction 9-16	Generator Sets	1	8	84
Architectural Coating 9-16	Air Compressors	1	6	78
Paving 9-16	Pavers	1	8	130
Paving 9-16	Paving Equipment	1	8	132
Paving 9-16	Rollers	1	8	80
Building Construction 17-21	Crane	1	7	231
Building Construction 17-21	Forklifts	3	8	89
Building Construction 17-21	Tractor/Loader/Backhoe	3	7	97
Building Construction 17-21	Welders	1	8	46
Building Construction 17-21	Generator Sets	1	8	84
Architectural Coating 17-21	Air Compressors	1	6	78
Paving 17-21	Pavers	1	8	130
Paving 17-21	Paving Equipment	1	8	132
Paving 17-21	Rollers	1	8	80

Construction emissions without using control measures (e.g. watering 3 times per day) are shown in Table 4 below.

Table 4. Construction Emissions (Without Control Measures)

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	ROG	CO	SOx	PM10	PM 2.5
	68.04	112.78	39.63	0.078	21.09	12.62
Threshold	**137**	**137**	**548**	**150**	**82**	**82**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO
Source: MDAQMD and CalEEMod 2016.3.1						

As shown in Table 4 above, without implementation of control measures, air quality emissions do not exceed the Mojave Desert Air Quality Management District significance thresholds and no mitigation measures are required.

With implementation of Mojave Desert Air Quality Management District rules requiring control measures (i.e. water exposed area 3 times per day), PM_{10} emissions are reduced by 52% and $PM_{2.5}$ emissions are reduced by 48 % as shown in Table 5 below.

Table 5. Construction Emissions (With Control Measures)

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	ROG	CO	SOx	PM10	PM 2.5
	68.04	112.78	39.63	0.078	10.06	6.55
Threshold	**137**	**137**	**548**	**150**	**82**	**82**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO
Source: MDAQMD and CalEEMod 2016.3.1						

It should be noted that the emissions for Volatile Organic Compounds (VOC) was modeled assuming the maximum amount of interior coating would be 50,000 square feet per building. Therefore, the following mitigation measure is required to implement this restriction:

Mitigation Measures (MM)

MM- AQ-1- Coating Restriction Plan: *Prior to issuance of building permits, the project proponent shall submit, to the satisfaction of the Planning Department, a Coating Restriction Plan (CRP). The CRP measures shall be implemented to the satisfaction of City Building Department. The CRP shall include the following requirement:*

- *The maximum interior area that may be coated per building shall not exceed 50,000 square feet.*

With implementation of Mitigation Measure AQ-1, construction VOC emissions will exceed the thresholds established by the Mojave Desert Air Quality Management District as shown in Tables 4 and 5 above.

Operational Emissions

The Project would be operated as a cannabis cultivation and manufacturing facility. Typical operational characteristics include employees traveling to and from the site, delivery of supplies to the site, and maintenance activities. Table 6 shows the Mojave Desert Air Quality Management District thresholds for operational emissions compared to the Project's maximum daily emissions.

Table 6. Operational Emissions

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	ROG	CO	SOx	PM10	PM2.5
	18.27	19.82	24.16	0.079	4.87	1.39
Threshold	**137**	**137**	**548**	**150**	**82**	**82**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO
Source: MDAQMD and CalEEMod 2016.3.1						

As shown in Table 6 above, operational related emissions would not exceed Mojave Desert Air Quality Management District thresholds. Accordingly, the Project would not emit substantial concentrations of these pollutants during operation and would not contribute to an existing or projected air quality violation, on a direct or cumulative basis. As such, impacts are less than significant and no mitigation measures are required.

III (c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Determination: Less Than Significant Impact.

Sources: Mojave Desert Air Quality Management District, California Emissions Estimator Model (CalEEMod) Outputs. (Appendix A).

Attainment Designation

An "attainment" designation for an area signifies that criteria pollutant concentrations did not exceed the established standard. In contrast to attainment, a "nonattainment" designation indicates that a criteria pollutant concentration has exceeded the established standard.

If an area is in nonattainment for a criteria pollutant, then the background concentration of that criteria pollutant has historically been over the ambient air quality standard. It

follows if a project exceeds the I threshold for that nonattainment criteria pollutant, then it would result in a cumulatively considerable net increase of that criteria pollutant and result in a significant cumulative impact.

The Mojave Desert Air Basin is in non-attainments status for Ozone (State and Federal), $PM_{2.5}$ and PM_{10} (State) and PM_{10} (Federal)... As discussed in Issue III (b) above, the Project would not exceed Mojave Desert Air Quality Management District thresholds for construction or operational activities for any criteria pollutant and therefore will not result in a cumulatively considerable net increase of any criteria pollutant. As such, impacts are less than significant and no mitigation measures are required.

III (d) Expose sensitive receptors to substantial pollutant concentrations?

Determination: Less Than Significant Impact.
Sources: Mojave Desert Air Quality Management District CEQA Guidelines.

Residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated using significance threshold criteria established by the Mojave Desert Air Quality Management District·

- Any industrial project within 1000 feet;
- A distribution center (40 or more trucks per day) within 1000 feet;
- A major transportation project (50,000 or more vehicles per day) within 1000 feet;
- A dry cleaner using perchloroethylene within 500 feet;
- A gasoline dispensing facility within 300 feet.

The Project falls under the "industrial project" category listed above. The nearest sensitive receptor is the residential area located approximately 1,400 feet northeast of the Project site along Air Expressway. In addition, as shown on Tables 4 through 6 above, the Project does not exceed the significance thresholds for any air pollutant. As such, the project will not impact the residential area with respect to exposing sensitive receptors to substantial pollutant concentrations

III (e) Create objectionable odors affecting a substantial number of people?

Determination: Less Than Significant Impact.
Source: Municipal Code, Project Application Materials.

Land uses typically associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding.

Section 17.90.110-Odors of the Adelanto Municipal Code states: "*No operation or activity shall be permitted to emit odorous gases or other odorous matter in such*

quantities as to be dangerous, injurious, noxious, or otherwise objectionable and readily detectable without the aid of instruments at or beyond the lot line."

Compliance with this mandatory requirement will ensure that the Project will not create objectionable odors affecting a substantial number of people. As such, impacts are less than significant and no mitigation measures are required.

IV. BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			☒	
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				☒
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			☒	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		☒		
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				☒

IV 4(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Determination: Less Than Significant Impact.
Source: Biological Resources Assessment (Appendix B).

Plant Species

The site supports a highly disturbed creosote bush (*Larrea tridentata*) community; therefore, the site only supports a few species including creosote bush (*Larrea tridentata*), Joshua tree (*Yucca brevifolia*), and brome grass (*Bromus* sp.).

Wildlife Species

The site supports limited wildlife species on the site due to past ground disturbance, and a limited number of species was observed during the field investigations. California ground squirrel (*Otospermophilus beecheyi*), and ravens (*Corvus corax*) were the only wildlife observed, however; jackrabbits (*Lepus californicus*), desert cottontails (*Sylvilagus audubonl*), and coyotes (*Canis latrans*) occur in the surrounding area and may potentially occur on the site. Various other species were previously observed in the area, but not observed during the October 2016 survey

Desert Tortoise: The site was surveyed for desert tortoises as required by the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) survey protocol, 10 meter, parallel belt transects were walked in a north-south direction until the entire property had been checked for tortoises and/or tortoise sign (burrows, tracks, scats, etc.). Surveys in the zone of influence (ZOI) were also conducted in the area north and south of the site. USFWS and CDFW specify when surveys for tortoises should be conducted (i.e., April through May and September through October); therefore, focused surveys were conducted on October 27, 2016. All transects were walked at a pace that allowed careful observations along the transect routes and in the immediate vicinity. Field notes were recorded regarding native plant assemblages, wildlife sign, and human affects in order to determine the presence or absence of suitable tortoise foraging habitat. Desert tortoises have been documented in the area, although no recent tortoises have been documented in the immediate area (Occurrence #66, Baldy Mesa, California Quad., CNDDB, 2016). Development activities are not expected to impact the federal or state listed desert tortoise.

Burrowing Owl: A habitat assessment was conducted for the burrowing owl in conjunction with the general biological surveys to determine if the site supports suitable habitat for the species. Following completion of the habitat assessment, it was determined that the site does support suitable habitat for the burrowing owl. Therefore, a focused survey was conducted for burrowing owls and for occupiable (i.e., suitable) burrows which could potentially be utilized by owls. As part of the burrow survey, transects were walked throughout the site during which any suitable burrows were evaluated for owls and owl sign. Burrowing owls typically utilize burrows which have been excavated by other animals (squirrels, coyotes, foxes, dogs, etc.) since owls cannot dig their own burrows. CDFW protocol also requires surveys be conducted in the surrounding area out to a distance of about 500 feet; therefore, zone of influence (ZOI) surveys were performed in the area north of the site. If present on a site, CDFW typically requires the owls to be passively relocated during the non-breeding season. There are eight owl colonies that have been observed in the region (Occurrence #948, Baldy Mesa, California Quad), and the nearest observation was three miles away recorded in 2007 (CNDDB 2016). During the recent field investigations, no active or inactive burrows were found.

Mohave Ground Squirrel: Mohave ground squirrel populations have been documented in the area (Occurrence #318, Baldy Mesa Quad., California quad., CNDDB, 2016), and the nearest observation was recorded in 2005 about three miles southeast of the property (CNDDB, 2016). No Mohave ground squirrel surveys were observed during field investigations, and habitat for the species is limited. Therefore, the site is not believed to support populations of the species and this conclusion is based on the following criteria:

1. Presence of native vegetation throughout the site typically associated with the species;

2. Connectivity with suitable habitat in the surrounding area;

3. Presence of numerous small mammal burrows which may be utilized by the species; and

4. Presence of documented observations in the general region.

Le Conte's Thrasher: Le Conte's thrashers have been documented four times in the region (Occurrence # 137, Adelanto, California Quad), with the most recent observation 1.9 miles away in 1986 (CNDDB, 2016). Thrasher's could potentially occur on the site; although, the use of the site by thrashers may be infrequent given the low population levels in the region as well as the lack of suitable habitat on the site.

Swainson's Hawk: Swainson's hawk has been observed in the area, with the nearest occurrence approximately 3-miles from the site (CNDDB, 2016). The species is not expected to occur on the site due to limited habitat.

Conclusion

Development activities are not expected to impact the federal or state listed Mohave ground squirrel, desert tortoise, or Swainson's hawk. No federal or state listed species were observed during the 2016 field investigations. No other special status species (i.e., burrowing owl and Le Conte's thrasher) are expected to be impacted, and no active or unoccupied owl burrows were identified on the property. As such, no mitigation measures are required.

IV (b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Determination: No Impact.
Source: Biological Resources Assessment (Appendix B).

No sensitive habitats (e.g., wetlands, vernal pools, critical habitats for sensitive species, etc.) were observed on the site during the field investigations.

IV (c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Determination: No Impact.
Source: Biological Resources Assessment (Appendix B).

Section 404 of the Clean Water Act defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." [Ref. EPA Regulations listed at 40 CFR 230.3(t)].

The California Department of Fish and Wildlife found the U.S. Fish and Wildlife Service (Section 404 definition above) wetland definition and classification system to be the most biologically valid. The Department of Fish and Wildlife staff uses this definition as a guide in identifying wetlands. Based on a field survey, the site does not contain any features that meet the definition of "wetlands."

IV (d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Determination: No Impact.
Source: Biological Resources Assessment (Appendix B).

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human development. Corridors effectively act as links between different populations of a species. Interference with the movement of native resident migratory fish or wildlife species occurs through the fragmentation of open space areas caused by urbanization

Wildlife nursery sites are areas that provide valuable spawning and nursery habitat for fish and wildlife. Wildlife nursery sites occur in a variety of settings, such as trees, wetlands, rivers, lakes, forests, woodlands and grasslands to name a few. The use of a nursery site would be impeded if the use of the nursery site was interfered with directly or indirectly by a Project's development or activities.

As noted in the responses to Issues III a-c above, the site does not have habitat or features that would support a wildlife corridor or a wildlife nursery site. In addition, the project site is surrounded by development to the south and west and streets to the

south, east, and west preventing the use of the Project site and surrounding area as a wildlife corridor.

IV (e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Determination: Less Than Significant Impact With Mitigation Incorporated.
Source: Protected Plant Preservation Plan (Appendix C).

The property contains a total of 54 Joshua trees of which 9 are suitable for future transplanting. This number was determined based on: (1) trees which were three feet or greater in height and less than twelve feet tall (approximate); (2) in good health; (3), two branches or less; (4) density of trees (i.e., no clonal trees); no exposed roots; and (6) trees that are not leaning over excessively. The City of Adelanto's Municipal Code (Chapter 17.57.040) requires preservation of Joshua trees given their importance in the desert community. The following mitigation measure is required:

Mitigation Measures (MM)

MM- BIO-1 Joshua Tree Relocation: *Prior to the issuance of a grading permit or any land disturbance (including the area within the 60-foot right-of-way for Panther Avenue (between Joshua Avenue and Air Expressway) should that area be disturbed, a qualified approved contractor will be retained to conduct any future transplanting activities, and will follow the protocol of the City's Municipal Code. The following criteria will be utilized by the contractor when conducting any future transplanting activities:*

A. The Joshua trees will be utilized as part of on-site landscaping, where possible, or will be transplanted to an area of the property where they can remain in perpetuity. Joshua trees which are deemed not suitable for transplanting will be cut-up and discarded from the site.

B. Earthen berms will be created around each tree by the contractor prior to excavation and the trees will be watered approximately one week before transplanting. Watering the trees prior to excavation will help make excavation easier, ensure the root ball will hold together, and minimize stress to the tree.

C. Each tree will be moved to a pre-selected location which has already been excavated, and will be placed and oriented in the same direction as their original direction. The hole will be backfilled with native soil, and the transplanted tree will be immediately watered. As noted in Section 3.0, a numbered metal tag was placed on the north side of the tree and the tree was also flagged with surveyor's flagging.

The contractor will develop a watering regimen to ensure the survival of the transplanted trees. The watering regimen will be based upon the needs of the trees and the local precipitation.

With implementation of Mitigation Measure BIO-1, impacts are less than significant.

IV (f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Determination: No Impact.
Source: West Mojave CDCA Plan Amendment, Desert Renewable Energy Conservation Plan.

The Project Site is located within the planning area of the West Mojave CDCA Plan Amendment. The West Mojave CDCA Plan Amendment was adopted by the BLM in 2006. The Record-of-Decision applies only to 3.3 million acres of BLM-managed lands. To date no approvals have been issued for the Habitat Conservation Plan component by the USFWS or the CDFW. The Project Site is located on private property outside of the BLM management; therefore the West Mojave Plan does not apply.

Additionally, the Project Site is located within the boundaries of the Desert Renewable Energy Conservation Plan (DRECP) NCCP/HCP. Phase I of the DRECP was approved on September 14, 2016 and applies to BLM land only and does not apply to the Project. Phase II which would apply to non-federal land is an on-going process and no implementing agreements have been issued. As such, no conflicts related to applicable land use plans or NCCPs/HCPs are anticipated. Therefore, no impacts are identified or anticipated and no mitigation measures are required.

V. CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?				☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5 or a tribal cultural resource pursuant to Public Resources Code 21074?		☒		
c. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?		☒		
d. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		☒		
e. Disturb any human remains, including those interred outside of formal cemeteries?			☒	

V (a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines § 15064.5?

Determination: No Impact.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012, Phase I Environmental Site Assessment (Appendix F).

Historic resources generally consist of buildings, structures, improvements, and remnants associated with a significant historic event or person(s) and/or have a historically significant style, design, or achievement. Damaging or demolition of historic resources is typically considered to be a significant impact. Impacts to historic resources can occur through direct impacts, such as destruction or removal, and indirect impacts, such as a change in the setting of a historic resource.

CEQA Guidelines §15064.5(a) clarifies that historical resources include the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

2. A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements [of] section 5024.1(g) of the Public Resources Code.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

On November 15, 2011, a cultural resource records search was requested from the San Bernardino Archaeological Information Center (SBAIC) for the area encompassing the Planning and Study areas which include the Project site. A review was made of the National Register of Historic Places and Archaeological Determinations of Eligibility. Numerous historical maps were also reviewed by SBAIC staff for the presence of possible historical structures or archaeological site locations, covering a date range from 1892 through 1956. The results of the records search did not identify any above ground historic structures on the Project site.

In addition, as part of the Phase I Environmental Site assessment, the following USGS maps were reviewed:

- Barstow Quadrangle (30-minute series), dated 1932;
- Barstow Quadrangle (30-minute series), dated 1934;
- Adelanto Quadrangle (7.5-minute series), dated 1956;
- Adelanto Quadrangle (7.5-minute series), dated 1968;
- Adelanto Quadrangle (7.5- minute series), dated 1980;
- Adelanto Quadrangle (7.5-minute series), dated 1993; and
- Adelanto Quadrangle (7.5-minute series), dated 2012.

The site appears to be vacant land on all of the topographic map sheets reviewed to date. Aerial photographs dated 1968, 1975, 1985, 1995, 2005, 2009, 2010, 2012 and 2016 were also reviewed. The site appears to be vacant land in all of the aerial photographs reviewed to date.

Based on the above analysis, the Project will not result in any direct impact to a surface historical resource. There is no impact and no mitigation measures are required.

V (b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5 or tribal cultural pursuant to Public Resources Code 21074?

Determination: Less Than Significant Impact With Mitigation Incorporated.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012.

Archaeological sites are locations that contain resources associated with former human activities, and may contain such resources as human skeletal remains, waste from tool manufacture, tool concentrations, and/or discoloration or accumulation of soil or food remains.

As noted above, on November 15, 2011, a cultural resource records search was requested from the San Bernardino Archaeological Information Center (SBAIC) for the area encompassing the Planning and Study areas which include the Project site. A review was made of the National Register of Historic Places and Archaeological Determinations of Eligibility. Numerous historical maps were also reviewed by SBAIC staff for the presence of possible archaeological site locations, covering a date range from 1892 through 1956.

The CHRIS records search identified 288 cultural resources within the search area which included the Project site. In addition, several possible historical structures and archaeological site locations are present within the record search area. These potential resources appear within the search area on a number of maps, including the Thompson (1917, 1920, 1929), Beasley (1892), Blackburn (1932), Perris (1896), Kremmerer (1925), and AAA (various) maps; the USGS Shadow Mountains (1930, 1931, 1937); the USGS Victorville (1956); and the General Land Office (GLO) Plat (1855, 1856) maps.

Because the Planning Area is considered highly sensitive for previously unrecorded cultural resources. Cultural resource likely to be encountered include prehistoric artifacts, bedrock milling features, and temporary and long-term habitation sites; or artifact scatters; and other historical and prehistoric resource types. More in-depth studies may be necessary to accurately map the cultural resources. Therefore, the following mitigation measure is required:

Mitigation Measures (MM)

MM-CR-1: Archaeological Monitoring. *A qualified archaeologist (the "Project Archaeologist") shall be retained by the developer prior to the issuance of a grading permit (including any grading that may occur within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway). The Project Archaeologist will be on-call to monitor ground-disturbing activities and excavations on the Project site following identification of potential cultural resources by project personnel. If archaeological resources are encountered during implementation of the Project, ground-disturbing activities will be temporarily redirected from the vicinity of the find. The Project Archaeologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.*

MM- CR-2: Archeological Treatment Plan. *If a significant archaeological resource(s) is discovered on the property, ground disturbing activities shall be suspended 100 feet around the resource(s). The archaeological monitor, the Project Proponent, and the City Planning Department shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented by the archaeologist to protect the identified archaeological resource(s) from damage and destruction. The treatment plan shall contain a research design and data recovery program necessary to document the size and content of the discovery such that the resource(s) can be evaluated for significance under CEQA criteria. The research design shall list the sampling*

procedures appropriate to exhaust the research potential of the archaeological resource(s) in accordance with current professional archaeology standards (typically this sampling level is two (2) to five (5) percent of the volume of the cultural deposit). At the completion of the laboratory analysis, any recovered archaeological resources shall be processed and curated according to current professional repository standards. The collections and associated records shall be donated to an appropriate curation facility. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City of Adelanto Planning Department and the South Central Coastal Information Center

With implementation of Mitigation Measures CR-1 and CR-2, impacts are less than significant

V (c) Cause a substantial adverse change in the significance of a tribal cultural resource as defined

Determination: Less Than Significant Impact With Mitigation Incorporated.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012.

On July 1, 2015 AB 52 (Gatto, 2014) went into effect. According to its author:

"*Existing laws lack a formal process for tribes to be involved in the CEQA process as tribal governments. CEQA projects that impact tribal resources have experienced uncertainty and delays as lead agencies attempt to work with tribes to address impacts on tribal resources. With this bill, it is the author's intent to "Set forth a process and scope that clarifies California tribal government involvement in the CEQA process, including specific requirements and timing for lead agencies to consult with tribes on avoiding or mitigating impacts to tribal cultural resources.*"

"Tribal cultural resources" are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also created a process for consultation with California Native American Tribes in the CEQA process. Tribal Governments can request consultation with a lead agency and give input into potential impacts to tribal cultural resources before the agency decides what kind of environmental assessment is appropriate for a proposed project.

The Planning Department notified the following California Native American Tribes per the requirements of AB52:

- Twenty-Nine Palms Band of Mission Indians
- Torres Martinez Desert Cahuilla Indians

The Twenty-Nine Palms Band of Mission Indians responded with a request to have one of their Tribal monitors to be on site at this project location during all ground disturbance (this includes but is not limited to pavement removal, pot-holing or auguring, boring, grading, excavation and trenching). Mitigation Measure CR-3 is required to address the concerns expressed by the Twenty-Nine Palms Band of Mission Indians.

Mitigation Measure (MM)

MM- CR-3: Native American Monitoring, Treatment of Discoveries, and Disposition of Discoveries.

MONITORING:

Prior to the issuance of a grading permit (including any grading that may occur within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway), the applicant shall contact the consulting Native American Tribe(s) that have requested monitoring through consultation with the City during the AB 52 process. The applicant shall coordinate with the Tribe(s) to develop a Tribal Monitoring Agreement(s). A copy of the agreement shall be provided to the City of Adelanto Planning Department prior to the issuance of a grading permit.

TREATMENT OF DISCOVERIES:

If a significant tribal cultural resource is discovered on the property (including the area within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway), ground disturbing activities shall be suspended 100 feet around the resource(s). A representative of the appropriate Native American Tribe(s), the Project Proponent, and the City Planning Department shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented to protect the identified tribal cultural resources from damage and destruction. The treatment plan shall contain a research design and data recovery program necessary to document the size and content of the discovery such that the resource(s) can be evaluated for significance under CEQA criteria. The research design shall list the sampling procedures appropriate to exhaust the research potential of the tribal cultural resources in accordance with current professional archaeology standards. The treatment plan

shall require monitoring by the appropriate Native American Tribe(s) during data recovery and shall require that all recovered artifacts undergo basic field analysis and documentation or laboratory analysis, whichever is appropriate. At the completion of the basic field analysis and documentation or laboratory analysis, any recovered tribal cultural resources shall be processed and curated according to current professional repository standards. The collections and associated records shall be donated to an appropriate curation facility, or, the artifacts may be delivered to the appropriate Native American Tribe(s) if that is recommended by the City of Adelanto. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City of Adelanto Planning Department, the South Central Coastal Information Center and the appropriate Native American Tribe.

DISPOSITION OF DISCOVERIES:

In the event that Native American cultural resources are inadvertently discovered during the course of grading for this project. The following procedures will be carried out for treatment and disposition of the discoveries:

The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to tribal cultural resources. The applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Adelanto Planning Department with evidence of same:

a) A fully executed reburial agreement with the appropriate culturally affiliated Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed.

b) A curation agreement with an appropriate qualified repository that meets federal standards per 36 CFR Part 79 and therefore would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility to be accompanied by payment of the fees necessary for permanent curation.

c) If more than one Native American Group is involved with the project and cannot come to an agreement as to the disposition of cultural materials, they shall be curated at the Western Science Center by default.

d) Should reburial of collected cultural items be preferred, it shall not occur until after the Phase IV monitoring report has been submitted to the Adelanto Planning Department. Should curation be preferred, the developer/permit applicant is responsible for all costs and the repository and curation method shall be described in the Phase IV monitoring report.

With implementation of Mitigation Measure CR-3, impacts are less than significant.

V (d) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Determination: Less Than Significant Impact.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012.Geotechnical Report (Appendix D).

Paleontological resources are the preserved fossilized remains of plants and animals. Fossils and traces of fossils are preserved in sedimentary rock units, particularly fine- to medium grained marine, lake, and stream deposits, such as limestone, siltstone, sandstone, or shale, and in ancient soils. They are also found in coarse-grained sediments, such as conglomerates or coarse alluvium sediments. Fossils are rarely preserved in igneous or metamorphic rock units. Fossils may occur throughout a sedimentary unit and, in fact, are more likely to be preserved subsurface, where they have not been damaged or destroyed by previous ground disturbance, amateur collecting, or natural causes such as erosion.

Alluvial materials were encountered in all of the hollow-stem auger borings excavated on the site. In general, the alluvial materials typically consist of interlayers of medium dense to very dense silty sand and sand and very stiff to hard silt. These soils have the potential to yield paleontological resources during grading activities. Therefore the following mitigation measure is required.

Mitigation Measures (MM)

MM-CR-4: Paleontological Monitoring. *A qualified paleontologist (the "Project Paleontologist") shall be retained by the developer prior to the issuance of a grading permit (including any grading that may occur within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway). The Project Paleontologist shall monitor ground-disturbing activities and excavations on the Project site. If paleontological resources are encountered during implementation of the Project, ground-disturbing activities will be temporarily redirected from the vicinity of the find. The Project Paleontologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-5 shall apply.*

MM-CR-5: Paleontological Treatment Plan.

If a significant paleontological resource(s) is discovered on the Project site (including the area within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway if disturbed), in consultation with the Project proponent and the City, the qualified paleontologist shall develop a plan of mitigation which shall include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation of the find in a qualified repository, and preparation of a report summarizing the find.

Based on the analysis above, with implementation of Mitigation Measure CR-4 and CR-5, impacts will be less than significant.

V (e) Disturb any human remains, including those interred outside of formal cemeteries?

Determination: Less Than Significant Impact:
Sources: California Health and Safety Code §7050.5, Public Resources Code §5097 et. seq

The Project site does not contain a cemetery and no known formal cemeteries are located within the immediate vicinity. Nevertheless, the remote potential exists that human remains may be unearthed during grading and excavation activities associated with Project construction. In the event that human remains are discovered during Project grading or other ground disturbing activities, the Project would be required to comply with the applicable provisions of California Health and Safety Code §7050.5 as well as Public Resources Code §5097 et. seq. California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin. Pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made by the Coroner.

If the Coroner determines the remains to be Native American, the California Native American Heritage Commission (NAHC) must be contacted and the NAHC must then immediately notify the "most likely descendant(s)" of receiving notification of the discovery. The most likely descendant(s) shall then make recommendations within 48 hours, and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Based on the analysis above, with implementation of California Health and Safety Code §7050.5 as well as Public Resources Code §5097 et. seq. impacts would be less than significant and no mitigation measures are required.

VI. GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				☒
2) Strong seismic ground shaking?			☒	
3) Seismic-related ground failure, including liquefaction?			☒	
4) Landslides?				☒
b. Result in substantial soil erosion or the loss of topsoil?			☒	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on-site or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?			☒	
d. Be located on expansive soil, as defined in the Uniform Building Code, creating substantial risks to life or property?				☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				☒

VI (a) (1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Determination: No Impact.

Source: Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

No active or potentially active fault is presently known to exist at this site nor is the site situated within an "Alquist-Priolo" Earthquake Fault Zone. The nearest zoned fault is the San Andreas fault located approximately 20 miles to the southwest. Because there are no faults located on the Project site, there is no potential for the Project to expose people or structures to adverse effects related to rupture. of a known earthquake fault. No mitigation measures are required.

VI (a) (2) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking?

Determination: Less Than Significant Impact.
Sources: Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

The Project site is located in a seismically active area of Southern California and is expected to experience moderate to severe ground shaking during the lifetime of the Project. This risk is not considered substantially different than that of other similar properties in the Southern California area. As a mandatory condition of Project approval, the Project would be required to construct the proposed structures in accordance with the California Building Standards Code also known as California Code of Regulations Title 24. As such, impacts would be less than significant and no mitigation measures are required.

VI (a) (3) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction?

Determination: Less Than Significant Impact.
Source: Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

Liquefaction is a phenomenon in which loose, saturated, relatively cohesion-less soil deposits lose shear strength during strong ground motions. The factors controlling liquefaction are:

- Seismic ground shaking of relatively loose, granular soils that are saturated or submerged can cause soils to liquefy and temporarily behave as a dense fluid. For liquefaction to occur, the following conditions have to occur:
    - Intense seismic shaking;
    - Presence of loose granular soils prone to liquefaction; and
    - Saturation of soils due to shallow groundwater.

Based on the San Bernardino County Land Use Services Geologic Hazard Maps, the site is not mapped within a zone of potentially liquefiable soils. In addition, liquefaction is not considered to be a hazard at the subject site due to the underlying dense soils and great depth to groundwater (greater than 100 feet). As such, liquefaction is not anticipated in the event of seismic ground failure.

VI (a) (4) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides?

Determination: No Impact.
Source: Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

Generally, a landslide is defined as the downward and outward movement of loosened rock or earth down a hillside or slope. Landslides can occur either very suddenly or slowly, and frequently accompany other natural hazards such as earthquakes, floods, or wildfires. Landslides can also be induced by the undercutting of slopes during construction, improper artificial compaction, or saturation from sprinkler systems or broken water pipes.

The site is relatively flat and contains no slopes that may be subject to landslides. Elevations range from approximately 2,216 feet (above mean sea level) along the southern boundary of the Project site to 2,916 feet along the north property line.

Therefore, the site is not considered susceptible to seismically induced landslides. There are no impacts and no mitigation measures are required

VI (b) Result in substantial soil erosion or the loss of topsoil?

Determination: Less Than Significant Impact.
Source: Project Application Materials.

The Project will not result in substantial soil erosion or the loss of topsoil, because the site will be paved and landscaped after it is developed. To control soil erosion during construction the Project proponent is required to comply with the National Pollutant Discharge Elimination System permit applicable to the Project area and prepare a Storm Water Pollution Prevention Plan. In addition, a Water Quality Management Plan is required which addresses post-construction soil erosion. Preparation and implementation of these plans is a mandatory requirement. Therefore, impacts are less than significant and no mitigation measures are required.

VI (c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

Determination: Less Than Significant Impact.

Source: Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

Landslide

The site is relatively flat and contains no slopes that may be subject to landslides.

Lateral Spreading

Lateral spread or flow are terms referring to landslides that commonly form on gentle slopes and that have rapid fluid-like flow movement, like water. The site is relatively flat and contains no slopes that may contribute to lateral spreading.

Subsidence, Liquefaction or Collapse

Free groundwater was not encountered in test borings. Based on groundwater data (http://www.water.ca.gov/waterdatalibrary/), it is anticipated that groundwater is at a depth greater than 100 feet below existing grade. Subsidence, Liquefaction, or Collapse is not considered to be a hazard at the subject site due to the underlying dense soils and great depth to groundwater (greater than 100 feet). As such, impacts would be less than significant and no impacts related to subsidence, liquefaction and collapse will occur through compliance with the California Building Standards Code also known as California Code of Regulations Title 24.

VI (d) Be located on expansive soil, as defined in the Uniform Building Code, creating substantial risks to life or property?

Determination: No Impact.
Source: Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements. According to the results of the laboratory testing performed, the near-surface alluvial soils exhibited a "very low" expansion potential when tested in accordance with ASTM D 4829. As such, there are no impacts and no mitigation measures are required.

VI (e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Determination: No Impact.
Source: Project Application Materials, Adelanto North 2035 Sustainable By Design Technical Report-October 2012.

The Project does not propose the use of septic tanks or alternative waste water disposal systems. The Project would install domestic sewer infrastructure and connect to the existing Adelanto Public Utility Authority (APUA) sewer conveyance and treatment

system) via Panther Avenue to Air Expressway. As such, there are no impacts and no mitigation measures are required.

VII. GREENHOUSE GAS EMISSIONS

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			☒	
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			☒	

VII (a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact.

Source: Mojave Desert Air Quality Management District, California Emissions Estimator Model Outputs (Appendix A).

According to CEQA Guidelines Section 15064.4, when making a determination of the significance of greenhouse gas emissions, the "lead agency shall have discretion to determine, in the context of a particular project, whether to use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use." Moreover, CEQA Guidelines section 15064.7(c) provides that "a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts" on the condition that "the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

The City of Adelanto has not adopted Greenhouse Gas (GHG) thresholds of significance therefore; the Mojave Desert Air Quality Management District threshold will be utilized.

A summary of the proposed Project's projected annual operational greenhouse gas emissions, including amortized construction-related emissions, is provided in Table 7.

Table 7. Project Greenhouse Gas Emissions

Source	GHG Emissions MT/yr			
	N2O	CO2	CH4	CO2e
Mobile Sources	0.000	1,312.17	0.011	1,315.03
Area	0.000	0.011	0.00003	0.012
Energy	0.019	2,071.28	0.083	2,078.97
Solid Waste	0.000	158.18	9.35	391.88
Water/Wastewater	0.117	649.01	4.76	802.87
30-year Amortized Construction GHG				30.80
TOTAL				*4,619.56*
MDAQMD Threshold				**10,000**
Exceed Threshold?				**NO**

As shown in Table 7, the Project is estimated to emit approximately 4,619.56 MTCO2e per year, including amortized construction-related emissions which does not exceed the Mojave Desert Air Quality Management District threshold used by the City of Adelanto to determine if greenhouse gas emissions are significant. As such, impacts are less than significant and no mitigation measures are required.

VII (b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact.
Source: Mojave Desert Air Quality Management District, California Air Resources Board.

The Scoping Plan approved by the California Air Resources Board (CARB) on December 12, 2008, provides a framework for actions to reduce California's greenhouse gas emissions, and requires CARB and other state agencies to adopt regulations and other initiatives to reduce greenhouse gas emissions. As such, the Scoping Plan is not directly applicable to specific projects. Moreover, the Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "the Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009a).

Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of greenhouse emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area-source emissions (e.g., energy usage, high-GWP greenhouse gas emissions in consumer products) and changes to the vehicle fleet (hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. Although state regulatory measures would

ultimately reduce greenhouse gas emissions associated with the proposed project through their effect on these sources, no statewide plan, policy, or regulation would be specifically applicable to reductions in greenhouse gas emissions from the proposed Project. As such, impacts would be less than significant, and no mitigation measures are required.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			☒	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			☒	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				☒
d. Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and, as a result, would it create a significant hazard to the public or the environment?				☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?				☒
f. For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?			☒	
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			☒	
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			☒	

VIII (a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Determination: Less Than Significant Impact.

Source; California Department of Pesticide Regulation. Assembly Bill 2679, County of San Bernardino CUPA, Phase I Environmental Site Assessment (Appendix F).

Existing Hazardous Materials

The Phase I Environmental Site Assessment prepared for the Project indicated there that there are no known Recognized Environmental Conditions existing on the Project site. A Recognized Environmental Concern is one of the terms used to identify environmental liability within the context of a Phase I Environmental Site Assessment. The American Society for Testing and Materials defines the Recognized Environmental Condition in the E1527-13 standard in part as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."

In addition, three of the adjacent properties appear on the database report. Due to their status listings, these facilities do not represent an environmental concern to the Site. There are six (6) facilities listed on the database report within the various search distances specified by ASTM E 1527-13. Due to their status listings, distances, and/or locations (hydrogeologically down-or cross-gradient) these facilities do not represent an environmental concern to the site. As such, impacts are less than significant and no mitigation measures are required.

Construction Activities

Typical hazardous wastes that may be present during construction of the Project include:

- Spills or leaks of construction materials such as concrete curing compounds, asphalt products, paint, etc.
- Petroleum products from equipment operation and maintenance.
- Any material deemed hazardous waste in California Code of Regulations (CCR) Title 22, Division 4.5; or listed in Code of Federal Regulations (CFR) 40, Parts 110, 117, 261, or 302.

There are numerous regulations pertaining to the routine transport, use, or disposal of hazardous materials. During construction, the Project will be subject to all applicable federal, state, and local laws and regulations regarding hazardous materials, including but not limited requirements imposed by the Environmental Protection Agency, California Department of Toxic Substances Control, and the Lahontan Regional Water Quality Control Board. As such, impacts are less than significant and no mitigation measures are required.

Operational Activities

The Project proposes to cultivate, manufacture, distribute, transport, and test medical cannabis. All activities will take place in enclosed buildings. Indoor cultivation activities

would involve growing marijuana plants, harvesting marijuana plants, and drying marijuana flowers. These activities would involve the use of pesticides which is a hazardous substance. Under California and federal law, the only pesticide products not illegal to use on cannabis are those that contain an active ingredient that is 1): exempt from residue tolerance requirements, and either 2) exempt from registration requirements or 3) registered for a use broad enough to include use on cannabis.

Manufacturing activities involve raw cannabis that has undergone a process whereby the raw agricultural product has been transformed into a concentrate, an edible product, or a topical product. The manufacturing process may involve the use of hazardous substances.

Hazardous materials and hazardous waste programs are managed by the San Bernardino County Fire Department Certified Unified Program Agency (CUPA). The CUPA is charged with the responsibility of conducting compliance inspections for regulated facilities within San Bernardino County that handle hazardous material, generate or treat a hazardous waste and/or operate an underground storage tank. The CUPA administers permits, inspection activities, and enforcement activities. The use of hazardous materials for operation of the facility would be regulated by the CUPA through a Hazardous Materials Release Response Plan and Inventory (Business Plan). Compliance with the CUPA permit requirements would reduce potential impacts to a level less than significant. Therefore, no significant adverse impacts are identified or anticipated and no mitigation measures are required

During construction, there would be a minor level of transport, use, and disposal of hazardous materials and wastes that are typical of construction projects. This would include fuels and lubricants for construction machinery, coating materials, etc. All hazardous materials are required to be utilized and transported in accordance with their labeling pursuant to federal and state law. Mandatory construction control measures and best management practices for hazardous materials storage, application, waste disposal, accident prevention and clean-up will be sufficient to reduce potential impacts to a less than significant level.

VIII (b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Determination: Less Than Significant Impact.

Source: County of San Bernardino CUPA.

Accidents involving hazardous materials that could pose a significant hazard to the public or the environment would be highly unlikely during the construction and long-term operation of the Project and are not reasonably foreseeable. The use of hazardous materials on the Project site during construction is a standard risk on all construction sites, and there would be no greater risk for upset and accidents than would occur on any other similar construction site. (Also refer to analysis under Issue VIIIa above).

As noted under issue VIII a above, any hazardous materials used to cultivate, manufacture, or test medical cannabis would be regulated by the CUPA through a Hazardous Materials Release Response Plan and Inventory (Business Plan). Compliance with the CUPA permit requirements would reduce potential impacts to a level less than significant. Therefore, no significant adverse impacts are identified or anticipated and no mitigation measures are required

VIII (c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Determination: No Impact.
Source: Google Earth.

The Project site is not located within one-quarter (0.25) mile of a mile from an existing or proposed school. The nearest school is the Harold George Visual and Performing Arts Magnet School located approximately one (1) mile northeast of the Project site. However, as discussed in the responses to Issues VIIIa and VIIIb above, the all hazardous or potentially hazardous materials would comply with all applicable federal, State, and local agencies and regulations with respect to hazardous materials. As such, impacts would be less than significant and no mitigation measures are required.

VIII (d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Determination: No Impact.
Source: Phase I environmental Site Assessment (Appendix F).

The Project site is not included on the list of hazardous materials sites compiled in accordance with Government Code No. 65962.5. As such, there are no impacts and no mitigation measures are required.

VIII (e)For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?

Determination: No Impact.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012.

The Project is not located within 2 miles of a public airport or within an airport land use plan. The nearest public airport is the Southern California Logistics Airport located approximately 3.5 miles northeast of the Project site. As such, there are no impacts and no mitigation measures are required.

VIII (f) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?

Determination: No Impact.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012.

The Project site is located approximately two (2) miles northeast of the Adelanto Airport which is a privately owned general aviation facility with two unpaved runways. It is primarily used by single-engine aircraft, helicopters, ultralight aircraft, and gliders. The Project site is not within the vicinity or approach/departure flight path of the airport. As such, there are no impacts and no mitigation measures are required.

VIII (g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Determination: Less Than Significant Impact.
Source: Project Application Materials.

Access to the Project site is proposed from Yucca Road and Muskrat Avenue, which are improved roadways and will be further improved by the Project to include additional paving and the installation of curb, gutter, and sidewalk adjacent to the Project site. The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route. During construction and long-term operation, the Project would be required to maintain adequate emergency access for emergency vehicles via Yucca Road and Muskrat Avenue and connecting roadways as required by the City. Furthermore, the Project would not result in a substantial alteration to the design or capacity of any public road that would impair or interfere with the implementation of evacuation procedures. Because the Project would not interfere with an adopted emergency response or evacuation plan, impacts are less than significant and no mitigation measures are required.

VIII (h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Determination: Less Than Significant Impact.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012.

The Project site is located within a "moderate" wildfire hazard area. The Project site is located in an area characterized by primarily developed industrial land. To the north and east the site is adjacent to vacant land. To the west and south the site is adjacent to industrial development and some vacant land. City of Adelanto Municipal Code Chapter 14.20 adopts the 2013 Edition of the California Fire Code making all provisions of it applicable in the City of Adelanto. Applicable provisions of the Fire Code implemented into the project design will reduce the risk of loss, injury, or death involving wildland fires

to a level less than significant. Therefore, no significant adverse impacts are identified or anticipated and no mitigation measures are required.

IX. HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?			☒	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			☒	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?			☒	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or offsite?			☒	
e. Create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			☒	
f. Otherwise substantially degrade water quality?			☒	
g. Place housing within a 100-year flood hazard as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				☒
h. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?				☒
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				
j. Inundation by seiche, tsunami, or mudflow?				☒

IX (a) Violate any water quality standards or waste discharge requirements?

Determination: Less Than Significant Impact.
Source: Preliminary Drainage Report (Appendix F).

Construction

Construction of the Project would involve clearing, grading, paving, utility installation, building construction, and the installation of landscaping, which would result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other solvents with the potential to adversely affect water quality. As such, short-term water quality impacts have the potential to occur during construction of the Project in the absence of any protective or avoidance measures.

Pursuant to the requirements of the Lahontan Regional Water Quality Control Board and the City of Adelanto, the Project would be required to obtain a National Pollutant Discharge Elimination System Municipal Stormwater Permit for construction activities. The National Pollutant Discharge Elimination System permit is required for all Projects that include construction activities, such as clearing, grading, and/or excavation that disturb at least one (1) acre of total land area.

Compliance with the National Pollutant Discharge Elimination System permit involves the preparation and implementation of a Storm Water Pollution Prevention Plan for construction-related activities, including grading. The Storm Water Pollution Prevention Plan would specify the Best Management Practices that the Project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property.

Operation

Storm water pollutants commonly associated with the land uses proposed by the Project include sediment/turbidity, nutrients, trash and debris, oxygen-demanding substances, organic compounds, bacteria and viruses, oil and grease, and pesticides.

Pursuant to the requirements of the City's National Pollutant Discharge Elimination System permit, a Water Quality Management Plan is required for managing the quality of storm water or urban runoff that flows from a developed site after construction is completed and the facilities or structures are occupied and/or operational. A Water Quality Management Plan describes the Best Management Practices that will be implemented and maintained throughout the life of a project to prevent and minimize water pollution that can be caused by storm water or urban runoff. In the case of this Project, the site will use on-site storm water quality basin(s) which are designed to be dual purpose retention and water quality basins relying on infiltration.

Based on the analysis above, impacts would be less than significant and no mitigation measures are required

IX (b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Determination: Less Than Significant Impact.
Source: City of Adelanto 2015 Urban Water Management Plan, Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

The Project would be served with potable water by the Adelanto Public Utility Authority. The City's water supply comes solely from groundwater production from 15 potable wells in three pressure zones, transmission and distribution pipelines, booster stations and reservoirs. The City obtains all of its water supply from local groundwater in the Mojave River Groundwater Basin. The Mojave Basin Area was the subject of a court ordered adjudication in 1993 due to the rapid growth within the area, increased withdrawals, and lowered groundwater levels. The court's Judgment appointed Mojave Water Agency (MWA) as Watermaster of the Mojave Basin Area.

Given the City's total reliance on groundwater, the reliability of the City's water supply is thus entirely dependent on the reliability of the groundwater in the Mojave River Basin managed by MWA. Based on MWA's analysis, MWA has adequate supplies to meet demands during average, single-dry, and multiple-dry years throughout the 25-year planning period.

Thus, the Project's demand for domestic water service would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Groundwater was not encountered in exploratory excavations conducted for the geotechnical reports prepared for the Project. According to the State Water Resources Control Board database (http://www.water.ca.gov/waterdatalibrary/) groundwater is greater than 100 feet below ground surface. As such, the Project will not impact groundwater.

IX (c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?

Determination: Less Than Significant Impact.

Source: Preliminary Drainage Report (Appendix F), Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

The Project site is relatively flat with a gentle slope to the northeast. Elevations range from approximately 2,928 feet (above mean sea level) along the southern boundary of the Project site to 2,916 feet along the north property line. The site currently sheet flows generally to the north. After construction, surface runoff will be directed to a water quality control basin(s) located in the northern portion of the site where it will be treated through infiltration. As such, there would be no significant alteration of the site's existing drainage pattern and there would not be any significant increases in the rates of erosion or siltation on or off site.

IX (d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on or offsite?

Determination: Less Than Significant Impact.

Source Preliminary Drainage Report (Appendix F), Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

Existing Condition

The Project site is vacant, undeveloped and undisturbed land with uniform slope of approximately 1.5 percent. The topography indicates that the runoff drains in a northerly direction in the form of sheet flow, and there is a dirt road at the north end of the site, at the future alignment of Joshua Avenue that routes the flow to the west, where it currently ponds due to the low point created by the past construction of Muskrat below exiting ground elevations. There is no evidence of defined washes on site. There are two exit points for onsite flows. One previously described at the intersection of Joshua Avenue and Muskrat Avenue that drains the bulk of the Project site, and another that drains a small area along the east side of the site. The eastern sheet flow continues northerly as surface flow.

Proposed Condition

The proposed condition is to utilize a basin(s) for water quality and flood routing for the developed Project. The primary hydraulic design elements are the roads, drive aisles, curb and gutter, and the curb opening structures out letting to the basin(s). Drive aisles and curb and gutter within the Project will be used to carry runoff.

The post development runoff will then be routed to the proposed basin(s) to confirm post development runoff is mitigated to less than predevelopment runoff. The basin(s) are designed to be dual purpose retention and water quality basin(s) relying on infiltration.

The Project proposed retention and detention basin(s) are of sufficient size to handle water quality through infiltration, and flood mitigation through retention and infiltration. The Project will not require connection to any offsite channels. The design of the basin(s) is to completely hold and infiltrate the 100-yr 24hr runoff. If there is any storm that exceeds that, like the 500 year storm (0.2% chance storm) then it will overtop the basin(s) and continue to sheet flow northerly as it does in the existing condition. The development of the Project site will not change area drainage patterns, impact any of the surrounding properties, or change any of the regional master plan facilities.

Based on the analysis above, there would be no significant alteration of the site's existing drainage pattern and there would not be any significant increases in flooding on or off-site and no mitigation measures are required.

IX (e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Determination: Less Than Significant Impact.
Source Preliminary Drainage Report (Appendix F), Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

As discussed under Issue IXc and IXd above, the Project will construct a combination of retention and detention basin(s) of sufficient size to handle water quality through infiltration. The post development runoff will be mitigated to less than predevelopment runoff. As such, there would be no significant alteration of the site's existing drainage pattern and there would not be any additional sources of polluted runoff.

IX (f) Otherwise substantially degrade water quality?

Determination: Less Than Significant Impact.
Source Preliminary Drainage Report (Appendix F), Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

There are no conditions associated with the proposed Project that could result in the substantial degradation of water quality beyond what is described above in Issues IXa, IXc, and IX e above.

IX (g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Determination: No Impact.
Source: Project Application Materials.

The Project does not propose any housing. No impact would occur and no mitigation measures are required.

IX (h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Determination: No Impact.
Source Preliminary Drainage Report (Appendix F), Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

The Project site is not located within a designated flood plain based upon a review of Federal Emergency Management Agency Flood Insurance Rate Map Panel No. 060671C5780H, dated August 28, 2008. This Panel identified the subject area as being located within Flood Zone X, which is defined as "Area of minimal flood hazard, usually depicted on Flood Insurance Rate Maps as above the 500-year flood level." As such, no impact would occur and no mitigation measures are required.

IX (i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Determination: No Impact.
Source: County of San Bernardino Hazards Overlay Map.

The Project site and surrounding area is not located within a designated dam inundation area. The Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, as no levee or dam are located in the vicinity of the Project site.

IX (j) Inundation by seiche, tsunami, or mudflow?

Determination: No Impact.
Source: Google Earth Geotechnical Report (Appendix D), Addendum to Geotechnical Report (Appendix E).

The Project will not be impacted by inundation by seiche, tsunami, or mudflow, because the project is not located in the vicinity of any body of water that has the potential of seiche or tsunami. Based on the responses to Issues VI) and VIc of this Initial Study Checklist, the project site is not located in an area prone to landslides, soil slips, or slumps. Therefore, the proposed Project would have no impacts from mudflows.

X. LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?				☒
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			☒	
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				☒

X (a) Physically divide an established community?

Determination: No Impact.
Source: Project Application Materials.

An example of a Project that has the potential to divide an established community includes the construction of a new freeway or highway through an established neighborhood. The Project proposes to develop the 30.97 acre site with six (6) industrial buildings totaling 628,425 square feet. The site is bounded by Joshua Avenue (a dirt roadway), followed by vacant land, to the north; Muskrat Avenue (an asphaltic and concrete paved roadway), followed by commercial/industrial development and vacant land, to the west; Yucca Road (an asphalt paved roadway), followed by commercial/industrial development and vacant land, to the south; and a transmission line easement, followed by Raccoon Avenue (a semi-paved roadway), followed by vacant land, to the east. The Project is a logical extension of development in the area. Therefore, no impacts would occur with respect to dividing an established community.

X (b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Determination: Less Than Significant Impact.
Source: Municipal Code.

Sections 17.80.080 and 17.80.090 of the Adelanto Municipal Code regulate medical cannabis activities. The purpose of these sections of the Municipal Code are to regulate

medical cannabis activities in a manner that is consistent with State law and promote the health, safety, and general welfare of the residents and businesses within the City, while limiting the negative impacts associated with such medical cannabis activities. In this context, these section of the Municipal Code are considered to fall under the category of a zoning ordinance adopted for the purpose of avoiding or mitigating an environmental effect.

These sections of the Municipal Code currently allow medical cannabis activities as a conditionally permitted use only on properties within the Manufacturing/Industrial (MI) General Plan/Zoning designation within Industrial Parks 2, 3 and 4. The Project site is located within the Light Manufacturing (LM) zoning district. As such, an amendment to the General Plan/Zoning Map and Municipal Code would be required to allow the use of the proposed buildings for medical cannabis activities. Such an amendment is being considered by the Planning Commission and City Council under a separate application initiated by the City, making this Project subject to approval of the proposed amendment.

Although the proposed Project would be inconsistent with the existing General Plan and zoning requirements for medical cannabis activities, such an inconsistency would only be significant if it were to result in significant, adverse physical effects to the environment. As disclosed in this Initial Study Checklist/Mitigated Negative Declaration, implementation of the proposed Project could develop the subject property with buildings use to cultivate, manufacture, distribute, transport, and test medical cannabis. However, in all instances where significant impacts have been identified, mitigation is provided to reduce each impact to less-than-significant levels. Therefore, the Project would not result in significant physical impacts to the environment. The Project's inconsistency with the site's existing underlying General Plan/Zoning designation and Municipal Code for medical cannabis activities represents a less-than significant impact for which no mitigation would be required if the General Plan and Municipal Code is amended to allow the subject site to be used for medical cannabis activities.

In addition, as demonstrated throughout this Initial Study Checklist/Mitigated Negative Declaration, the Project would otherwise not conflict with any applicable goals, objectives, and policies of the General Plan, Municipal Code or conflict with any applicable policy document whose purpose is to avoid or mitigate an environmental effect.

X(c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Determination: No Impact.

Sources: West Mojave CDCA Plan, Desert Renewable Energy Conservation Plan.

The Project Site is located within the planning area of the West Mojave CDCA Plan Amendment. The West Mojave CDCA Plan Amendment was adopted by the BLM in 2006. The Record-of-Decision applies only to 3.3 million acres of BLM-managed lands.

To date no approvals have been issued for the Habitat Conservation Plan component by the USFWS or the CDFW. The Project Site is located on private property outside of the BLM management; therefore the West Mojave Plan does not apply.

Additionally, the Project Site is located within the boundaries of the Desert Renewable Energy Conservation Plan (DRECP) NCCP/HCP. Phase I of the DRECP was approved on September 14, 2016 and applies to BLM land only and does not apply to the Project. Phase II which would apply to non-federal land is an on-going process and no implementing agreements have been issued. As such, no conflicts related to applicable land use plans or NCCPs/HCPs are anticipated. Therefore, no impacts are identified or anticipated and no mitigation measures are required.

XI. MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				☒

XI (a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Determination: No Impact.
Source: California Geological Survey, Phase I environmental Site Assessment (Appendix F).

No mineral resource extraction activity is known to have ever occurred on the Project site. According to mapping conducted by the California Geological Survey which maps areas known as Mineral Resources Zones (MRZs), the Project site is mapped within MRZ-3, which is defined as "Areas containing mineral deposits the significance of which cannot be evaluated from available data."

The Project site is not located within an area of known to be underlain by regionally or locally important mineral resources, or within an area that has the potential to be underlain by regionally or locally important mineral resources, as disclosed by the General Plan and the associated General Plan Environmental Impact Report. Accordingly, implementation of the Project would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State of California. Accordingly, no impact would occur and no mitigation is required.

XI (b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Determination: No Impact.
Source: General Plan.

Refer to the Issue XIa above. The *General Plan* does not identify any locally important mineral resource recovery sites on-site or within close proximity to the Project site, nor are any mineral resource recovery operations located on-site or in the surrounding area. The Project site has a General Plan Land Use/Zoning designation of Light Manufacturing (LM) and is not intended for mineral resource extraction.

XII. NOISE

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			☒	
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			☒	
c. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?			☒	
d. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?			☒	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?				☒
f. For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?			☒	

XII (a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Determination: Less Than Significant Impact.

Sources: General Plan, Municipal Code, Adelanto North 2035 Sustainable By Design Technical Report-October 2012.Project Application Materials.

Noise Standards

Acceptable and unacceptable noise levels in the City of Adelanto are defined in Table VIII-2, "Land Use Compatibility Guidelines Related to Noise Exposure" in the City's General Plan. Per Table VIII-2 of the General Plan, acceptable noise levels in manufacturing and production land uses for general manufacturing may range from 65-70 CNEL; noise levels of 70 – 75 CNEL and 75 CNEL and above are compatible with implementation of noise level reduction design features incorporated into the Project.

Overview of the Existing Ambient Noise Environment

Ambient or background noise levels are typically a composite of sounds from many sources located both near and far, without any particular sound being dominant. The

primary existing noise sources in the Project area are transportation facilities. Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system. The primary existing noise sources in the Project area are from traffic on Yucca Road and Muskrat Avenue. Also contributing the noise environment are the industrial uses located to the west and south of the Project site.

Noise within the Adelanto is generally not a significant issue. This is because of a variety of factors, but primarily because of a relatively low population spread out over a large area. However, the following noise issues currently exist:

- Noise-sensitive locations (residences, parks, schools, and churches) located adjacent or in close proximity to Palmdale Road and US 395 are exposed to noise levels that are often well above the City's standard of 65 dB.

- Noise-sensitive residential locations located adjacent to portions of Bellflower Street, Chamberlaine Way, and Rancho Road are exposed to noise levels that are often well above the City's standard of 65 dB.

The Project site is not located within any of these noise issue areas

Short-term Construction Noise Impact Analysis

The most significant source of short-term noise impact is related to noise generated during construction activities on the Project site. Construction is performed in discrete steps, each of which has its own mix of equipment and consequently its own noise characteristics. Thus noise levels will fluctuate depending upon construction phase, equipment type, duration of equipment use, distance between the noise source and receptor, and the presence or absence of noise attenuation structures. As shown on Table 8 below, noise levels generated by heavy construction equipment can range from approximately 75 dBA to 99 dBA when measured at 50 feet.

Table 8. Typical Construction Equipment Noise Levels

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)
Pile Drivers	81 to 96
Rock Drills	83 to 99
Jack Hammers	75 to 85
Pneumatic Tools	78 to 88
Pumps	68 to 80
Dozers	85 to 90

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)
Tractors	77 to 82
Front-End Loaders	86 to 90
Graders	79 to 89
Air Compressors	76 to 86
Trucks	81 to 87

Source: "Noise Control for Buildings and Manufacturing Plants", Bolt, Beranek & Newman, 1987, as cited in the General Plan EIR

Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels will be loudest during the grading phase. A likely worst-case construction noise scenario during grading assumes the use of a grader, a dozer, an excavator, and a backhoe operating at 50 feet from the nearest sensitive receptor.

Noise generation related to construction activities is addressed in Section 17.90.020(d) of the City's Municipal Code: the Municipal Code requires construction projects to list general noise reduction practices as "General Notes" on the construction drawings. As part of the Project's conditions of approval (COA), the following notes must be included in the engineering plan's general notes and implemented during construction:

COA 1- Construction activity and equipment maintenance is limited to the hours between 7:00 a.m. to dusk on weekdays. Construction may not occur on weekends or State holidays, without prior consent of the Building Official. Non-noise generating activities (e.g. interior painting) are not subject to these restrictions. City and State construction projects, such as road re-building or resurfacing, and any construction activity that is in response to an emergency, shall be exempt from this requirement.

COA 2- Construction routes are limited to City of Adelanto designated truck routes.

With implementation of the above standard conditions of approval, construction noise impacts will be less than significant.

Noise Impacts to the Project Analysis

According to the *General Plan*, an industrial project would be considered impacted by noise if it were exposed to noise levels in excess of 75 CNEL. As noted above, traffic noise is the most likely source of noise that would impact the Project. Traffic noise from Highway 395 is typically 75 CNEL from 60 to 80 feet from the highway. The Project site

is located adjacent to Yucca Road and Muskrat Avenue and traffic noise form these roadways is not at the level generated by Highway 395.

In addition, the Project is not considered a "sensitive receptor" because it is a light industrial development. In addition, the building will be constructed with concrete tilt-up panels and have a closed window condition and a fresh air supply (i.e. air conditioning). As such, occupants of the building will not be exposed to excessive noise levels from vehicle traffic on Yucca Road or Muskrat Avenue.

Based on the above analysis, noise impacts to the Project are less than significant and no mitigation measures are required.

Noise Impacts Generated by the Project Analysis

Operational Noise

As required by Section 17.90.020 (b) (2) and (3) of the Municipal Code:

"No person shall operate or cause to operate any source of sound at any location or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level, when measured on any other property, either incorporated or unincorporated, to exceed:

A. The noise standard plus three (3) dBA for that receiving land use specified in Table VIII-2 of the General Plan Noise Element for a cumulative period of more than thirty (30) minutes in any hour; or

B. The noise standard plus five (5) dBA for a cumulative period of more than five (5) minutes in any hour; or

C. The noise standard plus ten (10) dBA for a cumulative period of more than three (3) minutes in any hour; or

D. The noise standard plus fifteen (15) dBA for a cumulative period of more than one (1) minute in any hour; or

E. The noise standard plus twenty (20) dBA for any period of time.

(3) If the measured ambient level exceeds any of the first four (4) noise limit categories above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

The Project is for six (6) industrial buildings totaling 628,425 square feet. The intended use is for medical cannabis cultivation, manufacturing, distribution, transportation, and testing. This type of use is not anticipated to generate high levels of noise as the activities do not involve heavy machinery and all processes will take place indoors.

There are no sensitive receptors (i.e. residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas) that may be affected by Project's operational noise. The Project site is located in an area characterized by primarily developed commercial/industrial land. The site is bounded by Joshua Avenue (a dirt roadway), followed by vacant land, to the north; Muskrat Avenue (an asphaltic and concrete paved roadway), followed by commercial/industrial development and vacant land, to the west; Yucca Road (an asphalt paved roadway), followed by commercial/industrial development and vacant land, to the south; and a transmission line easement, followed by Raccoon Avenue (a semi-paved roadway), followed by vacant land, to the east. The nearest sensitive receptors would be the residential neighborhood located approximately ½ mile to the northeast along Air Expressway.

Based on the above analysis, operational noise generated by the Project is less than significant and no mitigation measures are required.

Traffic Noise

Generally a project would result in a significant traffic-related noise impact if traffic generated by that project would cause or contribute to exterior noise levels at sensitive receptor locations in excess of 65 dBA and the project's contribution to the noise environment equals 3.0 dBA or more. (A change of 3.0 dBA is considered "barely perceptible" by the human ear and changes of less than 3.0 dBA generally cannot be perceived except in carefully controlled laboratory environments).

There are no sensitive receptors located in the immediate vicinity of the Project site. The nearest sensitive receptor is the residential neighborhood located approximately 1/4th of a mile north of the Project site on Air Expressway. In addition, given the low volume of traffic (846 daily vehicle trips on a typical weekday; 56 trips which will occur during the AM Peak Hour and 60 trips of which will occur during the PM Peak Hour), the Project will not generate significant traffic noise.

Conclusions

Based on the above analysis. noise generated by the Project will not expose persons to or generate noise levels in excess of standards established in the General Plan, Municipal Code, or applicable standards of other agencies

XII (b)	***Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?***

Determination: Less Than Significant Impact.
Source Municipal Code. Project Application Materials.

The City of Adelanto Municipal Code states that "*no ground vibration shall be allowed which can be felt without the aid of instruments at or beyond the subject property line, nor will any vibration be permitted which produces a particle velocity greater than or equal to two-tenths of an inch per second at or beyond the lot line*" [Municipal Code Section 17.90.030(a)].

Construction Vibration

Under existing conditions, there are no known sources of ground-borne vibration or noise that affect the Project site. The Project will not employ any pile driving, rock blasting, or rock crushing equipment during construction activities, which are the primary sources of ground-borne noise and vibration during construction.

The nearest structures (homes) to the Project site are located approximately 1/4th of a mile to the northeast of the Project site along Air Expressway. The threshold at which there may be a risk of architectural damage to normal houses with plastered walls and ceilings is 0.20 PPV inch/second. Primary sources of vibration during construction would be bulldozers. A large bulldozer could produce up to 0.089 PPV at 25 feet. At a distance of 15 feet a bulldozer would yield a worst-case 0.027 PPV (inch/sec) which is within the threshold of perception and below any risk or architectural damage. Given the distances of the residences from the site, impacts from construction vibration will be less than significant.

Operational Vibration

There are no conditions associated with the long-term operation of the Project that would result in the exposure to sensitive receptors of excessive ground-borne vibration or noise. The Project would develop the subject property to cultivate, manufacture, distribute, transport, and test medical cannabis and would not include nor require equipment, facilities, or activities that would generate ground-borne vibration or ground-borne noise.

Based on the above analysis, operation the Project would not expose on-site or off-site sensitive receptors to substantial ground-borne vibration or ground-borne noise. Impacts are less than significant and no mitigation is required.

XII (c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Determination: Less Than Significant Impact.
Sources: General Plan, Municipal Code, Adelanto North 2035 Sustainable By Design Technical Report-October 2012.Project Application Materials.

As noted in the response to Issue XIIa above, the increased level of noise from the Project will be less than significant. Therefore, the Project will not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project

XII (d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Determination: Less Than Significant Impact.
Sources: General Plan, Municipal Code, Adelanto North 2035 Sustainable By Design Technical Report-October 2012.Project Application Materials.

As noted in the response to Issue XIIa above, the increased level of noise from the Project will be less than significant. Therefore, the Project will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the Project

XII (e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

Determination: Less Than Significant Impact.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012.Project Application Materials.

The Project site is located approximately 3.5 miles northwest of the Southern California Logistics Airport and is located outside of the 65 dBA CNEL noise contour. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels from the airport.

XII (f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?

Determination: Less Than Significant Impact.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012.Project Application Materials.

The Project site is located approximately two (2) miles northeast of the Adelanto Airport which is a privately owned general aviation facility with two unpaved runways. It is primarily used by single-engine aircraft, helicopters, ultralight aircraft, and gliders. The Project site is not within the vicinity or approach/departure flight path of the airport. As such, the Project will not be exposed to noise impacts from the airport. Impacts are less than significant and no mitigation measures are required.

XIII. POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			☒	
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				☒
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				☒

XIII (a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Determination: Less Than Significant Impact.
Source: Project Application Materials.

The Project would not directly result in population growth because it does not propose any residential dwelling units. The Project proposes industrial buildings intended to be used for medical marijuana cultivation and manufacturing. This type of use is not labor intensive and will not create an additional need for housing thus increasing the overall population of the City .In addition, the Municipal Code require that 50% of the future employees be current residents of the City.

Typically, population growth would be considered a significant impact pursuant to CEQA if it directly or indirectly affects the ability of agencies to provide needed public services and requires the expansion or new construction of public facilities and utilities. Water service is provided by the Adelanto Public Utility Authority (APUA). Water service is available in Yucca Road to serve the Project site. Sewer service is provided by the Adelanto Public Utility Authority (APUA). Sewer service is available to serve the Project site via extending a sewer line in Panther Avenue to Air Expressway. No additional water or sewer infrastructure will be needed to serve the Project other than connection to the existing water and sewer lines.

In addition, the analysis in Section 3.14, Public Services, of this Initial Study Checklist demonstrates that the impacts on public services are less than significant so the public service provider's ability to provide services will not be reduced.

Based on the above analysis, impacts are less than significant and no mitigation measures are required.

XIII (b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Determination: No Impact.
Source: Project Application Materials.

The Project site does not contain any residential units. Therefore, implementation of the Project would not displace a substantial number of existing housing, nor would it necessitate the construction of replacement housing elsewhere.

XIII (c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Determination: No Impact.
Source: Project Application Materials.

As described above under the response to Issue XIIb, the Project site does not contain any residential units. Therefore, the Project would not displace substantial numbers of people and would not necessitate the construction of replacement housing elsewhere.

XIV. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:			☒	
1) Fire protection?			☒	
2) Police protection?			☒	
3) Schools?			☒	
4) Parks?			☒	
5) Other public facilities?			☒	

XIV (a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Determination: Less Than Significant Impact.

Sources: City of Adelanto, San Bernardino County Fire, County of San Bernardino Sheriff.

Fire Protection: The San Bernardino County Fire Department provides fire protection services to the Project area. The Project would be primarily served by the Adelanto Station #322, an existing station located approximately 0.8 roadway miles southeast of the Project site at 10370 Rancho Road. Development of the Project would impact fire protection services by placing an additional demand on existing County Fire Department resources should its resources not be augmented. To offset the increased demand for

fire protection services, the Project would be conditioned by the City to provide a minimum of fire safety and support fire suppression activities, including compliance with State and local fire codes, fire sprinklers, a fire hydrant system, paved access, and secondary access routes.

Furthermore, the Project would be required to pay the Fire Facilities Impact Fee. Payment of the Fire Facilities Impact Fee would ensure that the Project provides fair share funds for the provision of additional fire services, including fire protection services, which may be applied to fire facilities and/or equipment, to offset the incremental increase in the demand for fire protection services that would be created by the Project.

Police Protection: The San Bernardino County Sheriff's Department provides community policing to the Project area via the Victor Valley Sheriff Station located at 11613 Bartlett Street which is located approximately 2.6 roadway miles northeast of the Project site. The Victor Valley Station has one captain, two lieutenants, ten sergeants, seven detectives fifty three patrol deputies (November, 2016). If a permit is granted to operate the buildings to cultivate, manufacture, distribute, transport, and test medical cannabis, the Project is required to implement a security plan in conjunction with the City and the Sheriff's Department.

The Project site is located in a developed area of the City that is patrolled regularly. In addition, the City requires that 50% of the employees be current residents of the City so the Project will not substantially increase population requiring additional sheriff deputies. Therefore, the Project Is not expected to result in the construction of new or physically altered sheriff facilities, need for new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police services.

Schools: The Project site is located within the Adelanto School District. The District is authorized by State law (Government Code § 65995-6) to levy a new commercial construction fee per square foot of commercial construction for the purpose or funding the reconstruction or construction of new school facilities. Pursuant to Section 65995(3) (h) of the California Government Code, the payment of statutory fees is "deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning use, or development of real property, or any change in governmental organization or reorganization as defined in Section 56021 or 56073, on the provision of adequate school facilities." Therefore, the payment of school impact fees for future commercial development would offset the potential impacts of increased student enrollment related to the implementation of the project.

Parks: The Project will not create a demand for additional park facilities because the Project is an industrial development and no housing is proposed.

Other Public Facilities: The Project proposes industrial buildings intended to be used for medical cannabis cultivation, manufacturing, distribution, transportation, and testing.

These types of uses are not labor intensive and will not create an additional need for housing thus increasing the overall population of the City. In addition, the City requires that 50% of the future employees be current residents of the City. As such, there would be no need for increases in any other governmental services, such as public health services and library services which would require the construction of new or expanded public facilities.

XV. RECREATION

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			☒	
b. Does the Project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				☒

XV (a) Would the proposed Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Determination: Less Than Significant Impact.
Source: General Plan, Project Application Materials.

The Project proposes industrial buildings intended to be used to cultivate, manufacture, distribute, transport, and test medical cannabis. As such, the Project would not directly increase the number of people using recreational facilities causing a substantial physical deterioration of any recreation facilities or accelerate the physical deterioration of any recreation facilities.

XV (b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?

Determination: No Impact.
Source: General Plan, Project Application Materials.

The Project does not propose any recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment. In addition, no offsite parks or recreational improvements are proposed or required as part of the Project.

XVI. TRANSPORTATION/TRAFFIC

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			☒	
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			☒	
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?			☒	
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			☒	
e. Result in inadequate emergency access?			☒	
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			☒	

XVI (a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Determination: Less Than Significant Impact.
Source: Traffic Impact Analysis (Appendix H).

Study Area Intersections

For purposes of analyzing the Project's potential impacts to traffic, the following study intersections were evaluated.

Table 9. Traffic Study Intersection Locations

ID No.	Intersection Location
1	Muskrat Avenue/Driveway 1 – Future Intersection
2	Muskrat Avenue/Yucca Road
3	Muskrat Avenue/ Rancho Road
4	Driveway 2/Yucca Road – Future Intersection
5	Raccoon Avenue/ Yucca Road
6	Raccoon Avenue/ Rancho Road

Source: Traffic Impact Analysis, (Appendix G)

The above intersections were selected for study based on the "50 peak hour trip" criterion utilized by the City of Adelanto consistent with the methodology employed by the County of San Bernardino, and generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively impacted by a given development proposal.

Methodology

To determine whether the addition of Project traffic [as defined through the comparison of Existing traffic conditions to Existing Plus Project (E+P) traffic conditions] at a study intersection would result in a direct project-specific traffic impact, the following will be utilized:

- *When the pre-Project condition is at or better than LOS D (or LOS C for driveways) (i.e., acceptable LOS), and project-generated traffic, as measured by 50 or more peak hour trips, causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.*

- *However, when the pre-Project condition is already below LOS D/LOS E (i.e., unacceptable LOS), the Project will be responsible for mitigating its impact to a level of service equal to or better than it was without the Project for intersections that receive 50 or more peak hour project-related trips. This is a standard protocol in many urban jurisdictions because to require a Project to mitigate to LOS D/LOS E or better would in effect force the Project to mitigate beyond its Project impacts, which is prohibited under California law.*

- *Cumulative traffic impacts are created as a result of a combination of the proposed Project together with other future developments contributing to the overall traffic impacts requiring additional improvements to maintain acceptable level of service operations with or without the Project. A Project's contribution to a significant cumulative impact can be reduced to less-than-significant if the*

Project is required to implement or fund its fair share of improvements designed to alleviate its cumulatively considerable contribution to the impact. Cumulatively considerable is defined as the addition of 50 or more peak hour trips, and all facilities that would receive 50 or more peak hour trips from the Project are evaluated in this analysis.

Motorized Vehicle Impact Analysis

Project Trip Generation

Trip generation represents the amount of traffic that is attracted to and produced by a development project. Determining traffic generation for a specific project is based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses proposed for a given development.

Trip generation rates used to estimate Project traffic are shown in Table 4-1 of Appendix G for Passenger Car Equivalent (PCE). The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their *Trip Generation* manual, 9th Edition, 2012. For purposes of this analysis, ITE land use codes 140 (Manufacturing) and 818 [Nursery (Wholesale)] has been used to derive site specific trip generation estimates.

Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks. For the purposes of this analysis, the percentage of trucks, by axle type, were obtained from the Light Industrial Vehicle Mix and Enter/Exit Splits in the City of Fontana Truck Trip Generation Study (2003) which is commonly used to estimate vehicle trips for facilities that utilize trucks.

The following truck fleet mix was utilized for the purposes of estimating the truck trip generation for the site: 8.0% of the total trucks as 2-axle trucks, 3.9% of the total trucks as 3-axle trucks, and 9.5% of the total trucks as 4+-axle trucks. Lastly, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in the SANBAG guidelines.

The land uses proposed by the Project are estimated to produce an estimated 846 daily vehicle trips on a typical weekday; 56 trips which will occur during the AM Peak Hour and 60 trips of which will occur during the PM Peak Hour.

Analysis Scenarios

For the purpose of the Project's traffic impact analysis, potential impacts to traffic and circulation are assessed for each of the conditions listed below.

1) Existing (2016) Conditions;

2) Existing Plus Project (E+P) Conditions.

3) Opening Year Cumulative (2018) Without Project; and

4) Opening Year Cumulative (2018) With Project.

Existing (2016) Conditions Scenario Analysis

All study area intersections are currently operating at an acceptable LOS. As such, no intersection improvements have been recommended.

Existing plus Project (E+P) Conditions Analysis

There are no study area intersections anticipated to operate at unacceptable LOS for E+P conditions. As such, no intersection improvements have been recommended.

Opening Year Cumulative (2018) Without Project Analysis

There are no study area intersections that are anticipated to operate at an unacceptable LOS during the peak hours under Opening Year Cumulative (2018) Without Project conditions. As such, no intersection improvements have been recommended.

Opening Year Cumulative (2018) With Project Analysis

There are no study area intersections that are anticipated to operate at an unacceptable LOS during the peak hours under Opening Year Cumulative (2018) With Project conditions. As such, no intersection improvements have been recommended.

Conclusions

Based on the analysis above, for all of the scenarios analyzed, no study area intersections that are anticipated to operate at an unacceptable Levels of service (LOS) and no mitigation measures are required.

Transit Service Analysis

The study area is currently served by the Victor Valley Transit Authority (VVTA), a public transit agency serving the Victor Valley area within San Bernardino County, with bus service along Rancho Road via VVTA Route 33. Transit service is reviewed and updated by VVTA periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. The Project is not proposing to construct any street improvements that will interfere with any future bus service. As

such, the Project as proposed will not conflict with an applicable plan, ordinance or policy applying to transit services.

Bicycle & Pedestrian Facilities Analysis

The Project is not proposing to construct any improvements that will interfere with bicycle and pedestrian use. Pedestrian and bicycle access will be available to the Project site on Yucca Road, Muskrat Avenue, and Joshua Avenue. In addition, bicycle parking will be provided on the Project site. Therefore, the Project will not conflict with an applicable plan, ordinance or policy applying to non-motorized travel. Impacts are less than significant.

XVI (b) Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Determination: Less Than Significant Impact.
Source: San Bernardino Congestion Management Program.

The San Bernardino Associated Governments (SANBAG) was designated as the Congestion Management Agency for San Bernardino County in 1990 and prepares and administers the San Bernardino County Congestion Management Program. The intent of the San Bernardino County Congestion Management Program is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related impacts, and improve air quality.

As required by the San Bernardino County Congestion Management Program, the Project will be required to pay the mandatory development impact fees per the SANBAG Development Mitigation Nexus Study (Nexus Study). The development contribution requirements are established by the Nexus Study for regional transportation improvements, including freeway interchanges, railroad grade separations and regional arterial highways on the Nexus Study network. As such, impacts are less than significant.

XVI (c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Determination: Less Than Significant Impact.
Source: Adelanto North 2035 Sustainable By Design Technical Report-October 2012

The Project is not located within 2 miles of a public airport or within an airport land use plan. The nearest public airport is the Southern California Logistics Airport located

approximately 3.5 miles northeast of the Project site. As such, there are no impacts and no mitigation measures are required.

The Project site is located approximately two (2) miles northeast of the Adelanto Airport which is a privately owned general aviation facility with two unpaved runways. It is primarily used by single-engine aircraft, helicopters, ultralight aircraft, and gliders. The Project site is not within the vicinity or approach/departure flight path of the airport and will not impact air traffic patterns. As such, there are no impacts and no mitigation measures are required

XVI (d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Determination: Less Than Significant Impact.
Source: Project Application Materials.

The proposed Project will be accessible via Yucca Road and Muskrat Avenue which will be further improved by the Project by adding pavement, curb, gutter, and sidewalk adjacent to the Project site. In addition, Joshua Avenue will be improved adjacent to the project site with half-width improvements including travel lanes, curb, gutter, and sidewalk. These improvements will be constructed per City Standards Finally, the Project is an industrial use located in an industrial area so it will not create a hazard with incompatible uses (e.g., farm equipment). As such, impacts are less than significant.

XVI (e) Result in inadequate emergency access?

Less Than Significant Impact.
Source: Project Application Materials.

The proposed Project will be accessible via Yucca Road and Muskrat Avenue which will be further improved by the Project by adding pavement, curb, gutter, and sidewalk adjacent to the Project site. In addition, Joshua Avenue will be improved adjacent to the project site with half-width improvements including travel lanes, curb, gutter, and sidewalk. The Project site plan identifies adequate fire department access and turning radii entering the site and within the site, which are adequate to serve the site in case of an emergency. Therefore, the Project would have less than significant impacts on the provision of adequate emergency access.

XVI (f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Determination: Less Than Significant Impact.
Source: Project Application Materials.

The Project is located adjacent to Yucca Road and Muskrat Avenue, which are paved roadways and will be further improved by the Project by adding pavement, curb, gutter, and sidewalk adjacent to the Project site. In addition, Joshua Avenue along the northern boundary of the site will be paved with half-width improvements plus as additional travel lane. Therefore, access for alternative transportation (i.e., public transit, pedestrian, bicycle) can be accommodated and the project will not decrease the performance of existing alternative transportation facilities or be in conflict with policies, plans, or programs supporting alternative transportation.

XVII. UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			☒	
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			☒	
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			☒	
d. Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?		☒		
e. Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?			☒	
f. Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?			☒	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			☒	

XVII (a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Determination: Less Than Significant Impact.

Source: City of Adelanto 2015 Urban Water Management Plan.

The Adelanto Public Utilities Authority is the sole agency for collecting, treating and discharging wastewater within its service area through the Adelanto Wastewater Treatment Facility. Wastewater from Adelanto's water service area is collected and treated at the City-owned 4.0 MGD activated sludge wastewater treatment facility through an operations and maintenance contract with the PERC Water Corporation. The Adelanto Public Utilities Authority is required to operate all of its treatment facilities in accordance with the waste treatment and discharge standards and requirements set forth by the Lahontan Regional Water Quality Control Board. The proposed Project

would not install or utilize septic systems or alternative wastewater treatment systems; therefore, the Project would have no potential to exceed the applicable wastewater treatment requirements established by the. Lahontan Regional Water Quality Control Board Accordingly, impacts would be less than significant.

XVII (b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Determination: Less Than Significant Impact.
Source: Project Application Materials.

Water service is provided by the Adelanto Public Utility Authority. The water service area encompasses about 50 square miles and provides water for drinking and fire protection. This is accomplished with a network of water wells, pumps, storage tanks, and water transmission lines. Water service is available in Yucca Road to serve the Project site.

Sewer service is provided to the area by the Adelanto Public Utility Authority (APUA) through a network of gravity and force main sewer pipelines. Sewer service is proposed by extending a sewer line within the Panther Avenue right-of-way between Joshua Avenue and Air Expressway.

The installation of water and sewer lines as proposed by the Project would result in physical impacts to the surface and subsurface of the Project site. These impacts are considered to be part of the Project's construction phase and are evaluated throughout this Initial Study Checklist. In instances where significant impacts have been identified for the Project's construction phase, Mitigation Measures are required to reduce impacts to less-than-significant levels. Accordingly, additional measures beyond those identified throughout this Initial Study Checklist would not be required.

Based on the above analysis, impacts would be less than significant and no additional mitigation measures are required.

XVII (c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Determination: Less Than Significant Impact.
Source: Preliminary Drainage Report (Appendix F).

Under existing conditions, the Project site is vacant, undeveloped and undisturbed land with a uniform slope of approximately 1.5 percent. The topography indicates that the runoff drains in a northerly direction in the form of sheet flow, and there is a dirt road at the north end of the site, at the future alignment of Joshua Avenue that routes the flow to the west, where it currently ponds due to the low point created by the past

construction of Muskrat below exiting ground elevations. There is no evidence of defined washes on site. There are two exit points for onsite flows. One previously described at the intersection of Joshua Avenue and Muskrat Avenue that drains the bulk of the Project site, and another that drains a small area along the east side of the site. The eastern sheet flow continues northerly as surface flow.

Under the proposed condition, the Project will utilize basin(s) for water quality and flood routing for the developed Project. The primary hydraulic design elements are the roads, drive aisles, curb and gutter, and the curb opening structures out letting to the basin(s). Drive aisles and curb and gutter within the Project will be used to carry runoff. At this stage, no storm drain is proposed on the site

The construction of the on-site drainage facilities would result in physical impacts to the surface and subsurface of the Project site. These impacts are part of the Project's construction phase and are evaluated in the appropriate sections of this Initial Study Checklist. In any instances where significant impacts have been identified for the Project's construction phase, Mitigation Measures are required to reduce impacts to less-than-significant levels. Accordingly, additional measures beyond those identified throughout this Initial Study Checklist would not be required.

XVII (d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Determination: Less Than Significant Impact With Mitigation Incorporated.

Sources: Project Application Materials, City of Adelanto 2015 Urban Water Management Plan.

Water service would be provided to the Project site by the Adelanto Public Utility Authority. According to the *City of Adelanto 2015 Urban Water Management Plan*, the City's water supply comes solely from groundwater production from 15 potable wells in three pressure zones, transmission and distribution pipelines, booster stations and reservoirs. The City obtains all of its water supply from local groundwater in the Mojave River Groundwater Basin. The Mojave Basin Area was the subject of a court ordered adjudication in 1993 due to the rapid growth within the area, increased withdrawals, and lowered groundwater levels. The court's Judgment appointed Mojave Water Agency as Watermaster of the Mojave Basin Area.

Given the City's total reliance on groundwater, the reliability of the City's water supply is thus entirely dependent on the reliability of the groundwater in the Mojave River Basin managed by the Mojave Water Agency. Because almost all of the water used within the Mojave Water Agency's service area is supplied by pumped groundwater, to supplement the local groundwater supplies, the Mojave Water Agency recharges the groundwater basins with State Water Project imported water, natural surface water flows, wastewater imports from outside the Mojave Water Agency's service area, agricultural depletion from storage, and return flow from pumped groundwater not consumptively used. The Mojave Water Agency's sources are only used to recharge the

groundwater basins and are not supplied directly to any retailers, with the exception of two power plants, the High Desert Power Project and the LUZ Solar Plant.

According to the *Adelanto 2015 Urban Water Management Plan,* estimated water use projections for cannabis cultivation has been estimated at 50 gallons per day for each 1,000 feet of cultivation area. *(Ref. Adelanto Urban Water Management Plan Pg.4-2*). It should be noted that this methodology will be reevaluated after several cultivators begin operation.

Based on information obtained from the City of Adelanto Engineering Department on behalf of the Adelanto Public Utility Authority, the Project is preliminarily estimated to have a water allowance of one-hundred (100) gallons a day for each 1,000 of square feet of building area. Utilizing that water allowance factor, each 30,000 square foot building would have a water allowance of up to 3,000 gallons a day for each building. The applicant has indicated a desire to estimate the water allowance at 6,000 gallons per day.

The Project proposes five (5) buildings of 120,000 square feet each and will contain four (4) 30,000 square-foot units. one (1) building will be 30,000 square feet and will contain one (1) unit for a total of 628,425 square feet. It is unknown at this time what portion of each building will be used for cultivation, manufacturing, distribution, transportation, or testing. As such, a precise estimate of water usage would be somewhat speculative and ultimately would be controlled by the amount of water allocated by the Adelanto Public Utility Authority (3,000 gallons per day for each building estimated at this time).

The Project proposes to use an indoor hydroponics system for the cannabis cultivation. Hydroponics is a system of agriculture that utilizes nutrient-laden water rather than soil for plant nourishment. In most hydroponic farming systems, water is recirculated. Run-off water that is not taken up by the plants is recaptured. Nutrients are constantly added to the water and water returns to the plants. The majority of water is recirculated and recycled which reduces the amount of water consumption.

The Mojave Water Agency has concluded sufficient water supplies will exist to meet the demand of their retail agencies through 2040 for all normal, single-dry and multiple dry years. While these findings are subject to future evaluation, they currently represent the best available information on which to base *Adelanto's 2015 Urban Water Management Plan* and future water supply (including cannabis cultivation).

In addition, for the past year, local water agencies have had to implement state-imposed water conservation goals initiated by the Governor last year in response to the ongoing drought. However, on August 16, 2016 the State Water Resources Control Board lifted the state mandated conservation restrictions and local water districts are no longer required to implement the annual water conservation limit on its users.

In order to ensure that the estimated water allocation of 3,000 gallons per day for each buildings or the requested allocation of 6,000 gallons per day for each building is available as discussed in the analysis above, the following mitigation measure is required:

Mitigation Measures (MM)

MM- UTL1- Water Will Serve Letter: *Prior to the issuance of an occupancy permit for any building, a Will Serve letter from the Adelanto Public Utility Authority shall be provided to the Planning Department confirming that a minimum of 3,000 gallons of water per day per 30,000 square feet of building are available to serve the Project.*

With implementation of Mitigation Measure UTL-1, it will be confirmed that water is available to serve the Project from existing entitlements and resources and no new or expanded entitlements are. As such, impacts are less than significant.

XVII (e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

Determination: Less Than Significant Impact.
Sources: Project Application Materials, City of Adelanto 2015 Urban Water Management Plan.

The Adelanto Public Utilities Authority is the sole agency for collecting, treating and discharging wastewater within its service area through the Adelanto Wastewater Treatment Facility. Wastewater from Adelanto's water service area is collected and treated at the City-owned 4.0 MGD activated sludge wastewater treatment facility through an operations and maintenance contract with the PERC Water Corporation.

Municipal wastewater is generated in Adelanto's service area from a combination of residential, commercial, and industrial sources. The quantities of wastewater generated are generally proportional to the population and water usage in the service area. It is estimated that Adelanto's customers generate wastewater roughly proportional to 60 to 70 percent of the City's water demand.

With the recent expansion of the Adelanto Wastewater Treatment Facility to 4.0 MGD, the City would have adequate capacity to serve the Project's wastewater needs and would not significantly impact existing commitments. Therefore, no significant adverse impacts are identified or anticipated and no mitigation measures are required.

XVII (f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?

Determination: Less Than Significant Impact.
Sources: Project Application Materials, CalRecycle.

The Project Site is served by the County of San Bernardino Victorville Landfill.

Construction Related Impacts

Waste generated during the construction phase of the Project would primarily consist of discarded materials from the construction of streets, parking areas, infrastructure installation, and other project-related construction activities.

According to the Cal Recycle Facility/Site Summary Details website accessed on November 3, 2016, the Victorville Landfill receives well below its maximum permitted daily disposal volume and demolition and construction waste generated by the Project is not anticipated to cause the Victorville Landfill to exceed its maximum permitted daily disposal volume. Furthermore, the Victorville Landfill is not expected to reach their total maximum permitted disposal capacities during the Project's construction period. As such, there is sufficient daily capacity to accept construction solid waste generated by the Project.

In addition, the Project shall comply with Section 4.408 of the *2013 California Green Building Code Standards,* which requires new development projects to submit and implement a construction waste management plan in order to reduce the amount of construction waste transported to landfills. Prior to the issuance of building permits, the City of Adelanto will confirm that a sufficient plan has been submitted. .

Operational Related Impacts

The California Emission Estimator Model (CalEEMod) is a statewide land use emissions computer model designed to provide a uniform platform for government agencies to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. CalEEMod also estimates the amount solid waste generated by a project. Based on CalEEMod, the Project would generate approximately 779 tons of waste per year.

According to the Cal Recycle Facility/Site Summary Details website accessed on November 3, 2016 the Victorville Landfill has a permitted disposal capacity of 3,000 tons per day with a remaining capacity of 81,510,000 cubic yards. The Victorville Landfill is estimated to reach capacity, at the earliest time, in 2047.

Based on the above analysis, there is sufficient capacity in the Victorville Landfill to serve the Project. As such, impacts would be less than significant and no mitigation measures are required.

XVII (g) Comply with federal, state, and local statutes and regulations related to solid waste?

Determination: Less Than Significant Impact.

Sources: County of San Bernardino Waste Management Department, CalRecycle.

The California Integrated Waste Management Act established an integrated waste management system that focused on source reduction, recycling, composting, and land disposal of waste. In addition, the Act established a 50% waste reduction requirement for cities and counties by the year 2000, along with a process to ensure environmentally safe disposal of waste that could not be diverted. Per the requirements of the Integrated Waste Management Act, the San Bernardino County Board of Supervisors adopted the San Bernardino Countywide Integrated Waste Management Plan which outlines the goals, policies, and programs the County and its cities will implement to create an integrated and cost effective waste management system that complies with the provisions of California Integrated Waste Management Act and its diversion mandates.

The Project's waste hauler would be required to coordinate with the waste hauler to develop collection of recyclable materials for the Project on a common schedule as set forth in applicable local, regional, and State programs. Recyclable materials that would be recycled by the Project include paper products, glass, aluminum, and plastic.

Additionally, the Project's waste hauler would be required to comply with all applicable local, State, and Federal solid waste disposal standards, thereby ensuring that the solid waste stream to the landfills that serve the Project are reduced in accordance with existing regulations.

Based on the above analysis, impacts would be less than significant and no mitigation measures are required.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

Does the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		☒		
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		☒		
c. Have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		☒		

XVIII (a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Determination: Less Than Significant Impact with Mitigation Incorporated.
Source: This Initial Study Checklist.

As noted in the analysis throughout this Initial Study Checklist, the following apply to the Project and would reduce impacts relating to this issue. These measures will be included in the Project's Mitigation Monitoring and Reporting Program:

Mitigation Measures (MM)

BIO-1 and CR-1 through CR-5 shall apply.

Impact Analysis

All impacts to the environment, including impacts to habitat for fish and wildlife species, fish and wildlife populations, plant and animal communities, rare and endangered plants and animals, and historical and pre-historical resources were evaluated as part of this Initial Study Checklist.

In instances where impacts have been identified, the Mitigation Measures listed above are required to reduce impacts to less than significant levels. Therefore, Project would not substantially degrade the quality of the environment.

XVIII (b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Determination: Less Than Significant With Mitigation Incorporated.

Source: This Initial Study Checklist.

As noted in the analysis throughout this Initial Study Checklist, the following apply to the Project and would reduce impacts relating to this issue. These measures will be included in the Project's Mitigation Monitoring and Reporting Program:

Mitigation Measures (MM)

Aq-1, BIO-1, CR-1 through CR-5, and UTL-1 shall apply.

Impact Analysis

As discussed throughout this Initial Study Checklist, implementation of the proposed Project has the potential to result in effects to the environment that are individually limited, but cumulatively considerable.

In instances where impacts have been identified, Mitigation Measures, listed above are required to reduce impacts to less than significant levels. Therefore, the Project would not contribute to environmental effects that are individually limited, but cumulatively considerable.

XVIII (c) Does the Project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?

Determination: Less Than Significant Impact With Mitigation Incorporated.
Source: This Initial Study Checklist.

Impact Analysis

The Project's potential to result in environmental effects that could adversely affect human beings, either directly or indirectly, has been discussed throughout this Initial Study Checklist document.

All impacts pertaining to Aesthetics, Agriculture and Forestry Resources, Air Quality, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Public Services, and Transportation/Traffic, were found to have "no impact" or have a "less than significant impact."

With implementation of Mitigation Measure UTL-1, impacts would be less than significant.

Therefore, the Project would not result in environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly.

GENERAL REFERENCES

City of Adelanto General Plan. 1994.

City of Adelanto Development Code. Current through 11-16-2016.

City of Adelanto, Adelanto North 2035 Sustainable By Design Technical Report-October 2012

City of Adelanto, 2015 Urban Water Management Plan.

City of Adelanto Master Plan of Drainage. November 1992. Prepared by Rivertech Inc.

California Department of Conservation. California Important Farmland Finder. Accessed 11-1-2016.

California Department of Conservation. San Bernardino County Williamson Act FY 2015-2016 Sheet

California Department of Conservation. 1994. Mineral Land Classification of a Part of Southwestern
San Bernardino County: The Barstow-Victorville Area, California. (DMG Open File Report 94-04).

California Department of Toxic Substances Control. EnviroStor Databased. Accessed 11-1-2016.

CalRecycle. *Facility/Site Summary Details: Victorville Sanitary Landfill (36-AA-0045).* Accessed 4-7-
2015.

County of San Bernardino General Plan Hazards Overlay Map, 2007,

Southern California Logistics Airport Comprehensive Airport Land Use Plan, 2008

County of San Bernardino Congestion Management Plan, 2016

West Mojave CDCA Plan, 2005

Desert Renewable Energy Conservation Plan, 2016

Assembly Bill 52, 2015

Mojave Air Quality Management District CEQA Guidelines, 2009

California Health and Safety Code §7050.5, Public Resources Code §5097 et. seq

PROJECT SPECIFIC REFERENCES

Air Quality, Greenhouse Gas Emissions, California Emissions Estimator Model Outputs, prepared by Romo Planning Group, Inc., November 17, 2016.

General Biological Resources Assessment, APN: 0459-432-29 & 50, Adelanto, CA, prepared by RCA Associates, Inc. November 1, 2016.

Protected Plant Preservation Plan, APN: 0459-432-29 & 50, Adelanto, CA, prepared by RCA Associates, Inc. October 31, 2016.

Geotechnical Evaluation, Proposed Commercial Development, Assessor Parcel Numbers (APNs) 0459-432-29 and -50,Northeast of the Intersection of Muskrat Avenue and Yucca Road Adelanto, San Bernardino County, California, prepared by Geo Tek Inc. October 19, 2016.

Addendum to Geotechnical Evaluation, Proposed Commercial Development, Assessor Parcel Numbers (APNs) 0459-432-29 and -50,Northeast of the Intersection of Muskrat Avenue and Yucca Road Adelanto, San Bernardino County, California, prepared by Geo Tek Inc. October 25, 2016.

Phase I Environmental Site Assessment Assessor Parcel Numbers (APNS) 0459-432-29 and -50 Adelanto, San Bernardino County, California 92301, prepared by Geo Tek Inc. October 24, 2016

Preliminary Drainage Report for Yucca Rd and Muskrat Ave Industrial, Adelanto, CA, prepared by United Engineering Group – California, October 27, 2016.

Adelanto Cultivation Center, Traffic Impact Analysis, City of Adelanto, prepared by Urban Crossroads, November 7, 2016.

REPORT PREPARATION PERSONNEL

LEAD AGENCY:

City of Adelanto
Planning Department
Ernest Perea, Director of Environmental Services, RPG, Inc.
Reuben Arceo, Project Manager, RPG, Inc.

MITIGATION MONITORING REPORTING PROGRAM

PROJECT FILE NOS: Conditional Use Permit (CUP) 16-37 & Location and Development Plan (LDP) 16-23

DATE: November 22, 2016.

PROJECT DESCRIPTION: A Conditional Use Permit and Location and Development Plan to establish a cannabis cultivation, manufacturing, distribution, transportation, and testing facility consisting of six (6) buildings totaling 628,425 square feet on 30.97 acres.

PROJECT LOCATION: North side of Yucca Road, between Muskrat Avenue and Raccoon Avenue. APNS: 0459-342- 29 & 50.

MITIGATION MEASURE	RESPONSIBILITY FOR IMPLEMENTATION	TIME FRAME/MILESTONE	VERIFIED BY:
AIR QUALITY			
MM- AQ-1- <u>Coating Restriction Plan</u>: *Prior to issuance of building permits, the project proponent shall submit, to the satisfaction of the Planning Department, a Coating Restriction Plan (CRP). The CRP measures shall be implemented to the satisfaction of City Building Department. The CRP shall include the following requirement:* • *The maximum interior area that may be coated per building shall not exceed 50,000 square feet.*	Planning Department Building Department	Prior to the issuance of building permits and during the application of coatings.	
BIOLOGICAL RESOURCES			
<u>MM- BIO-1 Joshua Tree Transplanting:</u> *Prior to the issuance of a grading permit or any land disturbance (including the area within the 60-foot right-of-way for Panther Avenue (between Joshua Avenue and Air Expressway) should that area be disturbed, a qualified approved contractor will be retained to conduct any future transplanting activities, and will follow the protocol of the City's Municipal Code. The following criteria will be utilized by the contractor when conducting any future transplanting activities:* *D. The Joshua trees will be utilized as part of on-site landscaping, where*	Planning Department	Prior to the issuance of grading permits	

MITIGATION MEASURE	RESPONSIBILITY FOR IMPLEMENTATION	TIME FRAME/MILESTONE	VERIFIED BY:
possible, or will be transplanted to an area of the property where they can remain in perpetuity. Joshua trees which are deemed not suitable for transplanting will be cut-up and discarded from the site. *E. Earthen berms will be created around each tree by the contractor prior to excavation and the trees will be watered approximately one week before transplanting. Watering the trees prior to excavation will help make excavation easier, ensure the root ball will hold together, and minimize stress to the tree.* *F. Each tree will be moved to a pre-selected location which has already been excavated, and will be placed and oriented in the same direction as their original direction. The hole will be backfilled with native soil, and the transplanted tree will be immediately watered. As noted in Section 3.0, a numbered metal tag was placed on the north side of the tree and the tree was also flagged with surveyor's flagging.* *The contractor will develop a watering regimen to ensure the survival of the transplanted trees. The watering regimen will be based upon the needs of the trees and the local precipitation*			
CULTURAL RESOURCES			
MM-CR-1: Archaeological Monitoring. *A qualified archaeologist (the "Project Archaeologist") shall be retained by the developer prior to the issuance of a grading permit (including any grading that may occur within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway). The Project Archaeologist will be on-call to monitor ground-disturbing activities and excavations on the Project site following identification of potential cultural resources by project personnel. If archaeological resources are encountered during implementation of the Project, ground-disturbing activities will be temporarily redirected from the vicinity of the find. The Project Archaeologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.*	Planning Department Engineering Department	Prior to the issuance of a grading permit and during grading	
MM-CR-2: Archeological Treatment Plan. *If a significant archaeological resource(s) is discovered on the property, ground disturbing activities shall be suspended 100 feet around the resource(s). The archaeological monitor, the*	Planning Department	During grading	

MITIGATION MEASURE	RESPONSIBILITY FOR IMPLEMENTATION	TIME FRAME/MILESTONE	VERIFIED BY:
Project Proponent, and the City Planning Department shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented by the archaeologist to protect the identified archaeological resource(s) from damage and destruction. The treatment plan shall contain a research design and data recovery program necessary to document the size and content of the discovery such that the resource(s) can be evaluated for significance under CEQA criteria. The research design shall list the sampling procedures appropriate to exhaust the research potential of the archaeological resource(s) in accordance with current professional archaeology standards (typically this sampling level is two (2) to five (5) percent of the volume of the cultural deposit). At the completion of the laboratory analysis, any recovered archaeological resources shall be processed and curated according to current professional repository standards. The collections and associated records shall be donated to an appropriate curation facility. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City of Adelanto Planning Department and the South Central Coastal Information Center			
MM-CR-3: Native American Monitoring, Treatment of Discoveries, and Disposition of Discoveries. *MONITORING:* *Prior to the issuance of a grading permit (including any grading that may occur within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway), the applicant shall contact the consulting Native American Tribe(s) that have requested monitoring through consultation with the City during the AB 52 process. The applicant shall coordinate with the Tribe(s) to develop a Tribal Monitoring Agreement(s). A copy of the agreement shall be provided to the City of Adelanto Planning Department prior to the issuance of a grading permit.* *TREATMENT OF DISCOVERIES:* *If a significant tribal cultural resource is discovered on the property (including the area within the 60-foot right-of way for Panther Avenue between Joshua*	Planning Department Engineering Department	Prior to the issuance of a grading permit and during grading	

MITIGATION MEASURE	RESPONSIBILITY FOR IMPLEMENTATION	TIME FRAME/MILESTONE	VERIFIED BY:
Avenue and Air Expressway), ground disturbing activities shall be suspended 100 feet around the resource(s). A representative of the appropriate Native American Tribe(s), the Project Proponent, and the City Planning Department shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented to protect the identified tribal cultural resources from damage and destruction. The treatment plan shall contain a research design and data recovery program necessary to document the size and content of the discovery such that the resource(s) can be evaluated for significance under CEQA criteria. The research design shall list the sampling procedures appropriate to exhaust the research potential of the tribal cultural resources in accordance with current professional archaeology standards. The treatment plan shall require monitoring by the appropriate Native American Tribe(s) during data recovery and shall require that all recovered artifacts undergo basic field analysis and documentation or laboratory analysis, whichever is appropriate. At the completion of the basic field analysis and documentation or laboratory analysis, any recovered tribal cultural resources shall be processed and curated according to current professional repository standards. The collections and associated records shall be donated to an appropriate curation facility, or, the artifacts may be delivered to the appropriate Native American Tribe(s) if that is recommended by the City of Adelanto. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City of Adelanto Planning Department, the South Central Coastal Information Center and the appropriate Native American Tribe. *DISPOSITION OF DISCOVERIES:* *In the event that Native American cultural resources are inadvertently discovered during the course of grading for this project. The following procedures will be carried out for treatment and disposition of the discoveries:* *The landowner(s) shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts and non-human remains as part of the required mitigation for impacts to tribal cultural resources. The applicant shall relinquish the artifacts through one or more of the following methods and provide the City of Adelanto Planning Department*			

MITIGATION MEASURE	RESPONSIBILITY FOR IMPLEMENTATION	TIME FRAME/MILESTONE	VERIFIED BY:
with evidence of same: *a) A fully executed reburial agreement with the appropriate culturally affiliated Native American tribes or bands. This shall include measures and provisions to protect the future reburial area from any future impacts. Reburial shall not occur until all cataloguing and basic recordation have been completed.* *b) A curation agreement with an appropriate qualified repository that meets federal standards per 36 CFR Part 79 and therefore would be professionally curated and made available to other archaeologists/researchers for further study. The collections and associated records shall be transferred, including title, to an appropriate curation facility to be accompanied by payment of the fees necessary for permanent curation.* *c) If more than one Native American Group is involved with the project and cannot come to an agreement as to the disposition of cultural materials, they shall be curated at the Western Science Center by default.* *d) Should reburial of collected cultural items be preferred, it shall not occur until after the Phase IV monitoring report has been submitted to the Adelanto Planning Department. Should curation be preferred, the developer/permit applicant is responsible for all costs and the repository and curation method shall be described in the Phase IV monitoring report.*			
MM-CR-4: Paleontological Monitoring. *A qualified paleontologist (the "Project Paleontologist") shall be retained by the developer prior to the issuance of a grading permit (including any grading that may occur within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway). The Project Paleontologist shall monitor ground-disturbing activities and excavations on the Project site. If paleontological resources are encountered during implementation of the Project, ground-disturbing activities will be temporarily redirected from the vicinity of the find. The Project Paleontologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If*	Planning Department Engineering Department	Prior to the issuance of a grading permit and during grading	

MITIGATION MEASURE	RESPONSIBILITY FOR IMPLEMENTATION	TIME FRAME/MILESTONE	VERIFIED BY:
the resource is significant, Mitigation Measure CR-5 shall apply.			
MM-CR-5: Paleontological Treatment Plan. *If a significant paleontological resource(s) is discovered on the Project site (including the area within the 60-foot right-of way for Panther Avenue between Joshua Avenue and Air Expressway if disturbed), in consultation with the Project proponent and the City, the qualified paleontologist shall develop a plan of mitigation which shall include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation of the find in a qualified repository, and preparation of a report summarizing the find.*	Planning Department	During grading	
UTILITIES AND SERVICE SYSTEMS			
MM- UTL1- Water Will Serve Letter: *Prior to the issuance of an occupancy permit for any building, a Will Serve letter from the Adelanto Public Utility Authority shall be provided to the Planning Department confirming that a minimum of 3,000 gallons of water per day per 30,000 square feet of building are available to serve the Project.*	Planning Department	Prior to the issuance of an occupancy permit	

Adelanto - Yucca Road Project

Mojave Desert AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	628.42	1000sqft	30.97	628,425.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project phasing and schedule per project proponent

Land Use - Per project description 628425 sf 50000 for manuf. 578425 cultivation used industrial building for model on 30.97 acres

Construction Phase - No demolition phase. Building phases based on estimates for phase completion dates provided by project proponent.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Paving defaults were changed for equipment from 2 or each type to one due to phasing

Off-road Equipment - Paving equipment default changed from 2 to 1 for each type due to project phasing

Off-road Equipment - Paving equipment was changed from default from 2 to 1 of each type due to phasing

Off-road Equipment -

Grading - acres changed to reflect actual site acerage of 30.97

Architectural Coating - Arch coating sf determined by dividing area sf by phases and number of building per phase

Vehicle Trips - trip rate from Project Trip Generation Summary

Energy Use -

Construction Off-road Equipment Mitigation - Clean paved roads per bmp's for fugitive dust control

Fleet Mix - Fleet data includes information from project specific Trip Generation Summary

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	74,815.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	119,704.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	119,704.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	44,887.00

tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	10
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	25
tblConstructionPhase	NumDays	35.00	25.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	NumDays	35.00	17.00
tblConstructionPhase	NumDays	500.00	133.00
tblConstructionPhase	NumDays	500.00	145.00
tblConstructionPhase	NumDays	500.00	145.00
tblConstructionPhase	NumDays	45.00	17.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	20.00	10.00
tblGrading	AcresOfGrading	42.50	30.97
tblLandUse	BuildingSpaceSquareFeet	628,420.00	628,425.00
tblLandUse	LandUseSquareFeet	628,420.00	628,425.00
tblLandUse	LotAcreage	14.43	30.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblVehicleTrips	ST_TR	2.49	1.35
tblVehicleTrips	SU_TR	0.73	1.35
tblVehicleTrips	WD_TR	6.83	1.35

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.6753	5.6605	4.4526	0.0100	0.4884	0.2631	0.7515	0.1692	0.2465	0.4157	0.0000	920.6486	920.6486	0.1337	0.0000	923.9917
2018	2.3985	3.6538	3.1614	7.8100e-003	0.2806	0.1598	0.4404	0.0760	0.1505	0.2265	0.0000	712.8133	712.8133	0.0926	0.0000	715.1285
2019	0.1316	6.1200e-003	0.0111	2.0000e-005	1.2800e-003	3.9000e-004	1.6800e-003	3.4000e-004	3.9000e-004	7.3000e-004	0.0000	1.8919	1.8919	1.1000e-004	0.0000	1.8946
Maximum	**2.3985**	**5.6605**	**4.4526**	**0.0100**	**0.4884**	**0.2631**	**0.7515**	**0.1692**	**0.2465**	**0.4157**	**0.0000**	**920.6486**	**920.6486**	**0.1337**	**0.0000**	**923.9917**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.6753	5.6605	4.4526	0.0100	0.3920	0.2631	0.6551	0.1206	0.2465	0.3671	0.0000	920.6482	920.6482	0.1337	0.0000	923.9913
2018	2.3985	3.6538	3.1614	7.8100e-003	0.2806	0.1598	0.4404	0.0760	0.1505	0.2265	0.0000	712.8130	712.8130	0.0926	0.0000	715.1283
2019	0.1316	6.1200e-003	0.0111	2.0000e-005	1.2800e-003	3.9000e-004	1.6800e-003	3.4000e-004	3.9000e-004	7.3000e-004	0.0000	1.8919	1.8919	1.1000e-004	0.0000	1.8946
Maximum	**2.3985**	**5.6605**	**4.4526**	**0.0100**	**0.3920**	**0.2631**	**0.6551**	**0.1206**	**0.2465**	**0.3671**	**0.0000**	**920.6482**	**920.6482**	**0.1337**	**0.0000**	**923.9913**

Adelanto - Yucca Road Project - Mojave Desert AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	12.51	0.00	8.07	19.76	0.00	7.55	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-2-2017	4-1-2017	1.7823	1.7823
2	4-2-2017	7-1-2017	1.5096	1.5096
3	7-2-2017	10-1-2017	1.5261	1.5261
4	10-2-2017	1-1-2018	1.5192	1.5192
5	1-2-2018	4-1-2018	1.3295	1.3295
6	4-2-2018	7-1-2018	1.3500	1.3500
7	7-2-2018	10-1-2018	1.2513	1.2513
8	10-2-2018	1-1-2019	2.1400	2.1400
9	1-2-2019	4-1-2019	0.1148	0.1148
		Highest	2.1400	2.1400

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.1831	5.0000e-005	5.8500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0112	0.0112	3.0000e-005	0.0000	0.0120
Energy	0.0118	0.1075	0.0903	6.5000e-004		8.1700e-003	8.1700e-003		8.1700e-003	8.1700e-003	0.0000	2,071.2792	2,071.2792	0.0829	0.0188	2,078.9661
Mobile	0.4096	3.3106	4.4964	0.0142	0.8508	0.0128	0.8636	0.2282	0.0121	0.2403	0.0000	1,312.1724	1,312.1724	0.1145	0.0000	1,315.0360
Waste						0.0000	0.0000		0.0000	0.0000	158.1787	0.0000	158.1787	9.3481	0.0000	391.8810
Water						0.0000	0.0000		0.0000	0.0000	46.1040	602.9080	649.0120	4.7602	0.1170	802.8718
Total	3.6045	3.4182	4.5926	0.0148	0.8508	0.0210	0.8718	0.2282	0.0203	0.2485	204.2827	3,986.3709	4,190.6536	14.3058	0.1358	4,588.7668

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.1831	5.0000e-005	5.8500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0112	0.0112	3.0000e-005	0.0000	0.0120
Energy	0.0118	0.1075	0.0903	6.5000e-004		8.1700e-003	8.1700e-003		8.1700e-003	8.1700e-003	0.0000	2,071.2792	2,071.2792	0.0829	0.0188	2,078.9661
Mobile	0.4096	3.3106	4.4964	0.0142	0.8508	0.0126	0.8636	0.2282	0.0121	0.2403	0.0000	1,312.1724	1,312.1724	0.1145	0.0000	1,315.0360
Waste						0.0000	0.0000		0.0000	0.0000	158.1787	0.0000	158.1787	9.3481	0.0000	391.8810
Water						0.0000	0.0000		0.0000	0.0000	46.1040	602.9080	649.0120	4.7602	0.1170	802.8718
Total	3.6045	3.4182	4.5926	0.0148	0.8508	0.0210	0.8718	0.2282	0.0203	0.2485	204.2827	3,986.3709	4,190.6536	14.3058	0.1358	4,588.7668

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/13/2017	5	10	
2	Grading	Grading	1/14/2017	2/7/2017	5	17	
3	Building Construction Bldgs 1-8	Building Construction	2/8/2017	8/11/2017	5	133	
4	Building Construction Bldgs 9-16	Building Construction	8/12/2017	3/2/2018	5	145	
5	Building Construction Bldgs 17-21	Building Construction	3/3/2018	9/21/2018	5	145	
6	Paving Bldgs 1-8	Paving	9/22/2018	9/28/2018	5	5	
7	Paving Bldgs 9-16	Paving	9/29/2018	10/5/2018	5	5	
8	Paving Bldgs 17-21	Paving	10/6/2018	10/12/2018	5	5	
9	Architectural Coating Bldgs 1-8	Architectural Coating	10/13/2018	11/6/2018	5	17	
10	Architectural Coating Bldgs 9-16	Architectural Coating	11/7/2018	12/11/2018	5	25	
11	Architectural Coating Bldgs 17-21	Architectural Coating	12/12/2018	1/8/2019	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 30.97

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 44,887; Non-Residential Outdoor: 119,704; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction Bldgs 1-8	Cranes	1	7.00	231	0.29
Building Construction Bldgs 1-8	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 1-8	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 1-8	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 1-8	Welders	1	8.00	46	0.45
Building Construction Bldgs 9-16	Cranes	1	7.00	231	0.29
Building Construction Bldgs 9-16	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 9-16	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 9-16	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 9-16	Welders	1	8.00	46	0.45
Paving Bldgs 1-8	Pavers	1	8.00	130	0.42
Paving Bldgs 1-8	Paving Equipment	1	8.00	132	0.36
Paving Bldgs 1-8	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 1-8	Air Compressors	1	6.00	78	0.48
Building Construction Bldgs 17-21	Cranes	1	7.00	231	0.29
Building Construction Bldgs 17-21	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 17-21	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 17-21	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 17-21	Welders	1	8.00	46	0.45
Paving Bldgs 9-16	Pavers	1	8.00	130	0.42
Paving Bldgs 9-16	Paving Equipment	1	8.00	132	0.36
Paving Bldgs 9-16	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 9-16	Air Compressors	1	6.00	78	0.48
Paving Bldgs 17-21	Pavers	1	8.00	130	0.42
Paving Bldgs 17-21	Paving Equipment	1	8.00	132	0.36

Paving Bldgs 17-21	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 17-21	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 1-8	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 9-16	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 1-8	3	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 1-8	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 17-21	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 9-16	3	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 9-16	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 17-21	3	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 17-21	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0248	0.2614	0.1173	1.9000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	17.6672	17.6672	5.4100e-003	0.0000	17.8025
Total	**0.0248**	**0.2614**	**0.1173**	**1.9000e-004**	**0.0903**	**0.0144**	**0.1047**	**0.0497**	**0.0132**	**0.0629**	**0.0000**	**17.6672**	**17.6672**	**5.4100e-003**	**0.0000**	**17.8025**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.6000e-004	4.1200e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6780	0.6780	3.0000e-005	0.0000	0.6788
Total	**5.2000e-004**	**4.6000e-004**	**4.1200e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6780**	**0.6780**	**3.0000e-005**	**0.0000**	**0.6788**

3.2 Site Preparation - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0352	0.0000	0.0352	0.0194	0.0000	0.0194	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0248	0.2614	0.1173	1.9000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	17.6672	17.6672	5.4100e-003	0.0000	17.8025
Total	**0.0248**	**0.2614**	**0.1173**	**1.9000e-004**	**0.0352**	**0.0144**	**0.0496**	**0.0194**	**0.0132**	**0.0326**	**0.0000**	**17.6672**	**17.6672**	**5.4100e-003**	**0.0000**	**17.8025**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	4.6000e-004	4.1200e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6780	0.6780	3.0000e-005	0.0000	0.6788
Total	**5.2000e-004**	**4.6000e-004**	**4.1200e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6780**	**0.6780**	**3.0000e-005**	**0.0000**	**0.6788**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0676	0.0000	0.0676	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0489	0.5775	0.3297	5.3000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	48.9259	48.9259	0.0150	0.0000	49.3006
Total	**0.0489**	**0.5775**	**0.3297**	**5.3000e-004**	**0.0676**	**0.0261**	**0.0937**	**0.0299**	**0.0240**	**0.0539**	**0.0000**	**48.9259**	**48.9259**	**0.0150**	**0.0000**	**49.3006**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	8.7000e-004	7.7800e-003	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2807	1.2807	6.0000e-005	0.0000	1.2822
Total	**9.8000e-004**	**8.7000e-004**	**7.7800e-003**	**1.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2807**	**1.2807**	**6.0000e-005**	**0.0000**	**1.2822**

3.3 Grading - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0264	0.0000	0.0264	0.0117	0.0000	0.0117	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0489	0.5775	0.3297	5.3000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	48.9258	48.9258	0.0150	0.0000	49.3006
Total	**0.0489**	**0.5775**	**0.3297**	**5.3000e-004**	**0.0264**	**0.0261**	**0.0525**	**0.0117**	**0.0240**	**0.0357**	**0.0000**	**48.9258**	**48.9258**	**0.0150**	**0.0000**	**49.3006**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	8.7000e-004	7.7800e-003	1.0000e-005	1.3700e-003	1.0000e-005	1.3800e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2807	1.2807	6.0000e-005	0.0000	1.2822
Total	**9.8000e-004**	**8.7000e-004**	**7.7800e-003**	**1.0000e-005**	**1.3700e-003**	**1.0000e-005**	**1.3800e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2807**	**1.2807**	**6.0000e-005**	**0.0000**	**1.2822**

3.4 Building Construction Bldgs 1-8 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2071	1.7659	1.2091	1.7900e-003		0.1189	0.1189		0.1117	0.1117	0.0000	159.9277	159.9277	0.0394	0.0000	160.9128
Total	**0.2071**	**1.7659**	**1.2091**	**1.7900e-003**		**0.1189**	**0.1189**		**0.1117**	**0.1117**	**0.0000**	**159.9277**	**159.9277**	**0.0394**	**0.0000**	**160.9128**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0345	0.8961	0.2673	2.0500e-003	0.0458	7.1300e-003	0.0529	0.0132	6.8200e-003	0.0200	0.0000	194.2062	194.2062	0.0190	0.0000	194.6820
Worker	0.1009	0.0895	0.8032	1.4700e-003	0.1416	1.0200e-003	0.1427	0.0376	9.4000e-004	0.0386	0.0000	132.2561	132.2561	6.2000e-003	0.0000	132.4111
Total	**0.1354**	**0.9856**	**1.0705**	**3.5200e-003**	**0.1874**	**8.1500e-003**	**0.1956**	**0.0508**	**7.7600e-003**	**0.0586**	**0.0000**	**326.4623**	**326.4623**	**0.0252**	**0.0000**	**327.0931**

3.4 Building Construction Bldgs 1-8 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2071	1.7659	1.2091	1.7900e-003		0.1189	0.1189		0.1117	0.1117	0.0000	159.9276	159.9276	0.0394	0.0000	160.9126
Total	**0.2071**	**1.7659**	**1.2091**	**1.7900e-003**		**0.1189**	**0.1189**		**0.1117**	**0.1117**	**0.0000**	**159.9276**	**159.9276**	**0.0394**	**0.0000**	**160.9126**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0345	0.8961	0.2673	2.0500e-003	0.0458	7.1300e-003	0.0529	0.0132	6.8200e-003	0.0200	0.0000	194.2062	194.2062	0.0190	0.0000	194.6820
Worker	0.1009	0.0895	0.8032	1.4700e-003	0.1416	1.0200e-003	0.1427	0.0376	9.4000e-004	0.0386	0.0000	132.2561	132.2561	6.2000e-003	0.0000	132.4111
Total	**0.1354**	**0.9856**	**1.0705**	**3.5200e-003**	**0.1874**	**8.1500e-003**	**0.1956**	**0.0508**	**7.7600e-003**	**0.0586**	**0.0000**	**326.4623**	**326.4623**	**0.0252**	**0.0000**	**327.0931**

3.5 Building Construction Bldgs 9-16 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1558	1.3277	0.9091	1.3500e-003		0.0894	0.0894		0.0840	0.0840	0.0000	120.2464	120.2464	0.0296	0.0000	120.9871
Total	**0.1558**	**1.3277**	**0.9091**	**1.3500e-003**		**0.0894**	**0.0894**		**0.0840**	**0.0840**	**0.0000**	**120.2464**	**120.2464**	**0.0296**	**0.0000**	**120.9871**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0260	0.6737	0.2010	1.5400e-003	0.0344	5.3600e-003	0.0398	9.9300e-003	5.1300e-003	0.0151	0.0000	146.0197	146.0197	0.0143	0.0000	146.3775
Worker	0.0759	0.0673	0.6039	1.1000e-003	0.1065	7.6000e-004	0.1073	0.0283	7.1000e-004	0.0290	0.0000	99.4407	99.4407	4.6600e-003	0.0000	99.5572
Total	**0.1018**	**0.7411**	**0.8049**	**2.6400e-003**	**0.1409**	**6.1200e-003**	**0.1470**	**0.0382**	**5.8400e-003**	**0.0441**	**0.0000**	**245.4604**	**245.4604**	**0.0190**	**0.0000**	**245.9347**

3.5 Building Construction Bldgs 9-16 - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1558	1.3277	0.9091	1.3500e-003		0.0894	0.0894		0.0840	0.0840	0.0000	120.2463	120.2463	0.0296	0.0000	120.9869
Total	**0.1558**	**1.3277**	**0.9091**	**1.3500e-003**		**0.0894**	**0.0894**		**0.0840**	**0.0840**	**0.0000**	**120.2463**	**120.2463**	**0.0296**	**0.0000**	**120.9869**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0260	0.6737	0.2010	1.5400e-003	0.0344	5.3600e-003	0.0398	9.9300e-003	5.1300e-003	0.0151	0.0000	146.0197	146.0197	0.0143	0.0000	146.3775
Worker	0.0759	0.0673	0.6039	1.1000e-003	0.1065	7.6000e-004	0.1073	0.0283	7.1000e-004	0.0290	0.0000	99.4407	99.4407	4.6600e-003	0.0000	99.5572
Total	**0.1018**	**0.7411**	**0.8049**	**2.6400e-003**	**0.1409**	**6.1200e-003**	**0.1470**	**0.0382**	**5.8400e-003**	**0.0441**	**0.0000**	**245.4604**	**245.4604**	**0.0190**	**0.0000**	**245.9347**

3.5 Building Construction Bldgs 9-16 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0603	0.5263	0.3956	6.1000e-004		0.0338	0.0338		0.0317	0.0317	0.0000	53.4976	53.4976	0.0131	0.0000	53.8253
Total	**0.0603**	**0.5263**	**0.3956**	**6.1000e-004**		**0.0338**	**0.0338**		**0.0317**	**0.0317**	**0.0000**	**53.4976**	**53.4976**	**0.0131**	**0.0000**	**53.8253**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0102	0.2823	0.0779	6.9000e-004	0.0155	1.8900e-003	0.0174	4.4700e-003	1.8100e-003	6.2800e-003	0.0000	65.5251	65.5251	6.1500e-003	0.0000	65.6788
Worker	0.0303	0.0263	0.2349	4.8000e-004	0.0479	3.3000e-004	0.0483	0.0127	3.0000e-004	0.0130	0.0000	43.4914	43.4914	1.8200e-003	0.0000	43.5370
Total	**0.0405**	**0.3086**	**0.3128**	**1.1700e-003**	**0.0634**	**2.2200e-003**	**0.0656**	**0.0172**	**2.1100e-003**	**0.0193**	**0.0000**	**109.0165**	**109.0165**	**7.9700e-003**	**0.0000**	**109.2158**

3.5 Building Construction Bldgs 9-16 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0603	0.5263	0.3956	6.1000e-004		0.0338	0.0338		0.0317	0.0317	0.0000	53.4976	53.4976	0.0131	0.0000	53.8252
Total	**0.0603**	**0.5263**	**0.3956**	**6.1000e-004**		**0.0338**	**0.0338**		**0.0317**	**0.0317**	**0.0000**	**53.4976**	**53.4976**	**0.0131**	**0.0000**	**53.8252**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
- Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0102	0.2823	0.0779	6.9000e-004	0.0155	1.8900e-003	0.0174	4.4700e-003	1.8100e-003	6.2800e-003	0.0000	65.5251	65.5251	6.1500e-003	0.0000	65.6788
Worker	0.0303	0.0263	0.2349	4.8000e-004	0.0479	3.3000e-004	0.0483	0.0127	3.0000e-004	0.0130	0.0000	43.4914	43.4914	1.8200e-003	0.0000	43.5370
Total	**0.0405**	**0.3086**	**0.3128**	**1.1700e-003**	**0.0634**	**2.2200e-003**	**0.0656**	**0.0172**	**2.1100e-003**	**0.0193**	**0.0000**	**109.0165**	**109.0165**	**7.9700e-003**	**0.0000**	**109.2158**

3.6 Building Construction Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1943	1.6958	1.2746	1.9500e-003		0.1087	0.1087		0.1022	0.1022	0.0000	172.3813	172.3813	0.0422	0.0000	173.4371
Total	**0.1943**	**1.6958**	**1.2746**	**1.9500e-003**		**0.1087**	**0.1087**		**0.1022**	**0.1022**	**0.0000**	**172.3813**	**172.3813**	**0.0422**	**0.0000**	**173.4371**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0327	0.9096	0.2509	2.2300e-003	0.0499	6.1000e-003	0.0560	0.0144	5.8400e-003	0.0202	0.0000	211.1364	211.1364	0.0198	0.0000	211.6318
Worker	0.0976	0.0847	0.7570	1.5500e-003	0.1544	1.0600e-003	0.1555	0.0410	9.8000e-004	0.0420	0.0000	140.1389	140.1389	5.8800e-003	0.0000	140.2859
Total	**0.1303**	**0.9943**	**1.0079**	**3.7800e-003**	**0.2043**	**7.1600e-003**	**0.2115**	**0.0554**	**6.8200e-003**	**0.0622**	**0.0000**	**351.2753**	**351.2753**	**0.0257**	**0.0000**	**351.9177**

3.6 Building Construction Bldgs 17-21 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1943	1.6958	1.2746	1.9500e-003		0.1087	0.1087		0.1022	0.1022	0.0000	172.3810	172.3810	0.0422	0.0000	173.4369
Total	**0.1943**	**1.6958**	**1.2746**	**1.9500e-003**		**0.1087**	**0.1087**		**0.1022**	**0.1022**	**0.0000**	**172.3810**	**172.3810**	**0.0422**	**0.0000**	**173.4369**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0327	0.9096	0.2509	2.2300e-003	0.0499	6.1000e-003	0.0560	0.0144	5.8400e-003	0.0202	0.0000	211.1364	211.1364	0.0198	0.0000	211.6318
Worker	0.0976	0.0847	0.7570	1.5500e-003	0.1544	1.0600e-003	0.1555	0.0410	9.8000e-004	0.0420	0.0000	140.1389	140.1389	5.8800e-003	0.0000	140.2859
Total	**0.1303**	**0.9943**	**1.0079**	**3.7800e-003**	**0.2043**	**7.1600e-003**	**0.2115**	**0.0554**	**6.8200e-003**	**0.0622**	**0.0000**	**351.2753**	**351.2753**	**0.0257**	**0.0000**	**351.9177**

3.7 Paving Bldgs 1-8 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0219	0.0185	3.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	2.6015	2.6015	8.1000e-004	0.0000	2.6217
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0500e-003	0.0219	0.0185	3.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	2.6015	2.6015	8.1000e-004	0.0000	2.6217

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.4800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2749
Total	1.9000e-004	1.7000e-004	1.4800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2749

3.7 Paving Bldgs 1-8 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0219	0.0185	3.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	2.6015	2.6015	8.1000e-004	0.0000	2.6217
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0500e-003	0.0219	0.0185	3.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	2.6015	2.6015	8.1000e-004	0.0000	2.6217

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.4800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2749
Total	1.9000e-004	1.7000e-004	1.4800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2749

3.8 Paving Bldgs 9-16 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0219	0.0185	3.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	2.6015	2.6015	8.1000e-004	0.0000	2.6217
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0500e-003**	**0.0219**	**0.0185**	**3.0000e-005**		**1.2000e-003**	**1.2000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**2.6015**	**2.6015**	**8.1000e-004**	**0.0000**	**2.6217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.4800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2749
Total	**1.9000e-004**	**1.7000e-004**	**1.4800e-003**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2746**	**0.2746**	**1.0000e-005**	**0.0000**	**0.2749**

3.8 Paving Bldgs 9-16 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0219	0.0185	3.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	2.6015	2.6015	8.1000e-004	0.0000	2.6217
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0500e-003**	**0.0219**	**0.0185**	**3.0000e-005**		**1.2000e-003**	**1.2000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**2.6015**	**2.6015**	**8.1000e-004**	**0.0000**	**2.6217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.4800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2749
Total	**1.9000e-004**	**1.7000e-004**	**1.4800e-003**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2746**	**0.2746**	**1.0000e-005**	**0.0000**	**0.2749**

3.9 Paving Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0219	0.0185	3.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	2.6015	2.6015	8.1000e-004	0.0000	2.6217
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0500e-003**	**0.0219**	**0.0185**	**3.0000e-005**		**1.2000e-003**	**1.2000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**2.6015**	**2.6015**	**8.1000e-004**	**0.0000**	**2.6217**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.4800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2749
Total	**1.9000e-004**	**1.7000e-004**	**1.4800e-003**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2746**	**0.2746**	**1.0000e-005**	**0.0000**	**0.2749**

3.9 Paving Bldgs 17-21 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0219	0.0185	3.0000e-005		1.2000e-003	1.2000e-003		1.1000e-003	1.1000e-003	0.0000	2.6015	2.6015	8.1000e-004	0.0000	2.6217
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0500e-003**	**0.0219**	**0.0185**	**3.0000e-005**		**1.2000e-003**	**1.2000e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**2.6015**	**2.6015**	**8.1000e-004**	**0.0000**	**2.6217**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.7000e-004	1.4800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2746	0.2746	1.0000e-005	0.0000	0.2749
Total	**1.9000e-004**	**1.7000e-004**	**1.4800e-003**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2746**	**0.2746**	**1.0000e-005**	**0.0000**	**0.2749**

3.10 Architectural Coating Bldgs 1-8 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9536					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5400e-003	0.0171	0.0158	3.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	2.1703	2.1703	2.1000e-004	0.0000	2.1754
Total	**0.9561**	**0.0171**	**0.0158**	**3.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**2.1703**	**2.1703**	**2.1000e-004**	**0.0000**	**2.1754**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-003	1.9900e-003	0.0178	4.0000e-005	3.6300e-003	2.0000e-005	3.6600e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.2985	3.2985	1.4000e-004	0.0000	3.3019
Total	**2.3000e-003**	**1.9900e-003**	**0.0178**	**4.0000e-005**	**3.6300e-003**	**2.0000e-005**	**3.6600e-003**	**9.7000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**3.2985**	**3.2985**	**1.4000e-004**	**0.0000**	**3.3019**

3.10 Architectural Coating Bldgs 1-8 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9536					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5400e-003	0.0171	0.0158	3.0000e-005		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	2.1703	2.1703	2.1000e-004	0.0000	2.1754
Total	**0.9561**	**0.0171**	**0.0158**	**3.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**2.1703**	**2.1703**	**2.1000e-004**	**0.0000**	**2.1754**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-003	1.9900e-003	0.0178	4.0000e-005	3.6300e-003	2.0000e-005	3.6600e-003	9.7000e-004	2.0000e-005	9.9000e-004	0.0000	3.2985	3.2985	1.4000e-004	0.0000	3.3019
Total	**2.3000e-003**	**1.9900e-003**	**0.0178**	**4.0000e-005**	**3.6300e-003**	**2.0000e-005**	**3.6600e-003**	**9.7000e-004**	**2.0000e-005**	**9.9000e-004**	**0.0000**	**3.2985**	**3.2985**	**1.4000e-004**	**0.0000**	**3.3019**

3.11 Architectural Coating Bldgs 9-16 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Category																
Archit. Coating	0.6935					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7300e-003	0.0251	0.0232	4.0000e-005		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	3.1916	3.1916	3.0000e-004	0.0000	3.1992
Total	**0.6973**	**0.0251**	**0.0232**	**4.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**3.1916**	**3.1916**	**3.0000e-004**	**0.0000**	**3.1992**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Category																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3800e-003	2.9300e-003	0.0262	5.0000e-005	5.3500e-003	4.0000e-005	5.3800e-003	1.4200e-003	3.0000e-005	1.4500e-003	0.0000	4.8507	4.8507	2.0000e-004	0.0000	4.8558
Total	**3.3800e-003**	**2.9300e-003**	**0.0262**	**5.0000e-005**	**5.3500e-003**	**4.0000e-005**	**5.3800e-003**	**1.4200e-003**	**3.0000e-005**	**1.4500e-003**	**0.0000**	**4.8507**	**4.8507**	**2.0000e-004**	**0.0000**	**4.8558**

3.11 Architectural Coating Bldgs 9-16 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6935					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7300e-003	0.0251	0.0232	4.0000e-005		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	3.1916	3.1916	3.0000e-004	0.0000	3.1992
Total	**0.6973**	**0.0251**	**0.0232**	**4.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**3.1916**	**3.1916**	**3.0000e-004**	**0.0000**	**3.1992**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3800e-003	2.9300e-003	0.0262	5.0000e-005	5.3500e-003	4.0000e-005	5.3800e-003	1.4200e-003	3.0000e-005	1.4500e-003	0.0000	4.8507	4.8507	2.0000e-004	0.0000	4.8558
Total	**3.3800e-003**	**2.9300e-003**	**0.0262**	**5.0000e-005**	**5.3500e-003**	**4.0000e-005**	**5.3800e-003**	**1.4200e-003**	**3.0000e-005**	**1.4500e-003**	**0.0000**	**4.8507**	**4.8507**	**2.0000e-004**	**0.0000**	**4.8558**

3.12 Architectural Coating Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3034					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0900e-003	0.0140	0.0130	2.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.7873	1.7873	1.7000e-004	0.0000	1.7915
Total	**0.3055**	**0.0140**	**0.0130**	**2.0000e-005**		**1.0500e-003**	**1.0500e-003**		**1.0500e-003**	**1.0500e-003**	**0.0000**	**1.7873**	**1.7873**	**1.7000e-004**	**0.0000**	**1.7915**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8900e-003	1.6400e-003	0.0147	3.0000e-005	2.9900e-003	2.0000e-005	3.0100e-003	8.0000e-004	2.0000e-005	8.1000e-004	0.0000	2.7164	2.7164	1.1000e-004	0.0000	2.7192
Total	**1.8900e-003**	**1.6400e-003**	**0.0147**	**3.0000e-005**	**2.9900e-003**	**2.0000e-005**	**3.0100e-003**	**8.0000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.7164**	**2.7164**	**1.1000e-004**	**0.0000**	**2.7192**

3.12 Architectural Coating Bldgs 17-21 - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3034					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0900e-003	0.0140	0.0130	2.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	1.7873	1.7873	1.7000e-004	0.0000	1.7915
Total	**0.3055**	**0.0140**	**0.0130**	**2.0000e-005**		**1.0500e-003**	**1.0500e-003**		**1.0500e-003**	**1.0500e-003**	**0.0000**	**1.7873**	**1.7873**	**1.7000e-004**	**0.0000**	**1.7915**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8900e-003	1.6400e-003	0.0147	3.0000e-005	2.9900e-003	2.0000e-005	3.0100e-003	8.0000e-004	2.0000e-005	8.1000e-004	0.0000	2.7164	2.7164	1.1000e-004	0.0000	2.7192
Total	**1.8900e-003**	**1.6400e-003**	**0.0147**	**3.0000e-005**	**2.9900e-003**	**2.0000e-005**	**3.0100e-003**	**8.0000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.7164**	**2.7164**	**1.1000e-004**	**0.0000**	**2.7192**

3.12 Architectural Coating Bldgs 17-21 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1300					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	5.5100e-003	5.5200e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	0.7660	0.7660	6.0000e-005	0.0000	0.7676
Total	**0.1308**	**5.5100e-003**	**5.5200e-003**	**1.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**0.7660**	**0.7660**	**6.0000e-005**	**0.0000**	**0.7676**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3000e-004	6.2000e-004	5.5400e-003	1.0000e-005	1.2800e-003	1.0000e-005	1.2900e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1260	1.1260	4.0000e-005	0.0000	1.1270
Total	**7.3000e-004**	**6.2000e-004**	**5.5400e-003**	**1.0000e-005**	**1.2800e-003**	**1.0000e-005**	**1.2900e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1260**	**1.1260**	**4.0000e-005**	**0.0000**	**1.1270**

3.12 Architectural Coating Bldgs 17-21 - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1300					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	5.5100e-003	5.5200e-003	1.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	0.7660	0.7660	6.0000e-005	0.0000	0.7676
Total	**0.1308**	**5.5100e-003**	**5.5200e-003**	**1.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**0.7660**	**0.7660**	**6.0000e-005**	**0.0000**	**0.7676**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.3000e-004	6.2000e-004	5.5400e-003	1.0000e-005	1.2800e-003	1.0000e-005	1.2900e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1260	1.1260	4.0000e-005	0.0000	1.1270
Total	**7.3000e-004**	**6.2000e-004**	**5.5400e-003**	**1.0000e-005**	**1.2800e-003**	**1.0000e-005**	**1.2900e-003**	**3.4000e-004**	**1.0000e-005**	**3.5000e-004**	**0.0000**	**1.1260**	**1.1260**	**4.0000e-005**	**0.0000**	**1.1270**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4096	3.3106	4.4964	0.0142	0.8508	0.0128	0.8636	0.2282	0.0121	0.2403	0.0000	1,312.1724	1,312.1724	0.1145	0.0000	1,315.0360
Unmitigated	0.4096	3.3106	4.4964	0.0142	0.8508	0.0128	0.8636	0.2282	0.0121	0.2403	0.0000	1,312.1724	1,312.1724	0.1145	0.0000	1,315.0360

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	848.37	848.37	848.37	2,224,273	2,224,273
Total	848.37	848.37	848.37	2,224,273	2,224,273

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.522654	0.039224	0.175067	0.121571	0.023330	0.006273	0.008529	0.087691	0.001433	0.002506	0.009615	0.000720	0.001388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,954.2416	1,954.2416	0.0807	0.0167	1,961.2329
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,954.2416	1,954.2416	0.0807	0.0167	1,961.2329
NaturalGas Mitigated	0.0118	0.1075	0.0903	6.5000e-004		8.1700e-003	8.1700e-003		8.1700e-003	8.1700e-003	0.0000	117.0377	117.0377	2.2400e-003	2.1500e-003	117.7332
NaturalGas Unmitigated	0.0118	0.1075	0.0903	6.5000e-004		8.1700e-003	8.1700e-003		8.1700e-003	8.1700e-003	0.0000	117.0377	117.0377	2.2400e-003	2.1500e-003	117.7332

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	2.1932e+006	0.0118	0.1075	0.0903	6.5000e-004		8.1700e-003	8.1700e-003		8.1700e-003	8.1700e-003	0.0000	117.0377	117.0377	2.2400e-003	2.1500e-003	117.7332
Total		**0.0118**	**0.1075**	**0.0903**	**6.5000e-004**		**8.1700e-003**	**8.1700e-003**		**8.1700e-003**	**8.1700e-003**	**0.0000**	**117.0377**	**117.0377**	**2.2400e-003**	**2.1500e-003**	**117.7332**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Industrial Park	2.1932e+006	0.0118	0.1075	0.0903	6.5000e-004		8.1700e-003	8.1700e-003		8.1700e-003	8.1700e-003	0.0000	117.0377	117.0377	2.2400e-003	2.1500e-003	117.7332
Total		**0.0118**	**0.1075**	**0.0903**	**6.5000e-004**		**8.1700e-003**	**8.1700e-003**		**8.1700e-003**	**8.1700e-003**	**0.0000**	**117.0377**	**117.0377**	**2.2400e-003**	**2.1500e-003**	**117.7332**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	6.13343e+006	1,954.2416	0.0807	0.0167	1,961.2329
Total		1,954.2416	0.0807	0.0167	1,961.2329

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Industrial Park	6.13343e+006	1,954.2416	0.0807	0.0167	1,961.2329
Total		1,954.2416	0.0807	0.0167	1,961.2329

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.1831	5.0000e-005	5.8500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0112	0.0112	3.0000e-005	0.0000	0.0120
Unmitigated	3.1831	5.0000e-005	5.8500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0112	0.0112	3.0000e-005	0.0000	0.0120

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7282					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.4543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.6000e-004	5.0000e-005	5.8500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0112	0.0112	3.0000e-005	0.0000	0.0120
Total	**3.1831**	**5.0000e-005**	**5.8500e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0112**	**0.0112**	**3.0000e-005**	**0.0000**	**0.0120**

6.2 Area by SubCategory

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	0.7282					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.4543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.6000e-004	5.0000e-005	5.8500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0112	0.0112	3.0000e-005	0.0000	0.0120
Total	**3.1831**	**5.0000e-005**	**5.8500e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0112**	**0.0112**	**3.0000e-005**	**0.0000**	**0.0120**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	649.0120	4.7602	0.1170	802.8718
Unmitigated	649.0120	4.7602	0.1170	802.8718

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	145.322 / 0	649.0120	4.7602	0.1170	802.8718
Total		**649.0120**	**4.7602**	**0.1170**	**802.8718**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Industrial Park	145.322 / 0	649.0120	4.7602	0.1170	802.8718
Total		649.0120	4.7602	0.1170	802.8718

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	158.1787	9.3481	0.0000	391.8810
Unmitigated	158.1787	9.3481	0.0000	391.8810

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	779.24	158.1787	9.3481	0.0000	391.8810
Total		**158.1787**	**9.3481**	**0.0000**	**391.8810**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Industrial Park	779.24	158.1787	9.3481	0.0000	391.8810
Total		**158.1787**	**9.3481**	**0.0000**	**391.8810**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Adelanto - Yucca Road Project
Mojave Desert AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	628.42	1000sqft	30.97	628,425.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Adelanto - Yucca Road Project - Mojave Desert AQMD Air District, Summer

Project Characteristics - Project phasing and schedule per project proponent

Land Use - Per project description 628425 sf 50000 for manuf. 578425 cultivation used industrial building for model on 30.97 acres

Construction Phase - No demolition phase. Building phases based on estimates for phase completion dates provided by project proponent.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Arch coating sf determined by dividing area sf by phases and number of building per phase

Vehicle Trips - trip rate from Project Trip Generation Summary

Construction Off-road Equipment Mitigation - Clean paved roads per bmp's for fugitive dust control

Fleet Mix - Fleet data includes information from project specific Trip Generation Summary

Off-road Equipment - Paving defaults were changed for equipment from 2 or each type to one due to phasing

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Paving equipment was changed from default from 2 to 1 of each type due to phasing

Off-road Equipment -

Off-road Equipment - Paving equipment default changed from 2 to 1 for each type due to project phasing

Off-road Equipment -

Grading - acres changed to reflect actual site acerage of 30.97

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	119,704.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	74,815.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	119,704.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	44,887.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00

tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	10
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	25
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	NumDays	35.00	17.00
tblConstructionPhase	NumDays	35.00	25.00
tblConstructionPhase	NumDays	500.00	133.00
tblConstructionPhase	NumDays	500.00	145.00
tblConstructionPhase	NumDays	500.00	145.00
tblConstructionPhase	NumDays	45.00	17.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	20.00	10.00
tblGrading	AcresOfGrading	42.50	30.97
tblLandUse	BuildingSpaceSquareFeet	628,420.00	628,425.00
tblLandUse	LandUseSquareFeet	628,420.00	628,425.00
tblLandUse	LotAcreage	14.43	30.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblVehicleTrips	ST_TR	2.49	1.35
tblVehicleTrips	SU_TR	0.73	1.35
tblVehicleTrips	WD_TR	6.83	1.35

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	5.8820	68.0320	39.8410	0.0828	18.2141	3.0739	21.0937	9.9699	2.8280	12.6191	0.0000	8,354.9582	8,354.9582	1.9527	0.0000	8,381.6616
2018	112.8022	36.8451	32.9126	0.0820	2.8672	1.5983	4.4656	0.7764	1.5036	2.2800	0.0000	8,249.5891	8,249.5891	1.0282	0.0000	8,275.2935
2019	43.8980	2.0216	3.9930	7.5700e-003	0.4354	0.1316	0.5670	0.1155	0.1314	0.2469	0.0000	738.3731	738.3731	0.0414	0.0000	739.4088
Maximum	**112.8022**	**68.0320**	**39.8410**	**0.0828**	**18.2141**	**3.0739**	**21.0937**	**9.9699**	**2.8280**	**12.6191**	**0.0000**	**8,354.9582**	**8,354.9582**	**1.9527**	**0.0000**	**8,381.6616**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	5.8820	68.0320	39.8410	0.0828	7.1809	3.0739	10.0605	3.9090	2.8280	6.5583	0.0000	8,354.9582	8,354.9582	1.9527	0.0000	8,381.6616
2018	112.8022	36.8451	32.9126	0.0820	2.6290	1.5983	4.2274	0.7180	1.5036	2.2215	0.0000	8,249.5891	8,249.5891	1.0282	0.0000	8,275.2935
2019	43.8980	2.0216	3.9930	7.5700e-003	0.3975	0.1316	0.5292	0.1062	0.1314	0.2376	0.0000	738.3731	738.3731	0.0414	0.0000	739.4088
Maximum	**112.8022**	**68.0320**	**39.8410**	**0.0828**	**7.1809**	**3.0739**	**10.0605**	**3.9090**	**2.8280**	**6.5583**	**0.0000**	**8,354.9582**	**8,354.9582**	**1.9527**	**0.0000**	**8,381.6616**

Adelanto - Yucca Road Project - Mojave Desert AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.56	0.00	43.29	56.42	0.00	40.46	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	17.4446	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Energy	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
Mobile	2.7244	17.8667	26.9423	0.0832	4.7579	0.0700	4.8279	1.2741	0.0661	1.3402		8,479.2709	8,479.2709	0.6858		8,496.4165
Total	**20.2338**	**18.4564**	**27.5022**	**0.0867**	**4.7579**	**0.1150**	**4.8729**	**1.2741**	**0.1111**	**1.3852**		**9,186.3232**	**9,186.3232**	**0.6998**	**0.0130**	**9,207.6791**

Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Area	17.4446	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Energy	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
Mobile	2.7244	17.8667	26.9423	0.0832	4.7579	0.0700	4.8279	1.2741	0.0661	1.3402		8,479.2709	8,479.2709	0.6858		8,496.4165
Total	**20.2338**	**18.4564**	**27.5022**	**0.0867**	**4.7579**	**0.1150**	**4.8729**	**1.2741**	**0.1111**	**1.3852**		**9,186.3232**	**9,186.3232**	**0.6998**	**0.0130**	**9,207.6791**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/13/2017	5	10	
2	Grading	Grading	1/14/2017	2/7/2017	5	17	
3	Building Construction Bldgs 1-8	Building Construction	2/8/2017	8/11/2017	5	133	
4	Building Construction Bldgs 9-16	Building Construction	8/12/2017	3/2/2018	5	145	
5	Paving Bldgs 1-8	Paving	9/22/2018	9/28/2018	5	5	
6	Architectural Coating Bldgs 1-8	Architectural Coating	10/13/2018	11/6/2018	5	17	
7	Building Construction Bldgs 17-21	Building Construction	3/3/2018	9/21/2018	5	145	
8	Paving Bldgs 9-16	Paving	9/29/2018	10/5/2018	5	5	
9	Architectural Coating Bldgs 9-16	Architectural Coating	11/7/2018	12/11/2018	5	25	
10	Paving Bldgs 17-21	Paving	10/6/2018	10/12/2018	5	5	
11	Architectural Coating Bldgs 17-21	Architectural Coating	12/12/2018	1/8/2019	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 30.97

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 44,887; Non-Residential Outdoor: 119,704; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Adelanto - Yucca Road Project - Mojave Desert AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction Bldgs 1-8	Cranes	1	7.00	231	0.29
Building Construction Bldgs 1-8	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 1-8	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 1-8	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 1-8	Welders	1	8.00	46	0.45
Building Construction Bldgs 9-16	Cranes	1	7.00	231	0.29
Building Construction Bldgs 9-16	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 9-16	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 9-16	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 9-16	Welders	1	8.00	46	0.45
Paving Bldgs 1-8	Pavers	1	8.00	130	0.42
Paving Bldgs 1-8	Paving Equipment	1	8.00	132	0.36
Paving Bldgs 1-8	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 1-8	Air Compressors	1	6.00	78	0.48
Building Construction Bldgs 17-21	Cranes	1	7.00	231	0.29
Building Construction Bldgs 17-21	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 17-21	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 17-21	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 17-21	Welders	1	8.00	46	0.45

Paving Bldgs 9-16	Pavers	1	8.00	130	0.42
Paving Bldgs 9-16	Paving Equipment	1	8.00	132	0.36
Paving Bldgs 9-16	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 9-16	Air Compressors	1	6.00	78	0.48
Paving Bldgs 17-21	Pavers	1	8.00	130	0.42
Paving Bldgs 17-21	Paving Equipment	1	8.00	132	0.36
Paving Bldgs 17-21	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 17-21	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 1-8	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 9-16	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 1-8	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 1-8	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 17-21	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 9-16	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 9-16	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 17-21	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 17-21	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483		3,894.9500	3,894.9500	1.1934		3,924.7852
Total	**4.9608**	**52.2754**	**23.4554**	**0.0380**	**18.0663**	**2.8786**	**20.9448**	**9.9307**	**2.6483**	**12.5790**		**3,894.9500**	**3,894.9500**	**1.1934**		**3,924.7852**

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1203	0.0832	0.9526	1.6600e-003	0.1479	1.0400e-003	0.1489	0.0392	9.6000e-004	0.0402		165.0283	165.0283	7.8000e-003		165.2234
Total	**0.1203**	**0.0832**	**0.9526**	**1.6600e-003**	**0.1479**	**1.0400e-003**	**0.1489**	**0.0392**	**9.6000e-004**	**0.0402**		**165.0283**	**165.0283**	**7.8000e-003**		**165.2234**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852
Total	**4.9608**	**52.2754**	**23.4554**	**0.0380**	**7.0458**	**2.8786**	**9.9244**	**3.8730**	**2.6483**	**6.5213**	**0.0000**	**3,894.9500**	**3,894.9500**	**1.1934**		**3,924.7852**

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1203	0.0832	0.9526	1.6600e-003	0.1350	1.0400e-003	0.1361	0.0361	9.6000e-004	0.0370		165.0283	165.0283	7.8000e-003		165.2234
Total	**0.1203**	**0.0832**	**0.9526**	**1.6600e-003**	**0.1350**	**1.0400e-003**	**0.1361**	**0.0361**	**9.6000e-004**	**0.0370**		**165.0283**	**165.0283**	**7.8000e-003**		**165.2234**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.9541	0.0000	7.9541	3.5188	0.0000	3.5188			0.0000			0.0000
Off-Road	5.7483	67.9396	38.7826	0.0620		3.0727	3.0727		2.8269	2.8269		6,344.8863	6,344.8863	1.9441		6,393.4879
Total	**5.7483**	**67.9396**	**38.7826**	**0.0620**	**7.9541**	**3.0727**	**11.0268**	**3.5188**	**2.8269**	**6.3457**		**6,344.8863**	**6,344.8863**	**1.9441**		**6,393.4879**

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1337	0.0924	1.0584	1.8500e-003	0.1643	1.1600e-003	0.1655	0.0436	1.0700e-003	0.0447		183.3648	183.3648	8.6700e-003		183.5815
Total	**0.1337**	**0.0924**	**1.0584**	**1.8500e-003**	**0.1643**	**1.1600e-003**	**0.1655**	**0.0436**	**1.0700e-003**	**0.0447**		**183.3648**	**183.3648**	**8.6700e-003**		**183.5815**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1021	0.0000	3.1021	1.3724	0.0000	1.3724			0.0000			0.0000
Off-Road	5.7483	67.9396	38.7826	0.0620		3.0727	3.0727		2.8269	2.8269	0.0000	6,344.8863	6,344.8863	1.9441		6,393.4878
Total	**5.7483**	**67.9396**	**38.7826**	**0.0620**	**3.1021**	**3.0727**	**6.1748**	**1.3724**	**2.8269**	**4.1992**	**0.0000**	**6,344.8863**	**6,344.8863**	**1.9441**		**6,393.4878**

3.3 Grading - 2017

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1337	0.0924	1.0584	1.8500e-003	0.1500	1.1600e-003	0.1512	0.0401	1.0700e-003	0.0411		183.3648	183.3648	8.6700e-003		183.5815
Total	**0.1337**	**0.0924**	**1.0584**	**1.8500e-003**	**0.1500**	**1.1600e-003**	**0.1512**	**0.0401**	**1.0700e-003**	**0.0411**		**183.3648**	**183.3648**	**8.6700e-003**		**183.5815**

3.4 Building Construction Bldgs 1-8 - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791		2,650.9797	2,650.9797	0.6531		2,667.3078
Total	**3.1149**	**26.5546**	**18.1825**	**0.0269**		**1.7879**	**1.7879**		**1.6791**	**1.6791**		**2,650.9797**	**2,650.9797**	**0.6531**		**2,667.3078**

3.4 Building Construction Bldgs 1-8 - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5116	13.2825	3.7619	0.0315	0.6985	0.1069	0.8054	0.2012	0.1022	0.3034		3,283.5636	3,283.5636	0.3006		3,291.0774
Worker	1.7647	1.2199	13.9715	0.0244	2.1687	0.0153	2.1840	0.5752	0.0141	0.5894		2,420.4148	2,420.4148	0.1145		2,423.2764
Total	**2.2763**	**14.5024**	**17.7334**	**0.0559**	**2.8672**	**0.1221**	**2.9894**	**0.7764**	**0.1163**	**0.8927**		**5,703.9784**	**5,703.9784**	**0.4150**		**5,714.3538**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791	0.0000	2,650.9797	2,650.9797	0.6531		2,667.3078
Total	**3.1149**	**26.5546**	**18.1825**	**0.0269**		**1.7879**	**1.7879**		**1.6791**	**1.6791**	**0.0000**	**2,650.9797**	**2,650.9797**	**0.6531**		**2,667.3078**

3.4 Building Construction Bldgs 1-8 - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5116	13.2825	3.7619	0.0315	0.6488	0.1069	0.7557	0.1890	0.1022	0.2912		3,283.5636	3,283.5636	0.3006		3,291.0774
Worker	1.7647	1.2199	13.9715	0.0244	1.9802	0.0153	1.9955	0.5290	0.0141	0.5431		2,420.4148	2,420.4148	0.1145		2,423.2764
Total	**2.2763**	**14.5024**	**17.7334**	**0.0559**	**2.6290**	**0.1221**	**2.7512**	**0.7180**	**0.1163**	**0.8343**		**5,703.9784**	**5,703.9784**	**0.4150**		**5,714.3538**

3.5 Building Construction Bldgs 9-16 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791		2,650.9797	2,650.9797	0.6531		2,667.3078
Total	**3.1149**	**26.5546**	**18.1825**	**0.0269**		**1.7879**	**1.7879**		**1.6791**	**1.6791**		**2,650.9797**	**2,650.9797**	**0.6531**		**2,667.3078**

3.5 Building Construction Bldgs 9-16 - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5116	13.2825	3.7619	0.0315	0.6985	0.1069	0.8054	0.2012	0.1022	0.3034		3,283.5636	3,283.5636	0.3006		3,291.0774
Worker	1.7647	1.2199	13.9715	0.0244	2.1687	0.0153	2.1840	0.5752	0.0141	0.5894		2,420.4148	2,420.4148	0.1145		2,423.2764
Total	**2.2763**	**14.5024**	**17.7334**	**0.0559**	**2.8672**	**0.1221**	**2.9894**	**0.7764**	**0.1163**	**0.8927**		**5,703.9784**	**5,703.9784**	**0.4150**		**5,714.3538**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791	0.0000	2,650.9797	2,650.9797	0.6531		2,667.3078
Total	**3.1149**	**26.5546**	**18.1825**	**0.0269**		**1.7879**	**1.7879**		**1.6791**	**1.6791**	**0.0000**	**2,650.9797**	**2,650.9797**	**0.6531**		**2,667.3078**

3.5 Building Construction Bldgs 9-16 - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5116	13.2825	3.7619	0.0315	0.6488	0.1069	0.7557	0.1890	0.1022	0.2912		3,283.5636	3,283.5636	0.3006		3,291.0774
Worker	1.7647	1.2199	13.9715	0.0244	1.9802	0.0153	1.9955	0.5290	0.0141	0.5431		2,420.4148	2,420.4148	0.1145		2,423.2764
Total	**2.2763**	**14.5024**	**17.7334**	**0.0559**	**2.6290**	**0.1221**	**2.7512**	**0.7180**	**0.1163**	**0.8343**		**5,703.9784**	**5,703.9784**	**0.4150**		**5,714.3538**

3.5 Building Construction Bldgs 9-16 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction Bldgs 9-16 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4436	12.3957	3.2067	0.0314	0.6985	0.0838	0.7824	0.2012	0.0802	0.2814		3,275.6879	3,275.6879	0.2861		3,282.8394
Worker	1.5712	1.0594	12.1255	0.0237	2.1687	0.0146	2.1833	0.5752	0.0135	0.5887		2,352.9661	2,352.9661	0.1000		2,355.4658
Total	**2.0148**	**13.4551**	**15.3322**	**0.0551**	**2.8672**	**0.0985**	**2.9657**	**0.7764**	**0.0937**	**0.8701**		**5,628.6540**	**5,628.6540**	**0.3861**		**5,638.3052**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction Bldgs 9-16 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4436	12.3957	3.2067	0.0314	0.6488	0.0838	0.7327	0.1890	0.0802	0.2692		3,275.6879	3,275.6879	0.2861		3,282.8394
Worker	1.5712	1.0594	12.1255	0.0237	1.9802	0.0146	1.9948	0.5290	0.0135	0.5425		2,352.9661	2,352.9661	0.1000		2,355.4658
Total	**2.0148**	**13.4551**	**15.3322**	**0.0551**	**2.6290**	**0.0985**	**2.7275**	**0.7180**	**0.0937**	**0.8116**		**5,628.6540**	**5,628.6540**	**0.3861**		**5,638.3052**

3.6 Paving Bldgs 1-8 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398		1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**		**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.6 Paving Bldgs 1-8 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0893	0.0602	0.6890	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		133.6913	133.6913	5.6800e-003		133.8333
Total	**0.0893**	**0.0602**	**0.6890**	**1.3500e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**133.6913**	**133.6913**	**5.6800e-003**		**133.8333**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398	0.0000	1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**	**0.0000**	**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.6 Paving Bldgs 1-8 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0893	0.0602	0.6890	1.3500e-003	0.1125	8.3000e-004	0.1133	0.0301	7.7000e-004	0.0308		133.6913	133.6913	5.6800e-003		133.8333
Total	**0.0893**	**0.0602**	**0.6890**	**1.3500e-003**	**0.1125**	**8.3000e-004**	**0.1133**	**0.0301**	**7.7000e-004**	**0.0308**		**133.6913**	**133.6913**	**5.6800e-003**		**133.8333**

3.7 Architectural Coating Bldgs 1-8 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	112.1881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**112.4868**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating Bldgs 1-8 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3154	0.2127	2.4343	4.7600e-003	0.4354	2.9400e-003	0.4383	0.1155	2.7100e-003	0.1182		472.3758	472.3758	0.0201		472.8776
Total	**0.3154**	**0.2127**	**2.4343**	**4.7600e-003**	**0.4354**	**2.9400e-003**	**0.4383**	**0.1155**	**2.7100e-003**	**0.1182**		**472.3758**	**472.3758**	**0.0201**		**472.8776**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	112.1881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**112.4868**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating Bldgs 1-8 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3154	0.2127	2.4343	4.7600e-003	0.3975	2.9400e-003	0.4005	0.1062	2.7100e-003	0.1089		472.3758	472.3758	0.0201		472.8776
Total	**0.3154**	**0.2127**	**2.4343**	**4.7600e-003**	**0.3975**	**2.9400e-003**	**0.4005**	**0.1062**	**2.7100e-003**	**0.1089**		**472.3758**	**472.3758**	**0.0201**		**472.8776**

3.8 Building Construction Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.8 Building Construction Bldgs 17-21 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4436	12.3957	3.2067	0.0314	0.6985	0.0838	0.7824	0.2012	0.0802	0.2814		3,275.6879	3,275.6879	0.2861		3,282.8394
Worker	1.5712	1.0594	12.1255	0.0237	2.1687	0.0146	2.1833	0.5752	0.0135	0.5887		2,352.9661	2,352.9661	0.1000		2,355.4658
Total	**2.0148**	**13.4551**	**15.3322**	**0.0551**	**2.8672**	**0.0985**	**2.9657**	**0.7764**	**0.0937**	**0.8701**		**5,628.6540**	**5,628.6540**	**0.3861**		**5,638.3052**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.8 Building Construction Bldgs 17-21 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4436	12.3957	3.2067	0.0314	0.6488	0.0838	0.7327	0.1890	0.0802	0.2692		3,275.6879	3,275.6879	0.2861		3,282.8394
Worker	1.5712	1.0594	12.1255	0.0237	1.9802	0.0146	1.9948	0.5290	0.0135	0.5425		2,352.9661	2,352.9661	0.1000		2,355.4658
Total	**2.0148**	**13.4551**	**15.3322**	**0.0551**	**2.6290**	**0.0985**	**2.7275**	**0.7180**	**0.0937**	**0.8116**		**5,628.6540**	**5,628.6540**	**0.3861**		**5,638.3052**

3.9 Paving Bldgs 9-16 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398		1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**		**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.9 Paving Bldgs 9-16 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0893	0.0602	0.6890	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		133.6913	133.6913	5.6800e-003		133.8333
Total	**0.0893**	**0.0602**	**0.6890**	**1.3500e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**133.6913**	**133.6913**	**5.6800e-003**		**133.8333**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398	0.0000	1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**	**0.0000**	**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.9 Paving Bldgs 9-16 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0893	0.0602	0.6890	1.3500e-003	0.1125	8.3000e-004	0.1133	0.0301	7.7000e-004	0.0308		133.6913	133.6913	5.6800e-003		133.8333
Total	**0.0893**	**0.0602**	**0.6890**	**1.3500e-003**	**0.1125**	**8.3000e-004**	**0.1133**	**0.0301**	**7.7000e-004**	**0.0308**		**133.6913**	**133.6913**	**5.6800e-003**		**133.8333**

3.10 Architectural Coating Bldgs 9-16 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.4828					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**55.7814**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.10 Architectural Coating Bldgs 9-16 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3154	0.2127	2.4343	4.7600e-003	0.4354	2.9400e-003	0.4383	0.1155	2.7100e-003	0.1182		472.3758	472.3758	0.0201		472.8776
Total	**0.3154**	**0.2127**	**2.4343**	**4.7600e-003**	**0.4354**	**2.9400e-003**	**0.4383**	**0.1155**	**2.7100e-003**	**0.1182**		**472.3758**	**472.3758**	**0.0201**		**472.8776**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.4828					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**55.7814**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.10 Architectural Coating Bldgs 9-16 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3154	0.2127	2.4343	4.7600e-003	0.3975	2.9400e-003	0.4005	0.1062	2.7100e-003	0.1089		472.3758	472.3758	0.0201		472.8776
Total	**0.3154**	**0.2127**	**2.4343**	**4.7600e-003**	**0.3975**	**2.9400e-003**	**0.4005**	**0.1062**	**2.7100e-003**	**0.1089**		**472.3758**	**472.3758**	**0.0201**		**472.8776**

3.11 Paving Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398		1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**		**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.11 Paving Bldgs 17-21 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0893	0.0602	0.6890	1.3500e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		133.6913	133.6913	5.6800e-003		133.8333
Total	**0.0893**	**0.0602**	**0.6890**	**1.3500e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**133.6913**	**133.6913**	**5.6800e-003**		**133.8333**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398	0.0000	1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**	**0.0000**	**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.11 Paving Bldgs 17-21 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0893	0.0602	0.6890	1.3500e-003	0.1125	8.3000e-004	0.1133	0.0301	7.7000e-004	0.0308		133.6913	133.6913	5.6800e-003		133.8333
Total	**0.0893**	**0.0602**	**0.6890**	**1.3500e-003**	**0.1125**	**8.3000e-004**	**0.1133**	**0.0301**	**7.7000e-004**	**0.0308**		**133.6913**	**133.6913**	**5.6800e-003**		**133.8333**

3.12 Architectural Coating Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.3459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**43.6446**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.12 Architectural Coating Bldgs 17-21 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3154	0.2127	2.4343	4.7600e-003	0.4354	2.9400e-003	0.4383	0.1155	2.7100e-003	0.1182		472.3758	472.3758	0.0201		472.8776
Total	**0.3154**	**0.2127**	**2.4343**	**4.7600e-003**	**0.4354**	**2.9400e-003**	**0.4383**	**0.1155**	**2.7100e-003**	**0.1182**		**472.3758**	**472.3758**	**0.0201**		**472.8776**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.3459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**43.6446**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.12 Architectural Coating Bldgs 17-21 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3154	0.2127	2.4343	4.7600e-003	0.3975	2.9400e-003	0.4005	0.1062	2.7100e-003	0.1089		472.3758	472.3758	0.0201		472.8776
Total	**0.3154**	**0.2127**	**2.4343**	**4.7600e-003**	**0.3975**	**2.9400e-003**	**0.4005**	**0.1062**	**2.7100e-003**	**0.1089**		**472.3758**	**472.3758**	**0.0201**		**472.8776**

3.12 Architectural Coating Bldgs 17-21 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.3459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**43.6124**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.12 Architectural Coating Bldgs 17-21 - 2019

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2856	0.1863	2.1516	4.6000e-003	0.4354	2.8400e-003	0.4382	0.1155	2.6200e-003	0.1181		456.9250	456.9250	0.0177		457.3665
Total	**0.2856**	**0.1863**	**2.1516**	**4.6000e-003**	**0.4354**	**2.8400e-003**	**0.4382**	**0.1155**	**2.6200e-003**	**0.1181**		**456.9250**	**456.9250**	**0.0177**		**457.3665**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Archit. Coating	43.3459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**43.6124**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.12 Architectural Coating Bldgs 17-21 - 2019

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2856	0.1863	2.1516	4.6000e-003	0.3975	2.8400e-003	0.4004	0.1062	2.6200e-003	0.1088		456.9250	456.9250	0.0177		457.3665
Total	**0.2856**	**0.1863**	**2.1516**	**4.6000e-003**	**0.3975**	**2.8400e-003**	**0.4004**	**0.1062**	**2.6200e-003**	**0.1088**		**456.9250**	**456.9250**	**0.0177**		**457.3665**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7244	17.8667	26.9423	0.0832	4.7579	0.0700	4.8279	1.2741	0.0661	1.3402		8,479.2709	8,479.2709	0.6858		8,496.4165
Unmitigated	2.7244	17.8667	26.9423	0.0832	4.7579	0.0700	4.8279	1.2741	0.0661	1.3402		8,479.2709	8,479.2709	0.6858		8,496.4165

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	848.37	848.37	848.37	2,224,273	2,224,273
Total	848.37	848.37	848.37	2,224,273	2,224,273

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.522654	0.039224	0.175067	0.121571	0.023330	0.006273	0.008529	0.087691	0.001433	0.002506	0.009615	0.000720	0.001388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
NaturalGas Unmitigated	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	6008.78	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
Total		**0.0648**	**0.5891**	**0.4948**	**3.5300e-003**		**0.0448**	**0.0448**		**0.0448**	**0.0448**		**706.9148**	**706.9148**	**0.0136**	**0.0130**	**711.1157**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	6.00878	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
Total		0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.4446	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Unmitigated	17.4446	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	3.9901					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.4483					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2200e-003	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Total	**17.4446**	**6.1000e-004**	**0.0651**	**0.0000**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**		**0.1375**	**0.1375**	**3.8000e-004**		**0.1470**

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	3.9901					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.4483					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2200e-003	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Total	**17.4446**	**6.1000e-004**	**0.0651**	**0.0000**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**		**0.1375**	**0.1375**	**3.8000e-004**		**0.1470**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Adelanto - Yucca Road Project
Mojave Desert AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	628.42	1000sqft	30.97	628,425.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	30
Climate Zone	10			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Adelanto - Yucca Road Project - Mojave Desert AQMD Air District, Winter

Project Characteristics - Project phasing and schedule per project proponent

Land Use - Per project description 628425 sf 50000 for manuf. 578425 cultivation used industrial building for model on 30.97 acres

Construction Phase - No demolition phase. Building phases based on estimates for phase completion dates provided by project proponent.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Arch coating sf determined by dividing area sf by phases and number of building per phase

Vehicle Trips - trip rate from Project Trip Generation Summary

Construction Off-road Equipment Mitigation - Clean paved roads per bmp's for fugitive dust control

Fleet Mix - Fleet data includes information from project specific Trip Generation Summary

Off-road Equipment - Paving defaults were changed for equipment from 2 or each type to one due to phasing

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Paving equipment was changed from default from 2 to 1 of each type due to phasing

Off-road Equipment -

Off-road Equipment - Paving equipment default changed from 2 to 1 for each type due to project phasing

Off-road Equipment -

Grading - acres changed to reflect actual site acerage of 30.97

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	119,704.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	74,815.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	314,213.00	119,704.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	44,887.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	942,638.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00

tblArchitecturalCoating	EF_Parking	250.00	0.00
tblArchitecturalCoating	EF_Parking	250.00	0.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	10
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	25
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	NumDays	35.00	17.00
tblConstructionPhase	NumDays	35.00	25.00
tblConstructionPhase	NumDays	500.00	133.00
tblConstructionPhase	NumDays	500.00	145.00
tblConstructionPhase	NumDays	500.00	145.00
tblConstructionPhase	NumDays	45.00	17.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	35.00	5.00
tblConstructionPhase	NumDays	20.00	10.00
tblGrading	AcresOfGrading	42.50	30.97
tblLandUse	BuildingSpaceSquareFeet	628,420.00	628,425.00
tblLandUse	LandUseSquareFeet	628,420.00	628,425.00
tblLandUse	LotAcreage	14.43	30.97
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblVehicleTrips	ST_TR	2.49	1.35
tblVehicleTrips	SU_TR	0.73	1.35
tblVehicleTrips	WD_TR	6.83	1.35

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	5.8740	68.0350	39.6341	0.0783	18.2141	3.0739	21.0937	9.9699	2.8280	12.6191	0.0000	7,907.8173	7,907.8173	1.9515	0.0000	7,934.9294
2018	112.7830	36.7388	30.9545	0.0776	2.8672	1.5991	4.4663	0.7764	1.5043	2.2807	0.0000	7,807.3325	7,807.3325	1.0474	0.0000	7,833.5166
2019	43.8808	2.0271	3.5630	7.0000e-003	0.4354	0.1316	0.5670	0.1155	0.1314	0.2469	0.0000	682.7283	682.7283	0.0389	0.0000	683.7001
Maximum	**112.7830**	**68.0350**	**39.6341**	**0.0783**	**18.2141**	**3.0739**	**21.0937**	**9.9699**	**2.8280**	**12.6191**	**0.0000**	**7,907.8173**	**7,907.8173**	**1.9515**	**0.0000**	**7,934.9294**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	5.8740	68.0350	39.6341	0.0783	7.1809	3.0739	10.0605	3.9090	2.8280	6.5583	0.0000	7,907.8173	7,907.8173	1.9515	0.0000	7,934.9294
2018	112.7830	36.7388	30.9545	0.0776	2.6290	1.5991	4.2281	0.7180	1.5043	2.2223	0.0000	7,807.3325	7,807.3325	1.0474	0.0000	7,833.5166
2019	43.8808	2.0271	3.5630	7.0000e-003	0.3975	0.1316	0.5292	0.1062	0.1314	0.2376	0.0000	682.7283	682.7283	0.0389	0.0000	683.7001
Maximum	**112.7830**	**68.0350**	**39.6341**	**0.0783**	**7.1809**	**3.0739**	**10.0605**	**3.9090**	**2.8280**	**6.5583**	**0.0000**	**7,907.8173**	**7,907.8173**	**1.9515**	**0.0000**	**7,934.9294**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	52.56	0.00	43.29	56.42	0.00	40.46	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Area	17.4446	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Energy	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
Mobile	2.3117	17.6834	23.6008	0.0755	4.7579	0.0709	4.8288	1.2741	0.0670	1.3410		7,703.8737	7,703.8737	0.7140		7,721.7230
Total	**19.8211**	**18.2731**	**24.1607**	**0.0790**	**4.7579**	**0.1159**	**4.8738**	**1.2741**	**0.1120**	**1.3860**		**8,410.9261**	**8,410.9261**	**0.7279**	**0.0130**	**8,432.9856**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Area	17.4446	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Energy	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
Mobile	2.3117	17.6834	23.6008	0.0755	4.7579	0.0709	4.8288	1.2741	0.0670	1.3410		7,703.8737	7,703.8737	0.7140		7,721.7230
Total	**19.8211**	**18.2731**	**24.1607**	**0.0790**	**4.7579**	**0.1159**	**4.8738**	**1.2741**	**0.1120**	**1.3860**		**8,410.9261**	**8,410.9261**	**0.7279**	**0.0130**	**8,432.9856**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2017	1/13/2017	5	10	
2	Grading	Grading	1/14/2017	2/7/2017	5	17	
3	Building Construction Bldgs 1-8	Building Construction	2/8/2017	8/11/2017	5	133	
4	Building Construction Bldgs 9-16	Building Construction	8/12/2017	3/2/2018	5	145	
5	Paving Bldgs 1-8	Paving	9/22/2018	9/28/2018	5	5	
6	Architectural Coating Bldgs 1-8	Architectural Coating	10/13/2018	11/6/2018	5	17	
7	Building Construction Bldgs 17-21	Building Construction	3/3/2018	9/21/2018	5	145	
8	Paving Bldgs 9-16	Paving	9/29/2018	10/5/2018	5	5	
9	Architectural Coating Bldgs 9-16	Architectural Coating	11/7/2018	12/11/2018	5	25	
10	Paving Bldgs 17-21	Paving	10/6/2018	10/12/2018	5	5	
11	Architectural Coating Bldgs 17-21	Architectural Coating	12/12/2018	1/8/2019	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 30.97

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 44,887; Non-Residential Outdoor: 119,704; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Adelanto - Yucca Road Project - Mojave Desert AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction Bldgs 1-8	Cranes	1	7.00	231	0.29
Building Construction Bldgs 1-8	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 1-8	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 1-8	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 1-8	Welders	1	8.00	46	0.45
Building Construction Bldgs 9-16	Cranes	1	7.00	231	0.29
Building Construction Bldgs 9-16	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 9-16	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 9-16	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 9-16	Welders	1	8.00	46	0.45
Paving Bldgs 1-8	Pavers	1	8.00	130	0.42
Paving Bldgs 1-8	Paving Equipment	1	8.00	132	0.36
Paving Bldgs 1-8	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 1-8	Air Compressors	1	6.00	78	0.48
Building Construction Bldgs 17-21	Cranes	1	7.00	231	0.29
Building Construction Bldgs 17-21	Forklifts	3	8.00	89	0.20
Building Construction Bldgs 17-21	Generator Sets	1	8.00	84	0.74
Building Construction Bldgs 17-21	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction Bldgs 17-21	Welders	1	8.00	46	0.45

Paving Bldgs 9-16	Pavers	1	8.00	130	0.42
Paving Bldgs 9-16	Paving Equipment	1	8.00	132	0.36
Paving Bldgs 9-16	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 9-16	Air Compressors	1	6.00	78	0.48
Paving Bldgs 17-21	Pavers	1	8.00	130	0.42
Paving Bldgs 17-21	Paving Equipment	1	8.00	132	0.36
Paving Bldgs 17-21	Rollers	1	8.00	80	0.38
Architectural Coating Bldgs 17-21	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 1-8	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 9-16	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 1-8	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 1-8	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction Bldgs 17-21	9	264.00	103.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 9-16	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 9-16	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving Bldgs 17-21	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating Bldgs 17-21	1	53.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483		3,894.9500	3,894.9500	1.1934		3,924.7852
Total	**4.9608**	**52.2754**	**23.4554**	**0.0380**	**18.0663**	**2.8786**	**20.9448**	**9.9307**	**2.6483**	**12.5790**		**3,894.9500**	**3,894.9500**	**1.1934**		**3,924.7852**

3.2 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1131	0.0859	0.7664	1.4600e-003	0.1479	1.0400e-003	0.1489	0.0392	9.6000e-004	0.0402		144.9928	144.9928	6.7200e-003		145.1609
Total	**0.1131**	**0.0859**	**0.7664**	**1.4600e-003**	**0.1479**	**1.0400e-003**	**0.1489**	**0.0392**	**9.6000e-004**	**0.0402**		**144.9928**	**144.9928**	**6.7200e-003**		**145.1609**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852
Total	**4.9608**	**52.2754**	**23.4554**	**0.0380**	**7.0458**	**2.8786**	**9.9244**	**3.8730**	**2.6483**	**6.5213**	**0.0000**	**3,894.9500**	**3,894.9500**	**1.1934**		**3,924.7852**

3.2 Site Preparation - 2017

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1131	0.0859	0.7664	1.4600e-003	0.1350	1.0400e-003	0.1361	0.0361	9.6000e-004	0.0370		144.9928	144.9928	6.7200e-003		145.1609
Total	**0.1131**	**0.0859**	**0.7664**	**1.4600e-003**	**0.1350**	**1.0400e-003**	**0.1361**	**0.0361**	**9.6000e-004**	**0.0370**		**144.9928**	**144.9928**	**6.7200e-003**		**145.1609**

3.3 Grading - 2017

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					7.9541	0.0000	7.9541	3.5188	0.0000	3.5188			0.0000			0.0000
Off-Road	5.7483	67.9396	38.7826	0.0620		3.0727	3.0727		2.8269	2.8269		6,344.8863	6,344.8863	1.9441		6,393.4879
Total	**5.7483**	**67.9396**	**38.7826**	**0.0620**	**7.9541**	**3.0727**	**11.0268**	**3.5188**	**2.8269**	**6.3457**		**6,344.8863**	**6,344.8863**	**1.9441**		**6,393.4879**

3.3 Grading - 2017

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1257	0.0954	0.8515	1.6200e-003	0.1643	1.1600e-003	0.1655	0.0436	1.0700e-003	0.0447		161.1032	161.1032	7.4700e-003		161.2899
Total	**0.1257**	**0.0954**	**0.8515**	**1.6200e-003**	**0.1643**	**1.1600e-003**	**0.1655**	**0.0436**	**1.0700e-003**	**0.0447**		**161.1032**	**161.1032**	**7.4700e-003**		**161.2899**

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Fugitive Dust					3.1021	0.0000	3.1021	1.3724	0.0000	1.3724			0.0000			0.0000
Off-Road	5.7483	67.9396	38.7826	0.0620		3.0727	3.0727		2.8269	2.8269	0.0000	6,344.8863	6,344.8863	1.9441		6,393.4878
Total	**5.7483**	**67.9396**	**38.7826**	**0.0620**	**3.1021**	**3.0727**	**6.1748**	**1.3724**	**2.8269**	**4.1992**	**0.0000**	**6,344.8863**	**6,344.8863**	**1.9441**		**6,393.4878**

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1257	0.0954	0.8515	1.6200e-003	0.1500	1.1600e-003	0.1512	0.0401	1.0700e-003	0.0411		161.1032	161.1032	7.4700e-003		161.2899
Total	**0.1257**	**0.0954**	**0.8515**	**1.6200e-003**	**0.1500**	**1.1600e-003**	**0.1512**	**0.0401**	**1.0700e-003**	**0.0411**		**161.1032**	**161.1032**	**7.4700e-003**		**161.2899**

3.4 Building Construction Bldgs 1-8 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791		2,650.9797	2,650.9797	0.6531		2,667.3078
Total	**3.1149**	**26.5546**	**18.1825**	**0.0269**		**1.7879**	**1.7879**		**1.6791**	**1.6791**		**2,650.9797**	**2,650.9797**	**0.6531**		**2,667.3078**

3.4 Building Construction Bldgs 1-8 - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5365	13.1654	4.2011	0.0300	0.6985	0.1078	0.8063	0.2012	0.1031	0.3043		3,130.2760	3,130.2760	0.3328		3,138.5956
Worker	1.6592	1.2594	11.2403	0.0214	2.1687	0.0153	2.1840	0.5752	0.0141	0.5894		2,126.5616	2,126.5616	0.0986		2,129.0260
Total	**2.1957**	**14.4248**	**15.4414**	**0.0514**	**2.8672**	**0.1231**	**2.9903**	**0.7764**	**0.1172**	**0.8936**		**5,256.8376**	**5,256.8376**	**0.4314**		**5,267.6216**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791	0.0000	2,650.9797	2,650.9797	0.6531		2,667.3078
Total	**3.1149**	**26.5546**	**18.1825**	**0.0269**		**1.7879**	**1.7879**		**1.6791**	**1.6791**	**0.0000**	**2,650.9797**	**2,650.9797**	**0.6531**		**2,667.3078**

3.4 Building Construction Bldgs 1-8 - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5365	13.1654	4.2011	0.0300	0.6488	0.1078	0.7566	0.1890	0.1031	0.2921		3,130.2760	3,130.2760	0.3328		3,138.5956
Worker	1.6592	1.2594	11.2403	0.0214	1.9802	0.0153	1.9955	0.5290	0.0141	0.5431		2,126.5616	2,126.5616	0.0986		2,129.0260
Total	**2.1957**	**14.4248**	**15.4414**	**0.0514**	**2.6290**	**0.1231**	**2.7521**	**0.7180**	**0.1172**	**0.8352**		**5,256.8376**	**5,256.8376**	**0.4314**		**5,267.6216**

3.5 Building Construction Bldgs 9-16 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791		2,650.9797	2,650.9797	0.6531		2,667.3078
Total	**3.1149**	**26.5546**	**18.1825**	**0.0269**		**1.7879**	**1.7879**		**1.6791**	**1.6791**		**2,650.9797**	**2,650.9797**	**0.6531**		**2,667.3078**

3.5 Building Construction Bldgs 9-16 - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5365	13.1654	4.2011	0.0300	0.6985	0.1078	0.8063	0.2012	0.1031	0.3043		3,130.2760	3,130.2760	0.3328		3,138.5956
Worker	1.6592	1.2594	11.2403	0.0214	2.1687	0.0153	2.1840	0.5752	0.0141	0.5894		2,126.5616	2,126.5616	0.0986		2,129.0260
Total	**2.1957**	**14.4248**	**15.4414**	**0.0514**	**2.8672**	**0.1231**	**2.9903**	**0.7764**	**0.1172**	**0.8936**		**5,256.8376**	**5,256.8376**	**0.4314**		**5,267.6216**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1149	26.5546	18.1825	0.0269		1.7879	1.7879		1.6791	1.6791	0.0000	2,650.9797	2,650.9797	0.6531		2,667.3078
Total	**3.1149**	**26.5546**	**18.1825**	**0.0269**		**1.7879**	**1.7879**		**1.6791**	**1.6791**	**0.0000**	**2,650.9797**	**2,650.9797**	**0.6531**		**2,667.3078**

3.5 Building Construction Bldgs 9-16 - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.5365	13.1654	4.2011	0.0300	0.6488	0.1078	0.7566	0.1890	0.1031	0.2921		3,130.2760	3,130.2760	0.3328		3,138.5956
Worker	1.6592	1.2594	11.2403	0.0214	1.9802	0.0153	1.9955	0.5290	0.0141	0.5431		2,126.5616	2,126.5616	0.0986		2,129.0260
Total	**2.1957**	**14.4248**	**15.4414**	**0.0514**	**2.6290**	**0.1231**	**2.7521**	**0.7180**	**0.1172**	**0.8352**		**5,256.8376**	**5,256.8376**	**0.4314**		**5,267.6216**

3.5 Building Construction Bldgs 9-16 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction Bldgs 9-16 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4676	12.2571	3.6478	0.0299	0.6985	0.0846	0.7831	0.2012	0.0809	0.2821		3,119.7128	3,119.7128	0.3195		3,127.6999
Worker	1.4757	1.0916	9.7263	0.0208	2.1687	0.0146	2.1833	0.5752	0.0135	0.5887		2,066.6845	2,066.6845	0.0858		2,068.8285
Total	**1.9433**	**13.3487**	**13.3741**	**0.0507**	**2.8672**	**0.0992**	**2.9664**	**0.7764**	**0.0944**	**0.8708**		**5,186.3973**	**5,186.3973**	**0.4052**		**5,196.5283**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction Bldgs 9-16 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4676	12.2571	3.6478	0.0299	0.6488	0.0846	0.7334	0.1890	0.0809	0.2699		3,119.7128	3,119.7128	0.3195		3,127.6999
Worker	1.4757	1.0916	9.7263	0.0208	1.9802	0.0146	1.9948	0.5290	0.0135	0.5425		2,066.6845	2,066.6845	0.0858		2,068.8285
Total	**1.9433**	**13.3487**	**13.3741**	**0.0507**	**2.6290**	**0.0992**	**2.7282**	**0.7180**	**0.0944**	**0.8123**		**5,186.3973**	**5,186.3973**	**0.4052**		**5,196.5283**

3.6 Paving Bldgs 1-8 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398		1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**		**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.6 Paving Bldgs 1-8 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0839	0.0620	0.5526	1.1800e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		117.4253	117.4253	4.8700e-003		117.5471
Total	**0.0839**	**0.0620**	**0.5526**	**1.1800e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**117.4253**	**117.4253**	**4.8700e-003**		**117.5471**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398	0.0000	1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**	**0.0000**	**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.6 Paving Bldgs 1-8 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0839	0.0620	0.5526	1.1800e-003	0.1125	8.3000e-004	0.1133	0.0301	7.7000e-004	0.0308		117.4253	117.4253	4.8700e-003		117.5471
Total	**0.0839**	**0.0620**	**0.5526**	**1.1800e-003**	**0.1125**	**8.3000e-004**	**0.1133**	**0.0301**	**7.7000e-004**	**0.0308**		**117.4253**	**117.4253**	**4.8700e-003**		**117.5471**

3.7 Architectural Coating Bldgs 1-8 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	112.1881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**112.4868**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating Bldgs 1-8 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2963	0.2192	1.9526	4.1700e-003	0.4354	2.9400e-003	0.4383	0.1155	2.7100e-003	0.1182		414.9026	414.9026	0.0172		415.3330
Total	**0.2963**	**0.2192**	**1.9526**	**4.1700e-003**	**0.4354**	**2.9400e-003**	**0.4383**	**0.1155**	**2.7100e-003**	**0.1182**		**414.9026**	**414.9026**	**0.0172**		**415.3330**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	112.1881					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**112.4868**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating Bldgs 1-8 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2963	0.2192	1.9526	4.1700e-003	0.3975	2.9400e-003	0.4005	0.1062	2.7100e-003	0.1089		414.9026	414.9026	0.0172		415.3330
Total	**0.2963**	**0.2192**	**1.9526**	**4.1700e-003**	**0.3975**	**2.9400e-003**	**0.4005**	**0.1062**	**2.7100e-003**	**0.1089**		**414.9026**	**414.9026**	**0.0172**		**415.3330**

3.8 Building Construction Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.8 Building Construction Bldgs 17-21 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4676	12.2571	3.6478	0.0299	0.6985	0.0846	0.7831	0.2012	0.0809	0.2821		3,119.7128	3,119.7128	0.3195		3,127.6999
Worker	1.4757	1.0916	9.7263	0.0208	2.1687	0.0146	2.1833	0.5752	0.0135	0.5887		2,066.6845	2,066.6845	0.0858		2,068.8285
Total	**1.9433**	**13.3487**	**13.3741**	**0.0507**	**2.8672**	**0.0992**	**2.9664**	**0.7764**	**0.0944**	**0.8708**		**5,186.3973**	**5,186.3973**	**0.4052**		**5,196.5283**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.8 Building Construction Bldgs 17-21 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4676	12.2571	3.6478	0.0299	0.6488	0.0846	0.7334	0.1890	0.0809	0.2699		3,119.7128	3,119.7128	0.3195		3,127.6999
Worker	1.4757	1.0916	9.7263	0.0208	1.9802	0.0146	1.9948	0.5290	0.0135	0.5425		2,066.6845	2,066.6845	0.0858		2,068.8285
Total	**1.9433**	**13.3487**	**13.3741**	**0.0507**	**2.6290**	**0.0992**	**2.7282**	**0.7180**	**0.0944**	**0.8123**		**5,186.3973**	**5,186.3973**	**0.4052**		**5,196.5283**

3.9 Paving Bldgs 9-16 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398		1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**		**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.9 Paving Bldgs 9-16 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0839	0.0620	0.5526	1.1800e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		117.4253	117.4253	4.8700e-003		117.5471
Total	**0.0839**	**0.0620**	**0.5526**	**1.1800e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**117.4253**	**117.4253**	**4.8700e-003**		**117.5471**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398	0.0000	1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**	**0.0000**	**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.9 Paving Bldgs 9-16 - 2018

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0839	0.0620	0.5526	1.1800e-003	0.1125	8.3000e-004	0.1133	0.0301	7.7000e-004	0.0308		117.4253	117.4253	4.8700e-003		117.5471
Total	**0.0839**	**0.0620**	**0.5526**	**1.1800e-003**	**0.1125**	**8.3000e-004**	**0.1133**	**0.0301**	**7.7000e-004**	**0.0308**		**117.4253**	**117.4253**	**4.8700e-003**		**117.5471**

3.10 Architectural Coating Bldgs 9-16 - 2018

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day											lb/day				
Archit. Coating	55.4828					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**55.7814**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.10 Architectural Coating Bldgs 9-16 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2963	0.2192	1.9526	4.1700e-003	0.4354	2.9400e-003	0.4383	0.1155	2.7100e-003	0.1182		414.9026	414.9026	0.0172		415.3330
Total	**0.2963**	**0.2192**	**1.9526**	**4.1700e-003**	**0.4354**	**2.9400e-003**	**0.4383**	**0.1155**	**2.7100e-003**	**0.1182**		**414.9026**	**414.9026**	**0.0172**		**415.3330**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.4828					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**55.7814**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.10 Architectural Coating Bldgs 9-16 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2963	0.2192	1.9526	4.1700e-003	0.3975	2.9400e-003	0.4005	0.1062	2.7100e-003	0.1089		414.9026	414.9026	0.0172		415.3330
Total	**0.2963**	**0.2192**	**1.9526**	**4.1700e-003**	**0.3975**	**2.9400e-003**	**0.4005**	**0.1062**	**2.7100e-003**	**0.1089**		**414.9026**	**414.9026**	**0.0172**		**415.3330**

3.11 Paving Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398		1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**		**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.11 Paving Bldgs 17-21 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0839	0.0620	0.5526	1.1800e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		117.4253	117.4253	4.8700e-003		117.5471
Total	**0.0839**	**0.0620**	**0.5526**	**1.1800e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**117.4253**	**117.4253**	**4.8700e-003**		**117.5471**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8219	8.7605	7.3982	0.0114		0.4781	0.4781		0.4398	0.4398	0.0000	1,147.0444	1,147.0444	0.3571		1,155.9716
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8219**	**8.7605**	**7.3982**	**0.0114**		**0.4781**	**0.4781**		**0.4398**	**0.4398**	**0.0000**	**1,147.0444**	**1,147.0444**	**0.3571**		**1,155.9716**

3.11 Paving Bldgs 17-21 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0839	0.0620	0.5526	1.1800e-003	0.1125	8.3000e-004	0.1133	0.0301	7.7000e-004	0.0308		117.4253	117.4253	4.8700e-003		117.5471
Total	**0.0839**	**0.0620**	**0.5526**	**1.1800e-003**	**0.1125**	**8.3000e-004**	**0.1133**	**0.0301**	**7.7000e-004**	**0.0308**		**117.4253**	**117.4253**	**4.8700e-003**		**117.5471**

3.12 Architectural Coating Bldgs 17-21 - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.3459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**43.6446**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.12 Architectural Coating Bldgs 17-21 - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2963	0.2192	1.9526	4.1700e-003	0.4354	2.9400e-003	0.4383	0.1155	2.7100e-003	0.1182		414.9026	414.9026	0.0172		415.3330
Total	**0.2963**	**0.2192**	**1.9526**	**4.1700e-003**	**0.4354**	**2.9400e-003**	**0.4383**	**0.1155**	**2.7100e-003**	**0.1182**		**414.9026**	**414.9026**	**0.0172**		**415.3330**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.3459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**43.6446**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.12 Architectural Coating Bldgs 17-21 - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2963	0.2192	1.9526	4.1700e-003	0.3975	2.9400e-003	0.4005	0.1062	2.7100e-003	0.1089		414.9026	414.9026	0.0172		415.3330
Total	**0.2963**	**0.2192**	**1.9526**	**4.1700e-003**	**0.3975**	**2.9400e-003**	**0.4005**	**0.1062**	**2.7100e-003**	**0.1089**		**414.9026**	**414.9026**	**0.0172**		**415.3330**

3.12 Architectural Coating Bldgs 17-21 - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.3459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2864	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**43.6124**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.12 Architectural Coating Bldgs 17-21 - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2684	0.1917	1.7217	4.0300e-003	0.4354	2.8400e-003	0.4382	0.1155	2.6200e-003	0.1181		401.2802	401.2802	0.0151		401.6577
Total	**0.2684**	**0.1917**	**1.7217**	**4.0300e-003**	**0.4354**	**2.8400e-003**	**0.4382**	**0.1155**	**2.6200e-003**	**0.1181**		**401.2802**	**401.2802**	**0.0151**		**401.6577**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	43.3459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**43.6124**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.12 Architectural Coating Bldgs 17-21 - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2684	0.1917	1.7217	4.0300e-003	0.3975	2.8400e-003	0.4004	0.1062	2.6200e-003	0.1088		401.2802	401.2802	0.0151		401.6577
Total	**0.2684**	**0.1917**	**1.7217**	**4.0300e-003**	**0.3975**	**2.8400e-003**	**0.4004**	**0.1062**	**2.6200e-003**	**0.1088**		**401.2802**	**401.2802**	**0.0151**		**401.6577**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3117	17.6834	23.6008	0.0755	4.7579	0.0709	4.8288	1.2741	0.0670	1.3410		7,703.8737	7,703.8737	0.7140		7,721.7230
Unmitigated	2.3117	17.6834	23.6008	0.0755	4.7579	0.0709	4.8288	1.2741	0.0670	1.3410		7,703.8737	7,703.8737	0.7140		7,721.7230

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Industrial Park	848.37	848.37	848.37	2,224,273	2,224,273
Total	848.37	848.37	848.37	2,224,273	2,224,273

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Industrial Park	9.50	7.30	7.30	59.00	28.00	13.00	79	19	2

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Industrial Park	0.522654	0.039224	0.175067	0.121571	0.023330	0.006273	0.008529	0.087691	0.001433	0.002506	0.009615	0.000720	0.001388

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
NaturalGas Unmitigated	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	6008.78	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
Total		**0.0648**	**0.5891**	**0.4948**	**3.5300e-003**		**0.0448**	**0.0448**		**0.0448**	**0.0448**		**706.9148**	**706.9148**	**0.0136**	**0.0130**	**711.1157**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Industrial Park	6.00878	0.0648	0.5891	0.4948	3.5300e-003		0.0448	0.0448		0.0448	0.0448		706.9148	706.9148	0.0136	0.0130	711.1157
Total		**0.0648**	**0.5891**	**0.4948**	**3.5300e-003**		**0.0448**	**0.0448**		**0.0448**	**0.0448**		**706.9148**	**706.9148**	**0.0136**	**0.0130**	**711.1157**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	17.4446	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Unmitigated	17.4446	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.9901					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.4483					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2200e-003	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Total	**17.4446**	**6.1000e-004**	**0.0651**	**0.0000**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**		**0.1375**	**0.1375**	**3.8000e-004**		**0.1470**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.9901					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	13.4483					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2200e-003	6.1000e-004	0.0651	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		0.1375	0.1375	3.8000e-004		0.1470
Total	**17.4446**	**6.1000e-004**	**0.0651**	**0.0000**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**		**0.1375**	**0.1375**	**3.8000e-004**		**0.1470**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Adelanto - Yucca Road Project

Mojave Desert AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
	Percent Reduction											
Architectural Coating Bldgs 17-21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating Bldgs 1-8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating Bldgs 9-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction Bldgs 17-21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction Bldgs 1-8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction Bldgs 9-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 17-21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 1-8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 9-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	3	No Change	0.00
Cranes	Diesel	No Change	0	3	No Change	0.00
Excavators	Diesel	No Change	0	2	No Change	0.00
Forklifts	Diesel	No Change	0	9	No Change	0.00
Generator Sets	Diesel	No Change	0	3	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	3	No Change	0.00
Paving Equipment	Diesel	No Change	0	3	No Change	0.00
Rollers	Diesel	No Change	0	3	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	4	No Change	0.00
Scrapers	Diesel	No Change	0	2	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	15	No Change	0.00
Welders	Diesel	No Change	0	3	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	9.16000E-003	6.16700E-002	5.74400E-002	9.00000E-005	4.60000E-003	4.60000E-003	0.00000E+000	7.91510E+000	7.91510E+000	7.40000E-004	0.00000E+000	7.93370E+000
Cranes	1.14960E-001	1.36853E+000	4.96820E-001	1.07000E-003	6.02700E-002	5.54500E-002	0.00000E+000	9.83445E+001	9.83445E+001	3.03500E-002	0.00000E+000	9.91032E+001
Excavators	6.01000E-003	6.66000E-002	5.67200E-002	9.00000E-005	3.28000E-003	3.01000E-003	0.00000E+000	8.14131E+000	8.14131E+000	2.49000E-003	0.00000E+000	8.20367E+000
Forklifts	1.24490E-001	1.08706E+000	7.81760E-001	9.70000E-004	8.84700E-002	8.14000E-002	0.00000E+000	8.93037E+001	8.93037E+001	2.75600E-002	0.00000E+000	8.99927E+001
Generator Sets	1.14430E-001	9.10850E-001	7.95600E-001	1.39000E-003	5.98900E-002	5.98900E-002	0.00000E+000	1.19541E+002	1.19541E+002	9.20000E-003	0.00000E+000	1.19771E+002
Graders	4.55000E-003	6.35000E-002	1.66600E-002	6.00000E-005	2.07000E-003	1.91000E-003	0.00000E+000	5.25321E+000	5.25321E+000	1.61000E-003	0.00000E+000	5.29345E+000
Pavers	2.45000E-003	2.70600E-002	2.19500E-002	4.00000E-005	1.32000E-003	1.22000E-003	0.00000E+000	3.21914E+000	3.21914E+000	1.00000E-003	0.00000E+000	3.24420E+000
Paving Equipment	1.78000E-003	1.99400E-002	1.90200E-002	3.00000E-005	9.80000E-004	9.00000E-004	0.00000E+000	2.78963E+000	2.78963E+000	8.70000E-004	0.00000E+000	2.81134E+000
Rollers	1.93000E-003	1.87000E-002	1.45200E-002	2.00000E-005	1.29000E-003	1.18000E-003	0.00000E+000	1.79559E+000	1.79559E+000	5.60000E-004	0.00000E+000	1.80956E+000
Rubber Tired Dozers	2.89300E-002	3.14120E-001	1.08730E-001	2.00000E-004	1.53800E-002	1.41500E-002	0.00000E+000	1.86319E+001	1.86319E+001	5.71000E-003	0.00000E+000	1.87746E+001
Scrapers	2.24500E-002	2.82020E-001	1.76250E-001	2.60000E-004	1.13200E-002	1.04100E-002	0.00000E+000	2.38838E+001	2.38838E+001	7.32000E-003	0.00000E+000	2.40668E+001
Tractors/Loaders/ Backhoes	1.74960E-001	1.69926E+000	1.40336E+000	1.84000E-003	1.24930E-001	1.14940E-001	0.00000E+000	1.69738E+002	1.69738E+002	5.23600E-002	0.00000E+000	1.71047E+002
Welders	1.00320E-001	3.62580E-001	3.99430E-001	5.40000E-004	2.56700E-002	2.56700E-002	0.00000E+000	3.98087E+001	3.98087E+001	8.18000E-003	0.00000E+000	4.00131E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	9.16000E-003	6.16700E-002	5.74400E-002	9.00000E-005	4.60000E-003	4.60000E-003	0.00000E+000	7.91509E+000	7.91509E+000	7.40000E-004	0.00000E+000	7.93369E+000
Cranes	1.14960E-001	1.36853E+000	4.96820E-001	1.07000E-003	6.02700E-002	5.54500E-002	0.00000E+000	9.83444E+001	9.83444E+001	3.03500E-002	0.00000E+000	9.91030E+001
Excavators	6.01000E-003	6.66000E-002	5.67200E-002	9.00000E-005	3.28000E-003	3.01000E-003	0.00000E+000	8.14130E+000	8.14130E+000	2.49000E-003	0.00000E+000	8.20366E+000
Forklifts	1.24490E-001	1.08706E+000	7.61760E-001	9.70000E-004	8.84700E-002	8.14000E-002	0.00000E+000	8.93036E+001	8.93036E+001	2.75600E-002	0.00000E+000	8.99926E+001
Generator Sets	1.14430E-001	9.10850E-001	7.95600E-001	1.39000E-003	5.98900E-002	5.98900E-002	0.00000E+000	1.19541E+002	1.19541E+002	9.20000E-003	0.00000E+000	1.19771E+002
Graders	4.55000E-003	6.35000E-002	1.66600E-002	6.00000E-005	2.07000E-003	1.91000E-003	0.00000E+000	5.25320E+000	5.25320E+000	1.61000E-003	0.00000E+000	5.29344E+000
Pavers	2.45000E-003	2.70600E-002	2.19500E-002	4.00000E-005	1.32000E-003	1.22000E-003	0.00000E+000	3.21914E+000	3.21914E+000	1.00000E-003	0.00000E+000	3.24419E+000
Paving Equipment	1.78000E-003	1.99400E-002	1.90200E-002	3.00000E-005	9.80000E-004	9.00000E-004	0.00000E+000	2.78962E+000	2.78962E+000	8.70000E-004	0.00000E+000	2.81134E+000
Rollers	1.93000E-003	1.87000E-002	1.45200E-002	2.00000E-005	1.29000E-003	1.18000E-003	0.00000E+000	1.79559E+000	1.79559E+000	5.60000E-004	0.00000E+000	1.80956E+000
Rubber Tired Dozers	2.89300E-002	3.14120E-001	1.08730E-001	2.00000E-004	1.53800E-002	1.41500E-002	0.00000E+000	1.86319E+001	1.86319E+001	5.71000E-003	0.00000E+000	1.87746E+001
Scrapers	2.24500E-002	2.82020E-001	1.76250E-001	2.60000E-004	1.13200E-002	1.04100E-002	0.00000E+000	2.38838E+001	2.38838E+001	7.32000E-003	0.00000E+000	2.40668E+001
Tractors/Loaders/Backhoes	1.74960E-001	1.69926E+000	1.40336E+000	1.84000E-003	1.24930E-001	1.14940E-001	0.00000E+000	1.69737E+002	1.69737E+002	5.23600E-002	0.00000E+000	1.71046E+002
Welders	1.00320E-001	3.62580E-001	3.99430E-001	5.40000E-004	2.56700E-002	2.56700E-002	0.00000E+000	3.98086E+001	3.98086E+001	8.18000E-003	0.00000E+000	4.00130E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.26341E-006	1.26341E-006	0.00000E+000	0.00000E+000	1.26045E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.22020E-006	1.22020E-006	0.00000E+000	0.00000E+000	1.21086E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.22830E-006	1.22830E-006	0.00000E+000	0.00000E+000	1.21897E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.11977E-006	1.11977E-006	0.00000E+000	0.00000E+000	1.22232E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.25480E-006	1.25480E-006	0.00000E+000	0.00000E+000	1.16889E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.90360E-006	1.90360E-006	0.00000E+000	0.00000E+000	1.88913E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	3.08242E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	3.58470E-006	3.58470E-006	0.00000E+000	0.00000E+000	0.00000E+000
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.07343E-006	1.07343E-006	0.00000E+000	0.00000E+000	1.59790E-006
Scrapers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.25608E-006	1.25608E-006	0.00000E+000	0.00000E+000	1.24653E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.23720E-006	1.23720E-006	0.00000E+000	0.00000E+000	1.16927E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.00481E-006	1.00481E-006	0.00000E+000	0.00000E+000	1.24959E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	61.00	PM2.5 Reduction	61.00	Frequency (per day)	3.00

No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	25.00		
No	Clean Paved Road	% PM Reduction	10.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating Bldgs 17-21	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating Bldgs 17-21	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating Bldgs 1-8	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating Bldgs 1-8	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating Bldgs 9-16	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating Bldgs 9-16	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Building Construction Bldgs 17-21	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction Bldgs 17-21	Roads	0.20	0.06	0.20	0.06	0.00	0.00
Building Construction Bldgs 1-8	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction Bldgs 1-8	Roads	0.19	0.05	0.19	0.05	0.00	0.00
Building Construction Bldgs 9-16	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction Bldgs 9-16	Roads	0.20	0.06	0.20	0.06	0.00	0.00
Grading	Fugitive Dust	0.07	0.03	0.03	0.01	0.61	0.61
Grading	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 17-21	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 17-21	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 1-8	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 1-8	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 9-16	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving Bldgs 9-16	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.09	0.05	0.04	0.02	0.61	0.61
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures	0.00			
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			2.00
No	Commute	Employee Vanpool/Shuttle	0.00			
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			

No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	Use Low VOC Paint (Parking)	250.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value

Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

GEOTECHNICAL EVALUATION
FOR
PROPOSED COMMERCIAL DEVELOPMENT
ASSESSOR PARCEL NUMBERS (APNS) 0459-432-29 AND -50
NORTHEAST OF THE INTERSECTION OF MUSKRAT AVENUE AND YUCCA ROAD
ADELANTO, SAN BERNARDINO COUNTY, CALIFORNIA

PREPARED FOR

CREDIT HOLDINGS, LLC
8300 UTICA AVENUE, SUITE 300
RANCHO CUCAMONGA, CALIFORNIA 91730

PREPARED BY

GEOTEK, INC.
710 E. PARKRIDGE AVENUE, SUITE 105
CORONA, CALIFORNIA 92879

PROJECT NO. 1569-CR

OCTOBER 19, 2016

GEOTEK

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October 19, 2016
Project No. 1569-CR

Credit Holdings, LLC
8300 Utica Avenue, Suite 300
Rancho Cucamonga, California 91730

Attention: Mr. Daniel Pocius

Subject: Geotechnical Evaluation
Proposed Commercial Development
Assessor Parcel Numbers (APNs) 0459-432-29 and -50
Northeast of the Intersection of Muskrat Avenue and Yucca Road
Adelanto, San Bernardino County, California

Dear Mr. Pocius:

We are pleased to provide the results of our geotechnical evaluation for the subject property located in Adelanto, San Bernardino County, California. This report presents a discussion of our evaluation and provides preliminary geotechnical recommendations for earthwork, foundation design, and construction.

In our opinion, site development appears feasible from a geotechnical viewpoint provided that the recommendations presented in this report are incorporated into the design and construction phases of the project.

The opportunity to be of service is sincerely appreciated. If you have any questions, please do not hesitate to call our office.

Respectfully submitted,
GeoTek, Inc.

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Figure 1 – Site Location and General Site Topography Map
Figure 2 – Boring Location Map

Appendix A – Logs of Exploratory Borings
Appendix B – Laboratory Testing Results
Appendix C – General Grading Guidelines

1. PURPOSE AND SCOPE OF SERVICES

The purpose of this study was to evaluate the geotechnical conditions for the proposed improvements. Services provided for this study included the following:

- Research and review of available geologic data and general information pertinent to the site,
- A site reconnaissance,
- Excavation of eight exploratory hollow-stem auger borings on-site,
- Collection of soil samples of the on-site materials,
- Laboratory testing of selected soil samples collected from the site,
- Review and evaluation of site seismicity, and;
- Compilation of this geotechnical report which presents our preliminary recommendations for site development.

The intent of this report is to aid in the evaluation of the site for future proposed development from a geotechnical perspective. The professional opinions and geotechnical information contained in this report will likely need to be updated based upon our review of the final site development plans. These plans should be provided to GeoTek, Inc. (GeoTek) for review when available.

2. SITE DESCRIPTION AND PROPOSED DEVELOPMENT

2.1 SITE DESCRIPTION

The subject project is located northeast of the intersection of Muskrat Avenue and Yucca Road in Adelanto, San Bernardino County, California (see Figures 1 and 2). The irregular shaped property is comprised of approximately 29 acres. The site is currently vacant and undeveloped land. Site topography can be considered as relatively flat and gently sloping to the north with a maximum topographic relief of approximately 10 feet.

The site is bounded by Muskrat Avenue (an asphalt and concrete paved roadway), followed by commercial buildings, to the west; Joshua Avenue (a dirt roadway), followed by vacant and undeveloped land, to the north; a transmission line easement, followed by Raccoon Avenue (a dirt roadway), to the east; and Yucca Road (an asphalt paved roadway, followed by commercial buildings and vacant land, to the south. The site can be accessed from either Joshua Avenue, Muskrat Avenue or Yucca Road.

2.2 PROPOSED DEVELOPMENT

Based on information provided to us by the client, it is our understanding the proposed improvements include the construction of eleven light industrial, single-story, concrete-tilt up structures and associated paved parking/drive areas.

Specific structural loading was not provided to us. Therefore, this report has been prepared based on maximum column loads of 100 kips and maximum wall loads of 5 kips per lineal feet and that the proposed concrete tilt-up structures will incorporate a concrete slab-on-grade floor with a maximum floor live load of 150 psf.

Cuts and fills of approximately five (5) feet are estimated to bring the site to design grades.

If site development differs from the information presented in this report, the recommendations should be subject to further review and evaluation by GeoTek. Final site development plans should be reviewed by GeoTek when they become available.

3. FIELD EXPLORATION AND LABORATORY TESTING

3.1 FIELD EXPLORATION

Our geotechnical field exploration was conducted on October 11, 2016. An engineer from GeoTek logged eight exploratory hollow-stem auger borings excavated by a track-mounted hollow-stem auger drill rig. The borings were located within the vicinity of the proposed improvements (see Boring Location Map, Figure 2). Logs of the exploratory borings are included in Appendix A. Samples of on-site soils encountered in the excavations were returned to the laboratory for testing and evaluation.

3.2 LABORATORY TESTING

Laboratory testing was performed on selected bulk and relatively undisturbed soil samples collected during our field exploration. The purpose of the laboratory testing was to confirm the field classification of the soils encountered and to evaluate their physical properties for use in the engineering design and analysis. Results of the laboratory testing program along with a brief description and relevant information regarding testing procedures are included in Appendix B or on the exploratory logs included in Appendix A.

4. GEOLOGIC AND SOILS CONDITIONS

4.1 REGIONAL SETTING

The property is situated in the Mojave Desert geomorphic province. The Mojave Desert province is a wedge-shaped area that is enclosed on the southwest by the San Andreas fault zone, the Transverse Ranges province and the Colorado Desert province, on the north and northeast by the Garlock fault zone, the Tehachapi Mountains and the Basin and Range province, and on the east by the Nevada and Arizona state lines, and the Colorado River. The area is dominated by broad alluviated basins that are mostly aggrading surfaces that are receiving non-marine continental deposits from the adjacent upland areas.

The primary fault zones of the area are found in the western half of the province and have a general northwest-southeast trend. These zones are the San Andreas, Helendale, Lenwood and Lockhart in the subject site vicinity. In addition to these major zones, there are numerous secondary fault zones in the area and many smaller fault zones in the eastern half of the province. Many of the secondary fault zones in the province have a general east-west trend.

More specific to the subject property, the site is located in an area geologically mapped to be underlain by alluvium (Dibblee, T.W., 1960). No faults are shown presently in the immediate site vicinity on the maps reviewed for the area.

4.2 GENERAL SOIL/GEOLOGIC CONDITIONS

A brief description of the earth materials encountered at the subject site is presented in the following sections. Based on our field exploration and observations, the site is generally underlain by alluvium.

4.2.1 Alluvium

Alluvial materials were encountered in all of the hollow-stem auger borings excavated on the site. In general, the alluvial materials typically consist of interlayers of medium dense to very dense silty sand and sand and very stiff to hard silt.

According to the results of the laboratory testing performed, the near-surface alluvial soils exhibited a "very low" expansion potential when tested in accordance with ASTM D 4829. The test results are provided in Appendix B.

4.3 SURFACE AND GROUNDWATER

4.3.1 Surface Water

Surface water was not observed on the site during our subsurface exploration. If encountered during the earthwork construction, surface water on this site is the result of precipitation. Overall site area drainage is generally by sheet flow in a north direction. Provisions for surface drainage will need to be accounted for by the project civil engineer.

4.3.2 Groundwater

Groundwater was not encountered in our exploratory excavations. According to the State Water Resources Control Board database (http://www.water.ca.gov/waterdatalibrary/) groundwater is greater than 100 feet below ground surface.

Based on the results of our field exploration, review of site area geomorphology and geology, groundwater is not anticipated to adversely affect the proposed improvements.

4.4 FAULTING AND SEISMICITY

The geologic structure of the entire southern California area is dominated mainly by northwest-trending faults associated with the San Andreas system. The site is in a seismically active region. No active or potentially active fault is presently known to exist at this site nor is the site situated within an *"Alquist-Priolo"* Earthquake Fault Zone. The nearest zoned fault is the San Andreas fault located approximately 20 miles to the southwest.

4.4.1 Seismic Design Parameters

The site is located at approximately 34.5668° Latitude and -117.4473° Longitude. Site spectral accelerations (Ss and S_1), for 0.2 and 1.0 second periods for a Class "D" site, were determined from the USGS Website, Earthquake Hazards Program, U.S. Seismic Design Maps for Risk-Targeted Maximum Considered Earthquake (MCE_R) Ground Motion Response Accelerations

for the Conterminous 48 States by Latitude/Longitude. The results are presented in the following table:

SITE SEISMIC PARAMETERS	
Mapped 0.2 sec Period Spectral Acceleration, S_S	1.405g
Mapped 1.0 sec Period Spectral Acceleration, S_1	0.568g
Site Coefficient for Site Class "D", F_a	1.0
Site Coefficient for Site Class "D", F_v	1.5
Maximum Considered Earthquake Spectral Response Acceleration for 0.2 Second, S_{MS}	1.405g
Maximum Considered Earthquake Spectral Response Acceleration for 1.0 Second, S_{M1}	0.852g
5% Damped Design Spectral Response Acceleration Parameter at 0.2 Second, S_{DS}	0.937g
5% Damped Design Spectral Response Acceleration Parameter at 1 second, S_{D1}	0.568g

Final selection of the appropriate seismic design coefficients should be made by the project structural engineer based upon the local practices and ordinances, expected building response and desired level of conservatism.

4.5 LIQUEFACTION AND SEISMICALLY-INDUCED SETTLEMENT

Based on the San Bernardino County Land Use Services geologic hazard maps, the site is not mapped within a zone of potentially liquefiable soils. Free groundwater was not encountered in our test borings. Based on groundwater data (http://www.water.ca.gov/waterdatalibrary/), it is anticipated that groundwater is at a depth greater than 100 feet below existing grade. Liquefaction is not considered to be a hazard at the subject site due to the underlying dense soils and great depth to groundwater (greater than 100 feet).

4.6 OTHER SEISMIC HAZARDS

The site is not mapped within a zone of generalized landslide susceptibility per the County of San Bernardino Land Use Services geologic hazard maps. Evidence of ancient landslides or slope instabilities at this site was not observed during our investigation. Thus, the potential for landslides is considered negligible for design purposes.

The potential for secondary seismic hazards such as a seiche or tsunami is considered negligible due to site elevation and distance to an open body of water.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 GENERAL

The anticipated site development appears feasible from a geotechnical viewpoint provided that the following recommendations, and those provided by this firm at a later date, are properly incorporated into the design and construction phases of development. Site development and grading plans should be reviewed by GeoTek when they become available.

5.2 EARTHWORK CONSIDERATIONS

Earthwork and grading should be performed in accordance with the applicable grading ordinances of Adelanto, the 2013 California Building Code (CBC), and recommendations contained in this report. The Grading Guidelines included in Appendix C outline general procedures and do not anticipate all site-specific situations. In the event of conflict, the recommendations presented in the text of this report should supersede those contained in Appendix C.

5.2.1 Site Clearing and Demolition

In areas of planned grading and improvements, the site should be cleared of vegetation, roots, and debris. These materials should be properly disposed of off-site. Voids resulting from site clearing should be replaced with engineered fill materials with expansion characteristics similar to the on-site soils.

5.2.2 Removals

Due to the presence of moderately hydro-collapsible near surface soils, the upper five (5) feet of alluvial materials should be completely removed below all proposed structural improvements. Overexcavation and recompaction is recommended below the proposed development in order to provide a uniform bearing materials beneath the planned footings and slab. A representative of this firm should observe the bottom of all excavations.

A minimum of three (3) feet of engineered fill should be provided below the bottom of the proposed footings. The horizontal extent of removals should extend at least five (5) feet outside the perimeter footings and floor-slabs, or a distance equal to the depth of overexcavation below the bottom of the structural elements, whichever is greater.

5.2.2.1 Pavement and Hardscape Areas

A minimum of 24 inches of engineered fill should be provided below asphaltic concrete pavement and Portland cement concrete hardscape areas. The horizontal extent of removals should extend at least two (2) feet beyond the edge.

5.2.2.2 Preparation of Areas to Receive Engineered Fill

A representative of this firm should observe the bottom of all excavations. Upon approval, the exposed soils and all soils in areas to receive engineered fill should be scarified to a depth of approximately 12 inches, moistened to at least the optimum moisture content and compacted to a minimum relative compaction of 90 percent (ASTM D 1557).

5.2.3 Engineered Fills

The on-site soils are generally considered suitable for reuse as engineered fill provided they are free from vegetation, debris and other deleterious material. The undercut areas should be brought to the final subgrade elevations with fill materials that are placed in eight (8) inch or less loose lifts, moisture conditioned to at least the optimum moisture content and compacted to a minimum relative compaction of 90 percent as determined by ASTM Test Method D 1557. The upper one (1) foot of pavement subgrade should be compacted to 95 percent (ASTM D 1557).

5.2.4 Excavation Characteristics

Excavation in the on-site soils is expected to be feasible utilizing heavy-duty grading equipment in good operating condition. All temporary excavations for grading purposes and installation of underground utilities should be constructed in accordance with local and Cal-OSHA guidelines. Temporary excavations within the on-site materials should be stable at 1:1 (horizontal:vertical) inclinations for cuts less than five (5) feet in height.

5.2.5 Shrinkage and Subsidence

Several factors will impact earthwork balancing on the site, including shrinkage, subsidence, trench spoil from utilities and footing excavations, as well as the accuracy of topography.

Shrinkage is primarily dependent upon the degree of compactive effort achieved during construction. For planning purposes, a shrinkage factor of approximately 10 to 15 percent may be considered for the materials requiring removal and/or recompaction. Site balance areas should be available in order to adjust project grades, depending on actual field conditions at the conclusion of earthwork construction. Subsidence on the order of 0.2 feet may occur.

5.3 DESIGN RECOMMENDATIONS

5.3.1 Foundation Design Criteria

Foundation design criteria for a conventional foundation system, in general conformance with the 2013 CBC, are presented below. The soils are classified as having a "very low" expansion potential ($0 \leq EI \leq 20$) in accordance with ASTM D 4829. Typical design criteria for the site based upon a "very low" expansion potential are tabulated below. These are minimal recommendations and are not intended to supersede the design by the project structural engineer.

The foundation elements for the proposed structures should bear entirely in engineered fill soils. Foundations should be designed in accordance with the *2013 California Building Code* (CBC).

Expansion index and soluble sulfate testing of the soils should be performed during construction to evaluate the as-graded conditions. Final recommendations should be based upon the as-graded soils conditions.

A summary of our foundation design recommendations is presented in the following table:

GEOTECHNICAL RECOMMENDATIONS FOR FOUNDATION DESIGN

Design Parameter	"Very Low" Expansion Potential $0 \leq EI \leq 20$
Foundation Depth or Minimum Perimeter Beam Depth (inches below the lowest adjacent grade)	18
Minimum Foundation Width (inches)*	15
Minimum Slab Thickness (inches)	4 - Actual
Sand Blanket and Moisture Retardant membrane below On-Grade Building Slabs	2 inches of sand** overlying moisture vapor retardant membrane overlying 2 inches of sand**
Minimum Footing Reinforcement for Continuous Footings, Grade Beams and Retaining Wall Footings	Two No. 4 reinforcing bars, one placed near the top and one near the bottom
Presaturation of Subgrade Soil (Percent of Optimum/Depth in Inches)	Minimum of 100% of the optimum moisture content to a depth of at least 12 inches prior to placing concrete

* Code minimums per Table 1809.7 of the 2013 CBC
** Sand should have a sand equivalent of at least 30

An allowable bearing capacity of 3000 pounds per square foot (psf) may be used for design of building and retaining wall footings. The allowable bearing capacity may be increased by one-third when considering short-term wind and seismic loads.

For footings designed in accordance with the recommendations presented in this report, we would anticipate a maximum static settlement of less than one (1) inch and a maximum differential static settlement of less than one (1) inch in a 40-foot span.

The passive earth pressure may be computed as an equivalent fluid having a density of 300 psf per foot of depth, to a maximum earth pressure of 3000 psf for footings founded on engineered fill. A coefficient of friction between soil and concrete of 0.40 may be used with dead load forces. The upper one foot of soil below the adjacent grade should not be used in calculating passive pressure unless the ground surface surrounding the footing is covered by concrete or pavement. When combining passive and frictional resistance, the passive pressure component should be reduced by one-third.

A moisture and vapor retarding system should be placed below slabs-on-grade where moisture migration through the slab is undesirable. Guidelines for these are provided in the 2013 California Green Building Standards Code (CALGreen) Section 4.505.2 and the 2013 CBC Section 1907.1 and ACI 360R-10. The vapor retarder design and construction should also meet the requirements of ASTM E1643. A portion of the vapor retarder design should be the implementation of a moisture vapor retardant membrane.

It should be realized that the effectiveness of the vapor retarding membrane can be adversely impacted as a result of construction related punctures (e.g. stake penetrations, tears, punctures from walking on the aggregate layer, etc.). These occurrences should be limited as much as possible during construction. Thicker membranes are generally more resistant to accidental puncture than thinner ones. Products specifically designed for use as moisture/vapor retarders may also be more puncture resistant. Although the CBC specifies a six (6) mil vapor retarder membrane, it is GeoTek's opinion that a minimum 10 mil thick membrane with joints properly overlapped and sealed should be considered, unless otherwise specified by the slab design professional. The membrane should consist of Stego wrap or the equivalent.

Moisture and vapor retarding systems are intended to provide a certain level of resistance to vapor and moisture transmission through the concrete, but do not eliminate it. The acceptable level of moisture transmission through the slab is to a large extent based on the type of flooring used and environmental conditions. Ultimately, the vapor retarding system should be comprised of suitable elements to limit migration of water and reduce transmission of water vapor through the slab to acceptable levels. The selected elements should have suitable properties (i.e., thickness, composition, strength, and permeability) to achieve the desired

performance level. Consideration should be given to consulting with an individual possessing specific expertise in this area for additional evaluation.

Moisture retarders can reduce, but not eliminate, moisture vapor rise from the underlying soils up through the slab. Moisture retarders should be designed and constructed in accordance with applicable American Concrete Institute, Portland Cement Association, Post-Tensioning Concrete Institute, ASTM and California Building Code requirements and guidelines.

GeoTek recommends that a qualified person, such as the flooring contractor, structural engineer, and/or architect be consulted to evaluate the general and specific moisture vapor transmission paths and associated potential impact.

In addition, the recommendations in this report and our services in general are not intended to address mold prevention, since we along with geotechnical consultants in general, do not practice in areas of mold prevention. If specific recommendations are desired, a professional mold prevention consultant should be contacted

5.3.2 Miscellaneous Foundation Recommendations

- To reduce moisture penetration beneath the slab on grade areas, utility trenches should be backfilled with engineered fill, lean concrete or concrete slurry where they intercept the perimeter footing or thickened slab edge.
- Soils from the footing excavations should not be placed in the slab-on-grade areas unless properly compacted and tested. The excavations should be free of loose/sloughed materials and be neatly trimmed at the time of concrete placement.
- Under-slab utility trenches should be compacted to project specifications. Compaction should be achieved with a mechanical compaction device. If soils to be used as backfill have dried out, they should be thoroughly moisture conditioned prior to placement in trenches.

5.3.3 Foundation Set Backs

Minimum setbacks for all foundations should comply with the 2013 CBC or Adelanto requirements, whichever is more stringent. Improvements not conforming to these setbacks are subject to the increased likelihood of excessive lateral movements and/or differential settlements. If large enough, these movements can compromise the integrity of the improvements. The following recommendations are presented:

- The bottom of all footings for new structures near retaining walls should be deepened so as to extend below a 1:1 projection upward from the bottom inside edge of the wall footing.

5.3.4 Retaining and Garden Wall Design and Construction

5.3.4.1 General Design Criteria

Recommendations presented in this report apply to typical masonry or concrete vertical retaining walls to a maximum height of up to six (6) feet. Additional review and recommendations should be requested for higher walls. These are typical design criteria and are not intended to supersede the design by the structural engineer.

Retaining wall foundations should be embedded a minimum of 18 inches into engineered fill. Retaining wall foundations should be designed in accordance with Section 5.3.1 of this report. Structural needs may govern and should be evaluated by the project structural engineer.

All earth retention structure plans, as applicable, should be reviewed by this office prior to finalization.

Earthwork considerations, site clearing and remedial earthwork for all earth retention structures should meet the requirements of this report, unless specifically provided otherwise, or more stringent requirements or recommendations are made by the designer. The backfill material placement for all earth retention structures should meet the requirement of Section 5.3.4.3 in this report.

In general, cantilever earth retention structures, which are designed to yield at least 0.001H, where H is equal to the height of the earth retention structure, may be designed using the active condition. Rigid earth retention structures (including but not limited to rigid walls, and walls braced at top, such as typical basement walls) should be designed using the at-rest condition.

In addition to the design lateral forces due to retained earth, surcharges due to improvements, such as an adjacent building or traffic loading, should be considered in the design of the earth retention structures. Loads applied within a 1:1 (h:v) projection from the surcharge on the stem of the earth retention structure should be considered in the design.

Final selection of the appropriate design parameters should be made by the designer of the earth retention structures.

5.3.4.2 Cantilevered Walls

The recommendations presented below are for cantilevered retaining walls up to six (6) feet high. Active earth pressure may be used for retaining wall design, provided the top of the wall is not restrained from minor deflections. An equivalent fluid pressure approach may be used to compute the horizontal pressure against the wall. Appropriate fluid unit weights are given below for specific slope gradients of the retained material. These do not include other superimposed loading conditions such as traffic, structures, seismic events, or adverse geologic conditions.

ACTIVE EARTH PRESSURES	
Surface Slope of Retained Materials (h:v)	Equivalent Fluid Pressure (pcf) Select Backfill* and Native Soils
Level	30
2:1	45

* The design pressures assume the backfill material has an expansion index less than or equal to 20. Backfill zone includes area between back of the wall to a plane (1:1 h:v) up from bottom of the wall foundation (on the backside of the wall) to the ground surface.

5.3.4.3 Retaining Wall Backfill and Drainage

The wall backfill should also include a minimum one (1) foot wide section of ¾- to 1-inch clean crushed rock (or an approved equivalent). The rock should be placed immediately adjacent to the back of the wall and extend up from a back drain to within approximately 24 inches of the finish grade. The upper 24 inches should consist of compacted on-site materials. The rock should be separated from the earth with filter fabric. The presence of other materials might necessitate revision to the parameters provided and modification of the wall designs. The backfill materials should be placed in lifts no greater than eight (8) inches in thickness and compacted to a minimum of 90% relative compaction in accordance with ASTM Test Method D 1557. Proper surface drainage needs to be provided and maintained.

As an alternative to the drain, rock and fabric, Miradrain 2000 or approved equivalent may be used behind the retaining wall. The Miradrain 2000 should extend from the base of the wall to within two (2) feet of the ground surface. The subdrain should be placed in direct contact with the Miradrain 2000.

Retaining walls should be provided with an adequate pipe and gravel back drain system to help prevent buildup of hydrostatic pressures. Backdrains should consist of a four (4)-inch diameter perforated collector pipe (Schedule 40, SDR 35, or approved equivalent) embedded in a minimum of one (1) cubic foot per linear foot of ¾- to 1-inch clean crushed rock or an approved equivalent, wrapped in filter fabric (Mirafi 140N or an approved equivalent). The drain system should be connected to a suitable outlet. Waterproofing of site walls should be performed where moisture migration through the walls is undesirable.

5.3.4.4 Restrained Retaining Walls

Retaining walls that will be restrained at the top that support level backfill or that have reentrant or male corners, should be designed for an equivalent at-rest fluid pressure of 55 pcf, plus any applicable surcharge loading. For areas of male or reentrant corners, the restrained wall design should extend a minimum distance of twice the height of the wall laterally from the corner, or a distance otherwise determined by the project structural engineer.

5.3.4.5 Other Design Considerations

- Wall design should consider the additional surcharge loads from superjacent slopes and/or footings, where appropriate.
- No backfill should be placed against concrete until minimum design strengths are evident by compression tests of cylinders.
- The retaining wall footing excavations, backcuts, and backfill materials should be approved by the project geotechnical engineer or their authorized representative.
- Positive separations should be provided in garden walls at horizontal distances not exceeding 20 feet.

5.3.5 Soil Corrosivity

The soil resistivity at this site is currently being tested in the laboratory on one sample collected during the field investigation. The results of the testing will be published in a separate letter once completed.

5.3.6 Soil Sulfate Content

The sulfate content is currently being tested in the laboratory for one on-site soil sample. The results of the testing will be published in a separate letter once completed.

5.3.7 Import Soils

Import soils should have expansion characteristics similar to the on-site soils. GeoTek also recommends that the proposed import soils be tested for expansion and corrosivity potential. GeoTek should be notified a minimum of 72 hours prior to importing so that appropriate sampling and laboratory testing can be performed.

5.3.8 Pavement Design

We recommend that the exposed subgrade be prepared in accordance with the site preparation requirements specified previously in this report. The upper one foot of pavement subgrade should be compacted to at least 95 percent of the maximum dry density as determined by the modified Proctor (ASTM D1557).

The appropriate pavement section depends primarily upon the type of subgrade soil, shear strength, traffic load, and planned pavement life. For preliminary purposes, we have utilized an R-value of 40 for the near-surface soils within pavement areas. Since an evaluation of the characteristics of the actual soils at pavement subgrade can only be provided at the completion of grading, the following pavement sections should be used for planning purposes only. Final pavement designs should be evaluated after R-value tests have been performed on the actual subgrade material. These traffic indices indicated below should be verified by the project civil engineer prior to construction.

5.3.8.1 Pavement Section

Classification	Traffic Index	Asphaltic Concrete/Aggregate Base (inches)
Standard Duty (Parking Areas)	5.0	3.0/4.0
Heavy Duty (Drive Aisles)	7.0	4.0/6.0

Concrete pavement is recommended in areas that receive continuous repetitive traffic such as loading areas and parking lot entrances. Due to heavy wheel loads and impact loads, concrete approach aprons and dumpster pads, should have a minimum thickness of 6 inches, with an underlying 4-inch thick section of Class II Aggregate Base (AB). Portland Cement Concrete pavement sections should incorporate appropriate steel reinforcement and crack control joints as designed by the project structural engineer. We recommend that sections be as nearly squared as possible and no more than 15-feet on a side. A minimum 3,500 psi mix is recommended. The actual design should also be in accordance with design criteria specified by the governing jurisdiction.

The final pavement sections are subject to the review and approval by the local jurisdictional agency. Performance of the pavement sections will ultimately be based largely on construction methods, traffic loading and subgrade performance.

5.3.8.2 Pavement Construction

All pavement installation, including preparation and compaction of subgrade, compaction of base material, placement and rolling of asphaltic concrete, should be done in accordance with the local jurisdictional agency specifications, and under the observation and testing of GeoTek and an inspector where required.

The aggregate base should consist of crushed rock with an R-Value and gradation in accordance with Crushed Aggregate Base (Section 200-2 of the "Greenbook"). Minimum compaction requirements should be 95 percent for subgrade and 95 percent for aggregate base, as per ASTM D 1557 (modified proctor). Jurisdictional minimum compaction requirements in excess of the aforementioned minimums may govern.

5.3.9 Concrete Flatwork

5.3.9.1 Exterior Concrete Slabs, Sidewalks and Driveways

Exterior concrete slabs, sidewalks and driveways should be designed using a four (4) inch minimum thickness. No specific reinforcement is required from a geotechnical perspective. However, some shrinkage and cracking of the concrete should be anticipated as a result of typical mix designs and curing practices commonly utilized in residential construction.

Sidewalks and driveways may be under the jurisdiction of the governing agency. If so, jurisdictional design and construction criteria would apply, if more restrictive than the recommendations presented in this report.

Subgrade soils (typically "very low" expansion potential) should be pre-moistened prior to placing concrete. The subgrade soils below exterior slabs, sidewalks, driveways, etc. at the subject site should be pre-saturated to a minimum of 100% of optimum moisture content to a depth of at least 12 inches.

All concrete installation, including preparation and compaction of subgrade, should be done in accordance with Adelanto specifications, and under the observation and testing of GeoTek and a City/County inspector, if necessary.

5.3.9.2 Concrete Performance

Concrete cracks should be expected. These cracks can vary from sizes that are essentially unnoticeable to more than 0.125-inch in width. Most cracks in concrete, while unsightly, do not significantly impact long-term performance. While it is possible to take measures (proper concrete mix, placement, curing, control joints, etc.) to reduce the extent and size of cracks, some cracking will occur despite the best efforts to minimize it. Concrete can also undergo chemical processes that are dependent upon a wide range of variables, which are difficult, at best, to control. Concrete, while seemingly a stable material, is subject to internal expansion and contraction due to external changes over time.

One of the simplest means to control cracking is to provide weakened control joints for cracking to occur along. These do not prevent cracks from developing; they simply provide a relief point for the stresses that develop. These joints are a widely accepted means to control cracks but are not always effective. Control joints are more effective the more closely spaced they are. GeoTek suggests that control joints be placed in two orthogonal directions and located a distance apart approximately equal to 24 to 36 times the slab thickness.

Exterior concrete flatwork (patios, walkways, driveways, etc.) is often some of the most visible aspects of site development. They are typically given the least level of quality control, being considered "non-structural" components. We suggest that the same standards of care be applied to these features as to the structures themselves.

5.4 POST CONSTRUCTION CONSIDERATIONS

5.4.1 Landscape Maintenance and Planting

Water has been shown to weaken the inherent strength of soil, and slope stability is significantly reduced by overly wet conditions. Positive surface drainage away from graded slopes should be maintained and only the amount of irrigation necessary to sustain plant life should be provided for planted slopes. Controlling surface drainage and runoff, and maintaining a suitable vegetation cover can minimize erosion. Plants selected for landscaping should be lightweight, deep-rooted types that require little water and are capable of surviving the prevailing climate.

Overwatering should be avoided. Care should be taken when adding soil amendments to avoid excessive watering. An abatement program to control ground-burrowing rodents should be implemented and maintained since they can decrease the long-term performance of slopes.

It is common for planting to be placed adjacent to the structures in planter or lawn areas. This will result in the introduction of water into the ground adjacent to the foundation. This type of landscaping should be avoided.

5.4.2 Drainage

Positive site drainage should be maintained at all times. Drainage should not flow uncontrolled down any descending slope. Water should be directed away from foundations and not allowed to pond or seep into the ground adjacent to the footings. Soil areas within 10 feet of the proposed structures should slope at a minimum of five (5) percent away from the building, if possible, unless the area is paved. Paved areas are to be sloped two (2) percent away from the structure. Pad drainage should be directed toward approved area(s) and not be blocked by other improvements.

It is the owner's responsibility to maintain and clean drainage devices on or contiguous to their lot. In order to be effective, maintenance should be conducted on a regular and routine schedule and necessary corrections made prior to each rainy season.

5.5 PLAN REVIEW AND CONSTRUCTION OBSERVATIONS

We recommend that specifications and foundation plans be reviewed by this office prior to construction to check for conformance with the recommendations of this report. We also recommend that GeoTek representatives be present during site grading and foundation construction to observe and document proper implementation of the geotechnical recommendations. The owner/developer should verify that GeoTek representatives perform at least the following duties:

- Observe site clearing and grubbing operations for proper removal of unsuitable materials.
- Observe and test bottom of removals prior to fill placement.
- Evaluate the suitability of on-site and import materials for fill placement, and collect soil samples for laboratory testing where necessary.
- Observe the fill for uniformity during placement, including utility trench backfill. Also, perform field density testing of the fill materials.
- Observe and probe foundation excavations to confirm suitability of bearing materials with respect to density.
- Observe retaining wall backdrain.

If requested, a construction observation and compaction report can be provided by GeoTek, which can comply with the requirements of the governmental agencies having jurisdiction over

the project. We recommend that these agencies be notified prior to commencement of construction so that necessary grading permits can be obtained.

6. INTENT

It is the intent of this report to aid in the design and construction of the proposed development. Implementation of the advice presented in this report is intended to reduce risk associated with construction projects. The professional opinions and geotechnical advice contained in this report are not intended to imply total performance of the project or guarantee that unusual or variable conditions will not be discovered during or after construction.

The scope of our evaluation is limited to the boundaries of the subject property. This review does not and should in no way be construed to encompass any areas beyond the specific area of the proposed construction as indicated to us by the client. Further, no evaluation of any existing site improvements is included. The scope is based on our understanding of the project and the client's needs, our fee estimate (Proposal No. P-1000416) dated October 4, 2016 and geotechnical engineering standards normally used on similar projects in this locality at the present.

7. LIMITATIONS

Our findings are based on site conditions observed and the stated sources. GeoTek has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report.

Our recommendations are based on the site conditions observed and encountered and laboratory testing. Our conclusions and recommendations are professional opinions that are limited to the extent of the available data. Observations during construction are important to allow for any change in recommendations found to be warranted. These opinions have been derived in accordance with current standards of practice and no warranty of any kind is expressed or implied. Standards of care/practice are subject to change with time.

8. SELECTED REFERENCES

American Concrete Institute (ACI), 2006, Publication 302.2R-06, Guide for Concrete Slabs That Receive Moisture Sensitive Flooring Materials.

_____, 2010, Publications 360R-10, Guide to Design of Slabs-On-Ground.

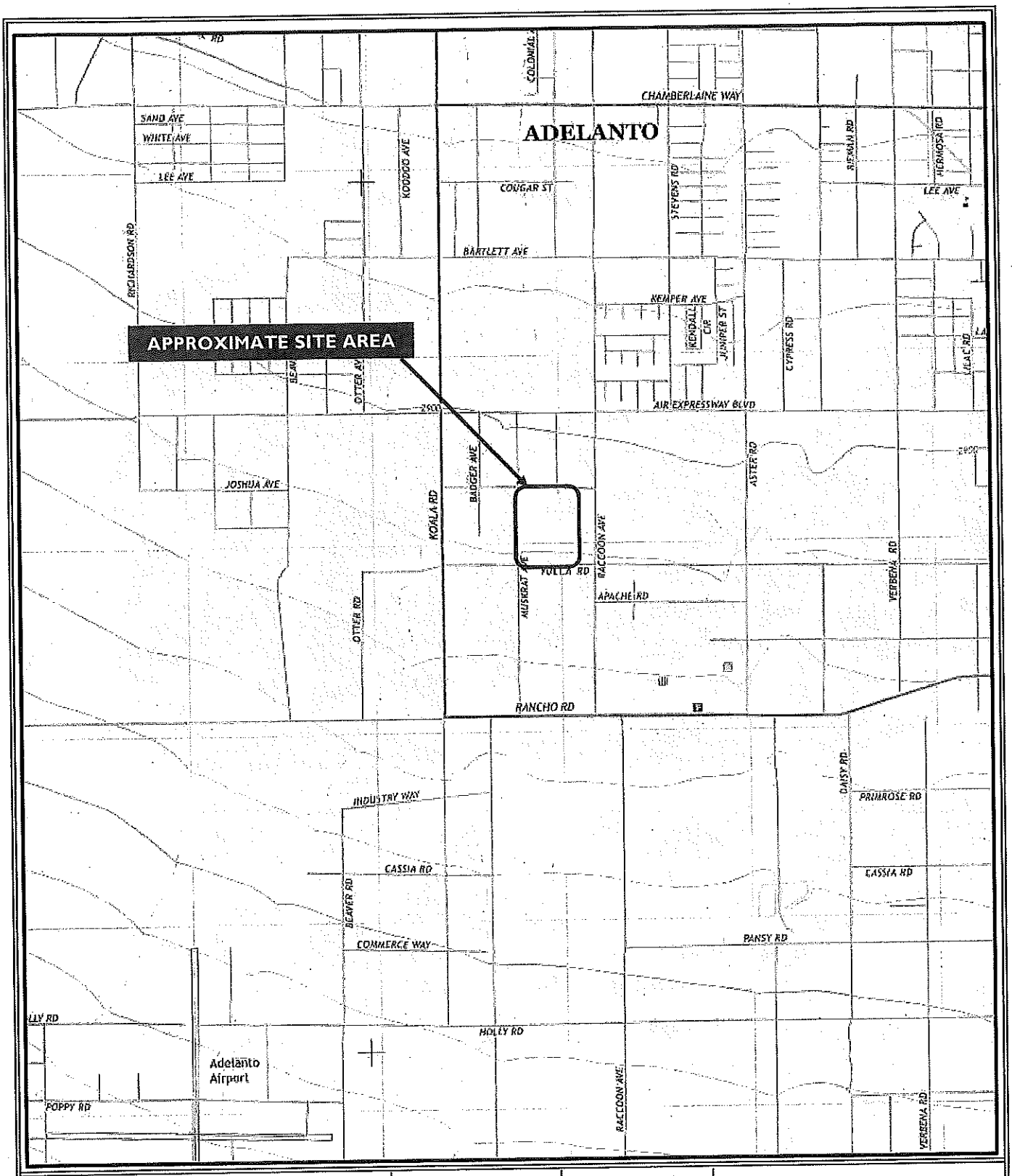
American Society of Civil Engineers (ASCE), 2013, "Minimum Design Loads for Buildings and Other Structures," ASCE/SEI 7-10, Third Printing, Errata Incorporated through March 15.

California Code of Regulations, Title 24, 2013, "California Building Code," 3 volumes.

Geologic Map of the Victorville Quadrangle, California, 1960, Dibblee, T.W., U.S. Geological Survey MF-229, scale 1:62,500.

GeoTek, Inc., In-house proprietary information.

Seismic Design Values for Buildings (http://geohazards.usgs.gov/designmaps/us/application.php).



Credit Holdings, LLC
APNs 0459-432-29 and -50
Adelanto, San Bernardino County, California

GeoTek Project No. 1569-CR

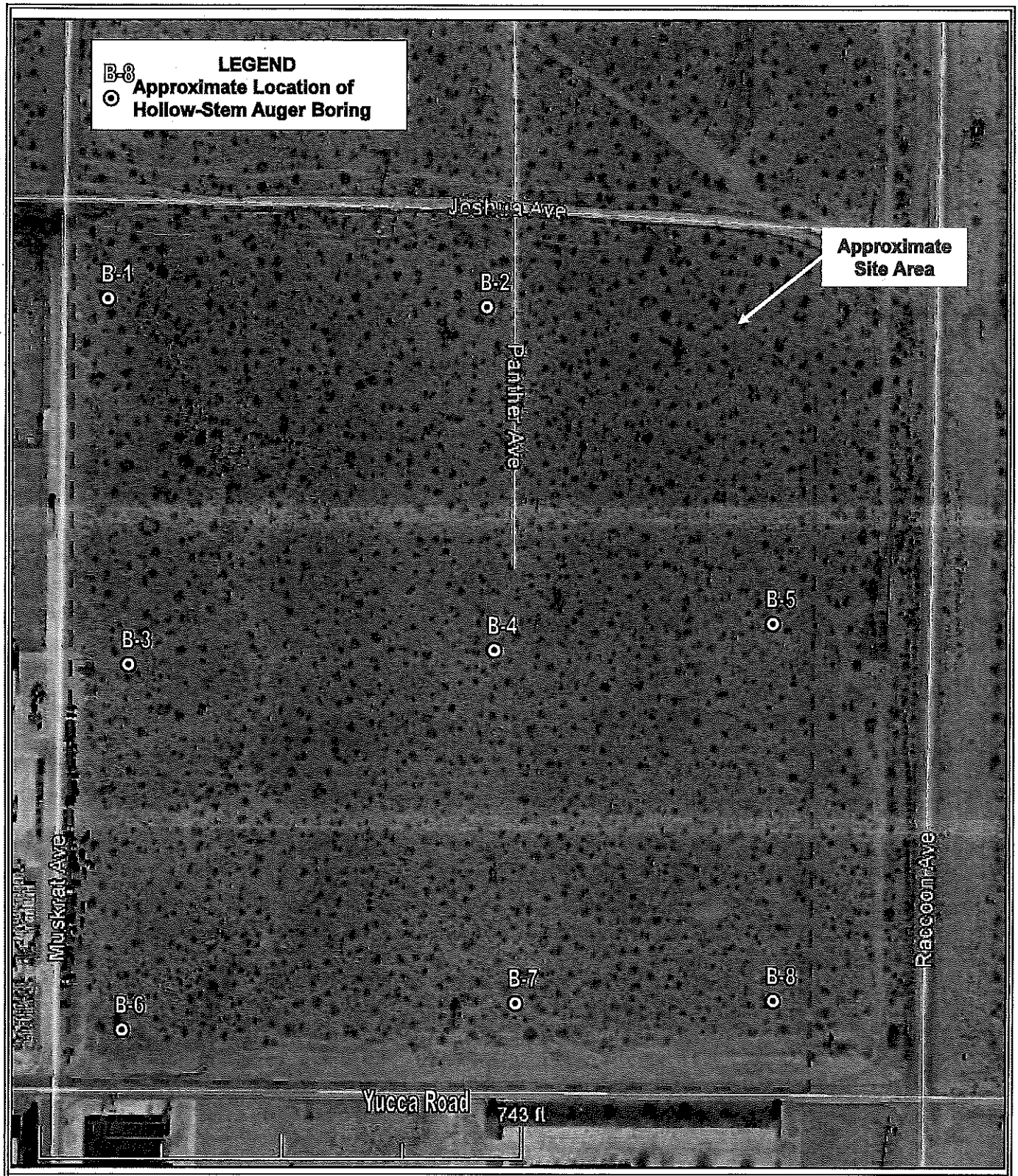
N

Modified from USGS Adelanto 7.5-minute Topographic Map

Figure 1

Site Location and General Site Topography Map

GEOTEK



Credit Holdings, LLC
APNs 0459-432-29 and -50
Adelanto, San Bernardino County, California

GeoTek Project No. 1569-CR

N

Figure 2

Boring Location Map

GEOTEK

APPENDIX A

LOGS OF EXPLORATORY BORINGS

APNs 0459432-29 and -50
Adelanto, San Bernardino County, California
Project No. 1569-CR

GEOTEK

A - FIELD TESTING AND SAMPLING PROCEDURES

The Modified Split-Barrel Sampler (Ring)

The ring sampler is driven into the ground in accordance with ASTM Test Method D 3550. The sampler, with an external diameter of 3.0 inches, is lined with 1-inch long, thin brass rings with inside diameters of approximately 2.4 inches. The sampler is typically driven into the ground 12 or 18 inches with a 140-pound hammer free falling from a height of 30 inches. Blow counts are recorded for every 6 inches of penetration as indicated on the log of boring. The samples are removed from the sample barrel in the brass rings, sealed, and transported to the laboratory for testing.

The Split-Spoon Sampler (SPT)

During the sampling procedure, Standard Penetration Tests (SPT) were performed in accordance with ASTM D1586. The SPT for soil borings is performed by driving a split-spoon sampler with an outside diameter of 2 inches into the undisturbed formation located at the bottom of the advanced borehole with repeated blows of a 140-pound hammer falling a vertical distance of 30 inches. The number of blows required to drive the sampler for three consecutive 6-inch intervals were recorded, and the sum of the blow counts for the last 12 inches of penetration is a measure of the soil consistency. Samples were identified in the field, placed in sealed containers and transported to the laboratory for further classification and testing.

Bulk Samples (Large)

These samples are normally large bags of earth materials over 20 pounds in weight collected from the field by means of hand digging or exploratory cuttings.

Bulk Samples (Small)

These are plastic bag samples which are normally airtight and contain less than 5 pounds in weight of earth materials collected from the field by means of hand digging or exploratory cuttings. These samples are primarily used for determining natural moisture content and classification indices.

B – BORING LOG LEGEND

The following abbreviations and symbols often appear in the classification and description of soil and rock on the logs of borings:

SOILS

USCS	Unified Soil Classification System
f-c	Fine to coarse
f-m	Fine to medium

GEOLOGIC

B: Attitudes	Bedding: strike/dip
J: Attitudes	Joint: strike/dip
C: Contact line	
.....	Dashed line denotes USCS material change
_____	Solid Line denotes unit / formational change
_____	Thick solid line denotes end of the boring

(Additional denotations and symbols are provided on the log of borings)

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-1

Depth (ft)	Sample Type	Blows/ 6 in	Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
				SM	Silty fine SAND, light brown, dry to slightly moist, loose			
		29 50-6"		SM	Silty f SAND, light brown, slightly moist, very dense	5.4	107.0	
5		23 50-6"			SAME	2.2	115.5	
		23 38 50		ML	F sandy SILT, gray, slightly moist, hard	2.9	113.2	
10								
		12 20 24		SM/ML	F sandy SILT/silty SAND, gray, slightly moist, hard/dense	3.1		
15								
		29 50-5"			F sandy SILT/silty SAND, light brown, slightly moist, hard/dense			
20								
		19 29 49		SM	Silty f SAND, gray, slightly moist, very dense			
25								
		32 50-3"			SAME			
30					**Boring Terminated at 29.5 feet** Boring backfilled with excavated soils. No groundwater encountered.			

LEGEND

Sample type: Ring; SPT; Small Bulk; Large Bulk; No Recovery; Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resistivity Test; SH = Shear Test; HC = Consolidation; MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	DRILLER:	2R Drilling	LOGGED BY:	R. Hankes
PROJECT NAME:	Adelanto	DRILL METHOD:	Hollow Stem	OPERATOR:	Jerry/Santiago
PROJECT NO.:	1569-CR	HAMMER:	140#/30"	RIG TYPE:	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			DATE:	10/11/2016

Boring No.: B-2

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in.	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		27 50-4"		SM	Silty f-m SAND, light brown, slightly moist, very dense	2.5	114.1	
5		32 50-4"		SM/ML	Silty f SAND/sandy SILT, light brown, moist, hard/dense	6.0	117.5	
10		13 24 36		SM	Silty f SAND, gray, slightly moist, very dense	3.6	112.2	
		26 24 25		ML	F sandy SILT, gray, slightly moist, hard	4.8		
15		16 26 27			SAME			
20					**Boring Terminated at 20 feet** Boring backfilled with excavated soils. No groundwater encountered.			
25								
30								

LEGEND

Sample type: ---Ring; ---SPT; ---Small Bulk; ---Large Bulk; ---No Recovery; ---Water Table

Lab testing: AL = Atterberg Limits; SR = Sulfate/Resistivity Test; EI = Expansion Index; SH = Shear Test; SA = Sieve Analysis; HC = Consolidation; RV = R-Value Test; MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-3

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in.	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		26 47 50-5"		SP	F-m SAND, light brown, slightly moist, very dense	4.0	110.9	
5		32 50-3"		SM	Silty f SAND, light brown, slightly moist, very dense	4.0	117.9	
		13 19 22		ML	F sandy SILT, light gray, slightly moist, hard	4.3		
10								
		17 32 43		SP	F-c SAND, gray, slightly moist, very dense			
15								
		15 19 30		ML	F sandy SILT, light brown, slightly moist, hard			
20					**Boring Terminated at 20 feet**			
					Boring backfilled with excavated soils. No groundwater encountered.			
25								
30								

LEGEND

Sample type: Ring | SPT | Small Bulk | Large Bulk | No Recovery | Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resistivity Test; SH = Shear Test; HC= Consolidation; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-4

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		15 29 37		SM	Silty f SAND, light brown, slightly moist, dense	1.5	111.7	
5		31 50-5"		SP	f-m SAND, light brown, slightly moist, very dense	3.8	111.1	
		20 19 13		ML	F sandy SILT, gray, slightly moist, hard	4.2		
10								
		11 27 36			SAME	5.3		
15								
		23 50-6"			SAME			
20								
		25 50-6"			SAME			
25								
		20 21 29		SM/ML	Silty f SAND/sandy SILT, light brown, slightly moist, dense/hard			
30					**Boring Terminated at 30 feet**			
					Boring backfilled with excavated soils. No groundwater encountered.			

LEGEND

Sample type: ---Ring; ---SPT; ---Small Bulk; ---Large Bulk; ---No Recovery; ---Water Table

Lab testing: AL = Atterberg Limits; SR = Sulfate/Resistivity Test; EI = Expansion Index; SH = Shear Test; SA = Sieve Analysis; HC= Consolidation; RV = R-Value Test; MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue./Yucca Road			**DATE:**	10/11/2016

Boring No.: B-5

Depth (ft)	Sample Type	Blows/ 6 in	Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Water Content (%)	Dry Density (pcf)	Others
0					**Alluvium:**			
		10 17 22		SP	F SAND, light brown, slightly moist, medium dense	1.5	112.5	
		12 21 26		SP	F-m SAND, light brown, slightly moist, dense	1.2	113.3	
5								
		25 38 35		SM	Silty f SAND, white and light brown, slightly moist, dense	1.5	119.1	
		33 50-5"			Silty f-m SAND, reddish brown, slightly moist, very dense	1.5	128.0	
10								
		10 18 30		ML	F sandy SILT, gray slightly moist, stiff	1.2	105.5	
15								
		17 23 39			F sandy SILT, light brown, slightly moist, hard			
20					**Boring Terminated at 20 feet**			
					Boring backfilled with excavated soils. No groundwater encountered.			
25								
30								

LEGEND

Sample type: —Ring —SPT ---Small Bulk ---Large Bulk —No Recovery —Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resistivity Test; SH = Shear Test; HC= Consolidation; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	DRILLER:	2R Drilling	LOGGED BY:	R. Hankes
PROJECT NAME:	Adelanto	DRILL METHOD:	Hollow Stem	OPERATOR:	Jerry/Santiago
PROJECT NO.:	1569-CR	HAMMER:	140#/30"	RIG TYPE:	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			DATE:	10/11/2016

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	Boring No.: B-6 / MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		34 50-3"		SM	Silty f SAND, light brown, slightly moist, very dense	1.5	118.4	
5		45 50-5"			becomes moist	7.7	104.7	
10		8 8 11		ML	F sandy SILT, light gray, slightly moist, stiff	3.2		
		10 12 15			SAME	2.5		
15								
20		12 22 25		SM	Silty f SAND, gray, slightly moist, dense			
25		22 29 40		ML	F sandy SILT, light gray, slightly moist, very stiff			
		37 50-4"		SM/ML	Silty f SAND/sandy SILT, light brown, slightly moist, hard/very dense			
30					**Boring Terminated at 29.5 feet** Boring backfilled with excavated soils. No groundwater encountered.			

LEGEND

Sample type: ---Ring; ---SPT; ---Small Bulk; ---Large Bulk; ---No Recovery; ---Water Table

Lab testing: AL = Atterberg Limits; SR = Sulfate/Resistivity Test; EI = Expansion Index; SH = Shear Test; SA = Sieve Analysis; HC= Consolidation; RV = R-Value Test; MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit HoldingS, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-7

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		14 20 23		SP	F-m SAND, reddish light brown, moist, medium dense	5.4	108.1	
		19 32 48			F-c SAND, reddish light brown, slightly moist, very dense	3.2		
5								
		41 50-5"		ML	F sandy SILT, light brown, light gray, slightly moist, very stiff	5.8	106.0	
		20 38 50-5"			SAME	1.6	113.5	
10								
		22 20 17			F sandy SILT, light gray, slightly moist, stiff			
15								
		17 33 50-5"			SAME			
20								
					Boring Terminated at 20 feet			
					Boring backfilled with excavated soils. No groundwater encountered.			
25								
30								

LEGEND

Sample type: ---Ring; ---SPT; ---Small Bulk; ---Large Bulk; ---No Recovery; ---Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resistivity Test; SH = Shear Test; HC= Consolidation; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-8

Depth (ft)	Sample Type	Blows/ 6 in	Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
				SM	Silty f SAND, light brown, dry to slightly moist, loose to medium dense			
		23 39 50-5"		SM/ML	Silty f SAND/sandy SILT, light brown and white; slightly moist, hard/very dense	3.4	119.5	
5		17 31 48		SP	F-m SAND, light brown, moist, very dense	6.9	116.2	
		23 50-4"		ML	F sandy SILT, light brown and white, slightly moist, hard	5.5	126.9	
10								
		14 17 14		SM-ML	Silty SAND/sandy SILT, gray, slightly moist, dense/hard	3.8		
15								
		14 24 24		ML	F sandy SILT, gray, slightly moist, hard			
20								
		45 50-5"		SM	Silty f SAND, brownish gray, slightly moist, very dense			
25								
		18 26 24		ML	F sandy SILT, light brownish gray, slightly moist, hard			
30					**Boring Terminated at 30 feet**			
					Boring backfilled with excavated soils. No groundwater encountered.			

LEGEND

Sample type: ---Ring; ---SPT; ---Small Bulk; ---Large Bulk; ---No Recovery; ---Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resistivity Test; SH = Shear Test; HC= Consolidation; MD = Maximum Density

APPENDIX B

LABORATORY TESTING RESULTS

APNs 0459-432-29 and -50
Adelanto, San Bernardino County, California
Project No. 1569-CR

GEOTEK

SUMMARY OF LABORATORY TESTING

Classification
Soils were classified visually in general accordance to the Unified Soil Classification System (ASTM Test Method D 2487). The soil classifications are shown on the log of borings in Appendix A.

Collapse
Consolidation testing was performed on a selected sample of the site soils according to ASTM Test Method D 4546. The results of this testing is presented in Appendix B.

Expansion Index
Expansion Index testing was performed on one soil sample. Testing was performed in general accordance with ASTM Test Method D 4829. The results of the testing are provided below.

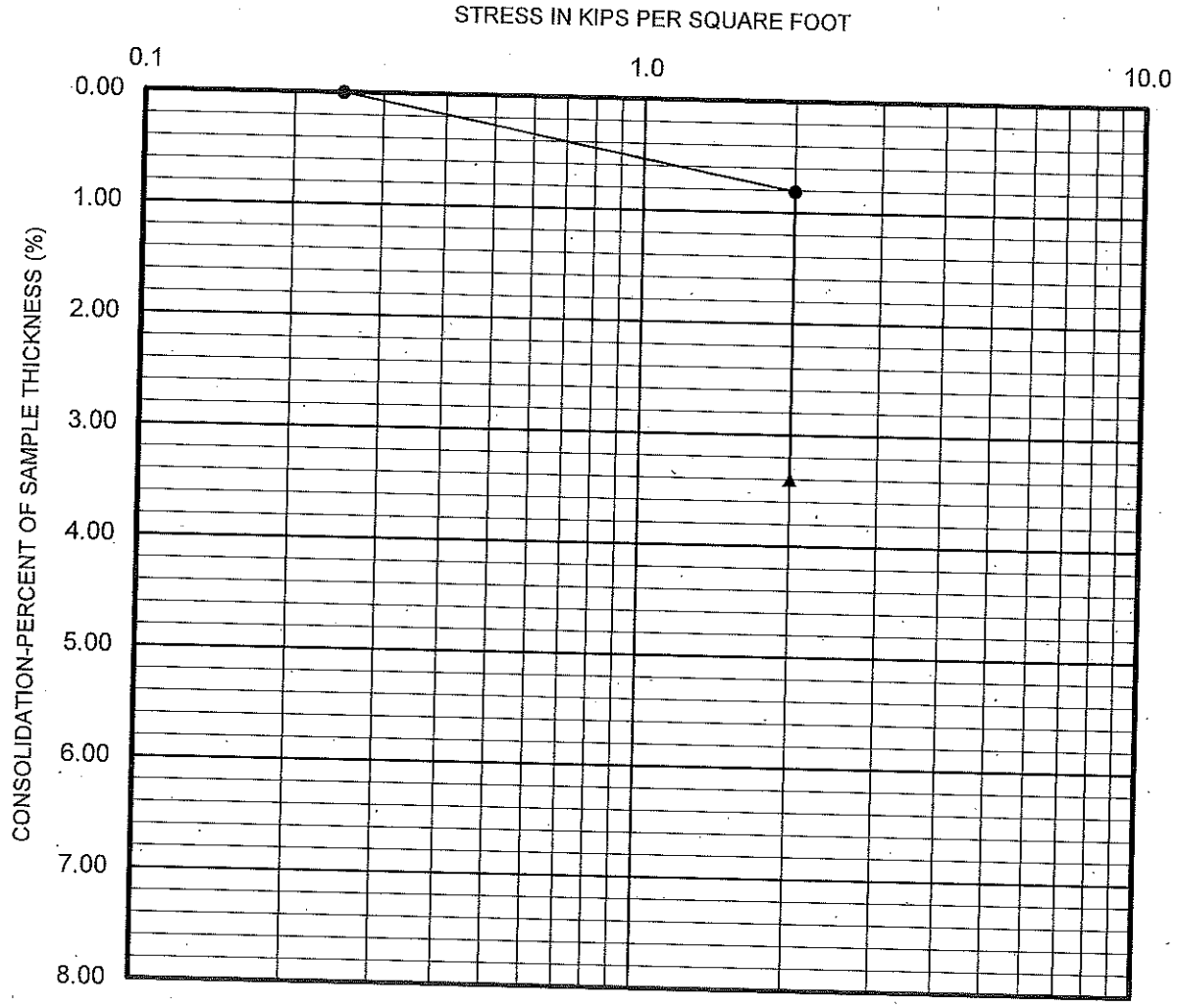
Boring No.	Depth (ft.)	Description	Expansion Index	Classification
B-1	0-5	Silty Sand	6	Very Low

In-Situ Moisture and Density
The natural water content was determined (ASTM D 2216) on samples of the materials recovered from the subsurface exploration. In addition, in-place dry density determinations (ASTM D 2937) were performed on relatively undisturbed samples to measure the unit weight of the subsurface soils. Results of these tests are shown on the boring logs at the appropriate sample depths in Appendix A.

Moisture-Density Relationship
Laboratory testing was performed on two samples collected during the subsurface exploration. The laboratory maximum dry density and optimum moisture content for the soil type was determined in general accordance with test method ASTM Test Procedure D 1557. The results of the testing are provided below.

Boring No.	Depth (ft.)	Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-1	0-5	Silty Sand	130.5	8.5
B-8	0-5	Silty Sand	125.5	9.5

Sulfate Content, Resistivity and Chloride Content
Testing is currently being performed to determine the water-soluble sulfate content (California Test No. 417), along with resistivity testing (California Test No. 643), and chloride content (California Test No. 422). The results will be published in a separate letter once completed.



Seating Cycle
Loading Prior to Inundation
Loading After Inundation
Rebound Cycle

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4546

GEOTEK

CHECKED BY: PK	Lab: DI
PROJECT NO.: 1569-CR	Date: 10/2016

COLLAPSE REPORT

Sample: B-2 @ 2'

APNs 0459-432-29 and -50
Adelanto, California

APPENDIX C

GENERAL GRADING GUIDELINES

APNs 0459-432-29 and -50
Adelanto, San Bernardino County, California
Project No. 1569-CR

GEOTEK

GENERAL GRADING GUIDELINES

Guidelines presented herein are intended to address general construction procedures for earthwork construction. Specific situations and conditions often arise which cannot reasonably be discussed in general guidelines, when anticipated these are discussed in the text of the report. Often unanticipated conditions are encountered which may necessitate modification or changes to these guidelines. It is our hope that these will assist the contractor to more efficiently complete the project by providing a reasonable understanding of the procedures that would be expected during earthwork and the testing and observation used to evaluate those procedures.

General

Grading should be performed to at least the minimum requirements of governing agencies, Chapters 18 and 33 of the Uniform Building Code, CBC (2013) and the guidelines presented below.

Preconstruction Meeting

A preconstruction meeting should be held prior to site earthwork. Any questions the contractor has regarding our recommendations, general site conditions, apparent discrepancies between reported and actual conditions and/or differences in procedures the contractor intends to use should be brought up at that meeting. The contractor (including the main onsite representative) should review our report and these guidelines in advance of the meeting. Any comments the contractor may have regarding these guidelines should be brought up at that meeting.

Grading Observation and Testing

1. Observation of the fill placement should be provided by our representative during grading. Verbal communication during the course of each day will be used to inform the contractor of test results. The contractor should receive a copy of the "Daily Field Report" indicating results of field density tests that day. If our representative does not provide the contractor with these reports, our office should be notified.
2. Testing and observation procedures are, by their nature, specific to the work or area observed and location of the tests taken, variability may occur in other locations. The contractor is responsible for the uniformity of the grading operations; our observations and test results are intended to evaluate the contractor's overall level of efforts during grading. The contractor's personnel are the only individuals participating in all aspect of site work. Compaction testing and observation should not be considered as relieving the contractor's responsibility to properly compact the fill.
3. Cleanouts, processed ground to receive fill, key excavations, and subdrains should be observed by our representative prior to placing any fill. It will be the contractor's responsibility to notify our representative or office when such areas are ready for observation.
4. Density tests may be made on the surface material to receive fill, as considered warranted by this firm.

5. In general, density tests would be made at maximum intervals of two feet of fill height or every 1,000 cubic yards of fill placed. Criteria will vary depending on soil conditions and size of the fill. More frequent testing may be performed. In any case, an adequate number of field density tests should be made to evaluate the required compaction and moisture content is generally being obtained.

6. Laboratory testing to support field test procedures will be performed, as considered warranted, based on conditions encountered (e.g. change of material sources, types, etc.) Every effort will be made to process samples in the laboratory as quickly as possible and in progress construction projects are our first priority. However, laboratory workloads may cause in delays and some soils may require a **minimum of 48 to 72 hours to complete test procedures.** Whenever possible, our representative(s) should be informed in advance of operational changes that might result in different source areas for materials.

7. Procedures for testing of fill slopes are as follows:

   a) Density tests should be taken periodically during grading on the flat surface of the fill, three to five feet horizontally from the face of the slope.

   b) If a method other than over building and cutting back to the compacted core is to be employed, slope compaction testing during construction should include testing the outer six inches to three feet in the slope face to determine if the required compaction is being achieved.

8. Finish grade testing of slopes and pad surfaces should be performed after construction is complete.

Site Clearing

1. All vegetation, and other deleterious materials, should be removed from the site. If material is not immediately removed from the site it should be stockpiled in a designated area(s) well outside of all current work areas and delineated with flagging or other means. Site clearing should be performed in advance of any grading in a specific area.

2. Efforts should be made by the contractor to remove all organic or other deleterious material from the fill, as even the most diligent efforts may result in the incorporation of some materials. This is especially important when grading is occurring near the natural grade. All equipment operators should be aware of these efforts. Laborers may be required as root pickers.

3. Nonorganic debris or concrete may be placed in deeper fill areas provided the procedures used are observed and found acceptable by our representative.

Treatment of Existing Ground

1. Following site clearing, all surficial deposits of alluvium and colluvium as well as weathered or creep effected bedrock, should be removed unless otherwise specifically indicated in the text of this report.

2. In some cases, removal may be recommended to a specified depth (e.g. flat sites where partial alluvial removals may be sufficient). The contractor should not exceed these depths unless directed otherwise by our representative.
3. Groundwater existing in alluvial areas may make excavation difficult. Deeper removals than indicated in the text of the report may be necessary due to saturation during winter months.
4. Subsequent to removals, the natural ground should be processed to a depth of six inches, moistened to near optimum moisture conditions and compacted to fill standards.
5. Exploratory back hoe or dozer trenches still remaining after site removal should be excavated and filled with compacted fill if they can be located.

Fill Placement

1. Unless otherwise indicated, all site soil and bedrock may be reused for compacted fill; however, some special processing or handling may be required (see text of report).
2. Material used in the compacting process should be evenly spread, moisture conditioned, processed, and compacted in thin lifts six (6) to eight (8) inches in compacted thickness to obtain a uniformly dense layer. The fill should be placed and compacted on a nearly horizontal plane, unless otherwise found acceptable by our representative.
3. If the moisture content or relative density varies from that recommended by this firm, the contractor should rework the fill until it is in accordance with the following:
   a) Moisture content of the fill should be at or above optimum moisture. Moisture should be evenly distributed without wet and dry pockets. Pre-watering of cut or removal areas should be considered in addition to watering during fill placement, particularly in clay or dry surficial soils. The ability of the contractor to obtain the proper moisture content will control production rates.
   b) Each six-inch layer should be compacted to at least 90 percent of the maximum dry density in compliance with the testing method specified by the controlling governmental agency. In most cases, the testing method is ASTM Test Designation D 1557.
4. Rock fragments less than eight inches in diameter may be utilized in the fill, provided:
   a) They are not placed in concentrated pockets;
   b) There is a sufficient percentage of fine-grained material to surround the rocks;
   c) The distribution of the rocks is observed by, and acceptable to, our representative.
5. Rocks exceeding eight (8) inches in diameter should be taken off site, broken into smaller fragments, or placed in accordance with recommendations of this firm in areas designated suitable for rock disposal. On projects where significant large quantities of oversized materials are anticipated, alternate guidelines for placement may be included. If significant oversize materials are encountered during construction, these guidelines should be requested.
6. In clay soil, dry or large chunks or blocks are common. If in excess of eight (8) inches minimum dimension, then they are considered as oversized. Sheepsfoot compactors or other suitable

methods should be used to break up blocks. When dry, they should be moisture conditioned to provide a uniform condition with the surrounding fill.

Slope Construction

1. The contractor should obtain a minimum relative compaction of 90 percent out to the finished slope face of fill slopes. This may be achieved by either overbuilding the slope and cutting back to the compacted core, or by direct compaction of the slope face with suitable equipment.
2. Slopes trimmed to the compacted core should be overbuilt by at least three (3) feet with compaction efforts out to the edge of the false slope. Failure to properly compact the outer edge results in trimming not exposing the compacted core and additional compaction after trimming may be necessary.
3. If fill slopes are built "at grade" using direct compaction methods, then the slope construction should be performed so that a constant gradient is maintained throughout construction. Soil should not be "spilled" over the slope face nor should slopes be "pushed out" to obtain grades. Compaction equipment should compact each lift along the immediate top of slope. Slopes should be back rolled or otherwise compacted at approximately every 4 feet vertically as the slope is built.
4. Corners and bends in slopes should have special attention during construction as these are the most difficult areas to obtain proper compaction.
5. Cut slopes should be cut to the finished surface. Excessive undercutting and smoothing of the face with fill may necessitate stabilization.

UTILITY TRENCH CONSTRUCTION AND BACKFILL

Utility trench excavation and backfill is the contractors responsibility. The geotechnical consultant typically provides periodic observation and testing of these operations. While efforts are made to make sufficient observations and tests to verify that the contractors' methods and procedures are adequate to achieve proper compaction, it is typically impractical to observe all backfill procedures. As such, it is critical that the contractor use consistent backfill procedures.

Compaction methods vary for trench compaction and experience indicates many methods can be successful. However, procedures that "worked" on previous projects may or may not prove effective on a given site. The contractor(s) should outline the procedures proposed, so that we may discuss them **prior** to construction. We will offer comments based on our knowledge of site conditions and experience.

1. Utility trench backfill in slopes, structural areas, in streets and beneath flat work or hardscape should be brought to at least optimum moisture and compacted to at least 90 percent of the laboratory standard. Soil should be moisture conditioned prior to placing in the trench.

2. Flooding and jetting are not typically recommended or acceptable for native soils. Flooding or jetting may be used with select sand having a Sand Equivalent (SE) of 30 or higher. This is typically limited to the following uses:

   a) shallow (12 + inches) under slab interior trenches and,

   b) as bedding in pipe zone.

   The water should be allowed to dissipate prior to pouring slabs or completing trench compaction.

3. Care should be taken not to place soils at high moisture content within the upper three feet of the trench backfill in street areas, as overly wet soils may impact subgrade preparation. Moisture may be reduced to 2% below optimum moisture in areas to be paved within the upper three feet below sub grade.

4. Sand backfill should not be allowed in exterior trenches adjacent to and within an area extending below a 1:1 projection from the outside bottom edge of a footing, unless it is similar to the surrounding soil.

5. Trench compaction testing is generally at the discretion of the geotechnical consultant. Testing frequency will be based on trench depth and the contractors procedures. A probing rod would be used to assess the consistency of compaction between tested areas and untested areas. If zones are found that are considered less compact than other areas, this would be brought to the contractors attention.

JOB SAFETY

General

Personnel safety is a primary concern on all job sites. The following summaries are safety considerations for use by all our employees on multi-employer construction sites. On ground personnel are at highest risk of injury and possible fatality on grading construction projects. The company recognizes that construction activities will vary on each site and that job site safety is the contractor's responsibility. However, it is, imperative that all personnel be safety conscious to avoid accidents and potential injury.

In an effort to minimize risks associated with geotechnical testing and observation, the following precautions are to be implemented for the safety of our field personnel on grading and construction projects.

1. Safety Meetings: Our field personnel are directed to attend the contractor's regularly scheduled safety meetings.

2. Safety Vests: Safety vests are provided for and are to be worn by our personnel while on the job site.

3. Safety Flags: Safety flags are provided to our field technicians; one is to be affixed to the vehicle when on site, the other is to be placed atop the spoil pile on all test pits.

In the event that the contractor's representative observes any of our personnel not following the above, we request that it be brought to the attention of our office.

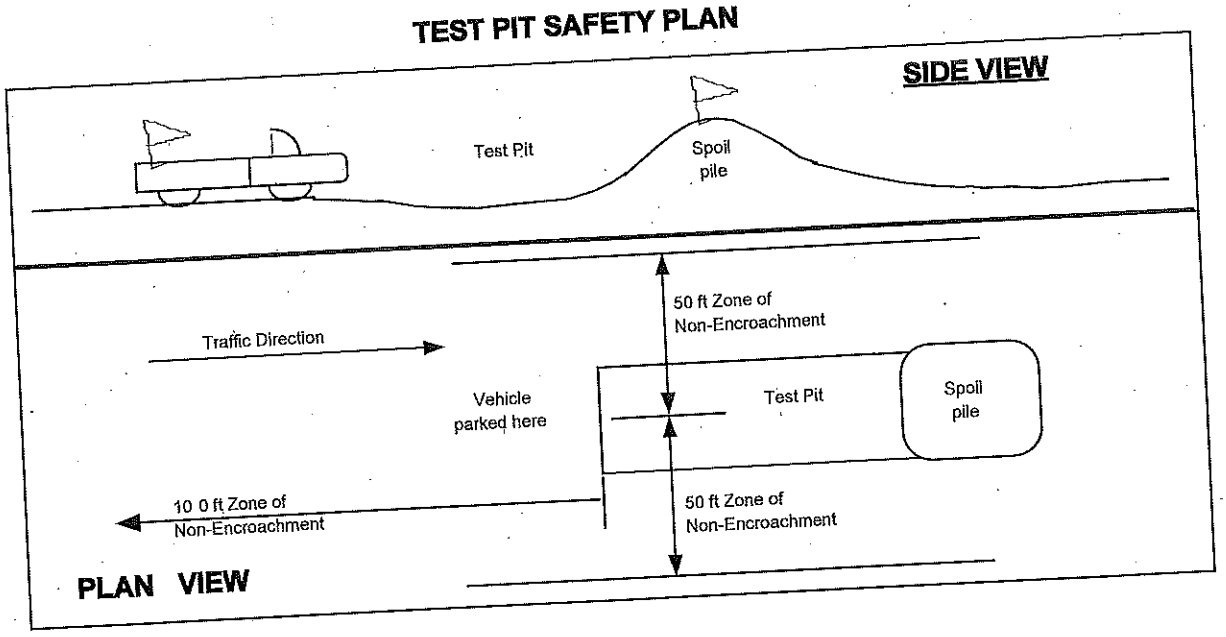
Test Pits Location, Orientation and Clearance

The technician is responsible for selecting test pit locations. The primary concern is the technician's safety. However, it is necessary to take sufficient tests at various locations to obtain a representative sampling of the fill. As such, efforts will be made to coordinate locations with the grading contractors authorized representatives (e.g. dump man, operator, supervisor, grade checker, etc.), and to select locations following or behind the established traffic pattern, preferably outside of current traffic. The contractors authorized representative should direct excavation of the pit and safety during the test period. Again, safety is the paramount concern.

Test pits should be excavated so that the spoil pile is placed away from oncoming traffic. The technician's vehicle is to be placed next to the test pit, opposite the spoil pile. This necessitates that the fill be maintained in a drivable condition. Alternatively, the contractor may opt to park a piece of equipment in front of test pits, particularly in small fill areas or those with limited access.

A zone of non-encroachment should be established for all test pits (see diagram below). No grading equipment should enter this zone during the test procedure. The zone should extend outward to the sides approximately 50 feet from the center of the test pit and 100 feet in the direction of traffic flow. This zone is established both for safety and to avoid excessive ground vibration, which typically decreases test results.

TEST PIT SAFETY PLAN



Slope Tests

When taking slope tests, the technician should park their vehicle directly above or below the test location on the slope. The contractor's representative should effectively keep all equipment at a safe operation distance (e.g. 50 feet) away from the slope during testing.

The technician is directed to withdraw from the active portion of the fill as soon as possible following testing. The technician's vehicle should be parked at the perimeter of the fill in a highly visible location.

Trench Safety

It is the contractor's responsibility to provide safe access into trenches where compaction testing is needed. Trenches for all utilities should be excavated in accordance with CAL-OSHA and any other applicable safety standards. Safe conditions will be required to enable compaction testing of the trench backfill.

All utility trench excavations in excess of 5 feet deep, which a person enters, are to be shored or laid back. Trench access should be provided in accordance with OSHA standards. Our personnel are directed not to enter any trench by being lowered or "riding down" on the equipment.

Our personnel are directed not to enter any excavation which;

1. is 5 feet or deeper unless shored or laid back,
2. exit points or ladders are not provided,
3. displays any evidence of instability, has any loose rock or other debris which could fall into the trench, or
4. displays any other evidence of any unsafe conditions regardless of depth.

If the contractor fails to provide safe access to trenches for compaction testing, our company policy requires that the soil technician withdraws and notifies their supervisor. The contractors representative will then be contacted in an effort to effect a solution. All backfill not tested due to safety concerns or other reasons is subject to reprocessing and/or removal.

Procedures

In the event that the technician's safety is jeopardized or compromised as a result of the contractor's failure to comply with any of the above, the technician is directed to inform both the developer's and contractor's representatives. If the condition is not rectified, the technician is required, by company policy, to immediately withdraw and notify their supervisor. The contractor's representative will then be contacted in an effort to effect a solution. No further testing will be performed until the situation is rectified. Any fill placed in the interim can be considered unacceptable and subject to reprocessing, recompaction or removal.

In the event that the soil technician does not comply with the above or other established safety guidelines, we request that the contractor bring this to technicians attention and notify our project

manager or office. Effective communication and coordination between the contractors' representative and the field technician(s) is strongly encouraged in order to implement the above safety program and safety in general.

The safety procedures outlined above should be discussed at the contractor's safety meetings. This will serve to inform and remind equipment operators of these safety procedures particularly the zone of non-encroachment.

The safety procedures outlined above should be discussed at the contractor's safety meetings. This will serve to inform and remind equipment operators of these safety procedures particularly the zone of non-encroachment.

GeoTek, Inc.
710 E. Parkridge Avenue, Suite 105, Corona, California 92879-1097
(951) 710-1160 Office (951) 710-1167 Fax www.geotekusa.com

October 25, 2016
Project No. 1569-CR

Credit Holdings, LLC
8300 Utica Avenue, Suite 300
Rancho Cucamonga, California 91730

Attention: Mr. Daniel Pocius

Subject: Addendum to Geotechnical Evaluation
Proposed Commercial Development
Assessor Parcel Numbers (APNs) 0459-432-29 and -50
Northeast of the Intersection of Muskrat Avenue and Yucca Road
Adelanto, San Bernardino County, California

Reference: *See Appendix A*

Dear Mr. Pocius:

GeoTek, Inc. (GeoTek) has prepared this letter to provide additional laboratory test results which were not provided in the referenced report (GeoTek, 2016).

Soil Corrosivity and Sulfate Content

Testing to determine the water-soluble sulfate content was performed by others in general accordance with California Test No. 417. Resistivity testing was completed by others in general accordance with ASTM G187. Testing to determine the chloride content was performed by others in general accordance with California Test No. 422. The results of the testing are provided below.

Boring No.	Depth (ft.)	pH CT-643	Chloride CT-422 (mg/kg)	Sulfate CT-417 (% by weight)	Resistivity ASTM G187) (ohm-cm)
B-1	0-5	10.0	984.0	0.0390	2,211

The results of the testing indicate that the on-site soils (resistivity = 2,211 ohm=cm) are considered "highly corrosive" to buried ferrous metal in accordance with current standards used by corrosion engineers. We recommend that a corrosion engineer be consulted to provide recommendations for the protection of buried ferrous metal at this site.

The results indicate that the water soluble sulfate result is less than 0.1 percent by weight, which is considered "not applicable" (negligible) as per Table 4.2.1 of ACI 318. Based on the test results, it is our opinion that special sulfate-resistance concrete mix designs are not required.

All recommendations provided in the referenced report remain valid for the project site, unless specifically superseded herein or in other reports by GeoTek.

We appreciate this opportunity to be of service. If you have any questions, or if we can be of further service, please contact us at (951) 710-1160.

Respectfully Submitted,
GEOTEK, INC.

REGISTERED GEOLOGIST
EDWARD H. LaMONT
No. 1892
Exp.
Certified Engineering Geologist
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
HYUN JIN KIM
C 77214
EXP. 06/30/17
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Edward H. LaMont
CEG 1892, Exp. 07/31/18
Principal Geologist

Paul Hyun Jin Kim
PE 77214, Exp. 06/30/17
Project Engineer

Anna M. Scott
Project Geologist

Distribution: (1) Addressee via email (PDF file)

G:\Projects\1551 to 1600\1569CR Credit Holdings, LLC Adelanto\1569CR Addendum to Geotechnical Evaluation APNs 0459-432-29 and -50.doc

APPENDIX A

REFERENCE

GeoTek, Inc., 2016, "Geotechnical Evaluation, Proposed Commercial Development, Assessor Parcel Numbers (APNs) 459-432-29 and -50, Northeast of the Intersection of Muskrat Avenue and Yucca Road, Adelanto, San Bernardino County, California", Project No. 1569-CR, dated October 19.

Preliminary

Drainage Report

For

Yucca Rd and Muskrat Ave Industrial

Adelanto, CA

Prepared
October 27, 2016

United Engineering Group - California
10602 Trademark Parkway
Suite 509
Rancho Cucamonga, CA 91730

Tel: (909) 466-9240

Provided for:

Industrial Integrity Solutions, LLC
8300 Utica Ave, Suite 300
Rancho Cucamonga, CA 91730
Contact: Dan Pocius

Tel: (909)-354-8000

Project # xxxxx

This report has been prepared by or under the direction of the following registered civil engineer who attests to the technical information contained herein. The registered civil engineer has also judged the qualifications of any employees that have provided data and calculations upon which the recommendations, conclusions, and decisions are based.

Christopher F. Lenz, PE 63001

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6. STORMWATER TREATMENT	8
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APPENDICES

APPENDIX A: PROJECT PRE AND POST CONDITION EXHIBITS
APPENDIX B: PRELIMINARY SITE PLAN
APPENDIX C: PROJECT RATIONAL AND SCS UNIT HYDROGRAPH METHOD HYDROLOGY STUDY INFORMATION
APPENDIX D: PROJECT HYDRAULIC CALCULATIONS
APPENDIX E: INFILTRATION TESTING RESULTS
APPENDIX F: PAVING PLAN REFERENCE

I. INTRODUCTION

The subject project is proposed to be an industrial development of 30.97 acres, comprised of 6 buildings which will be used for cultivation operations or ancillary uses. 5 of the buildings will be 120,000sf and will contain 4 (30,000sf) units and 1 building will be 30,000sf and contain 1 unit. The facility will contain 2 gated entrances and will be secured 24 hours a day. The property is located at the northeast corner of Yucca and Muskrat in the City of Adelanto. Legally it is parcels 0459-432-29 & -50. The property is square in shape and is bordered by the paved Roads south and west and undeveloped land north and east. This project should not be considered a "priority project" and thus WQMP calculations are provided, but a WQMP should be prepared with the final drainage report and project design.

The purpose of this study is to determine the 10-year and 100-year storm runoff emanating from on-site and off-site areas for the project. The study will determine the peak flow rate for the existing condition, the peak flow rate for the proposed condition, proposed condition flow rate routed through two combination water quality and detention basins. Additional analysis will confirm hydraulic capacity of proposed street sections compared to rationale expected runoff.

The scope of the study includes the following:

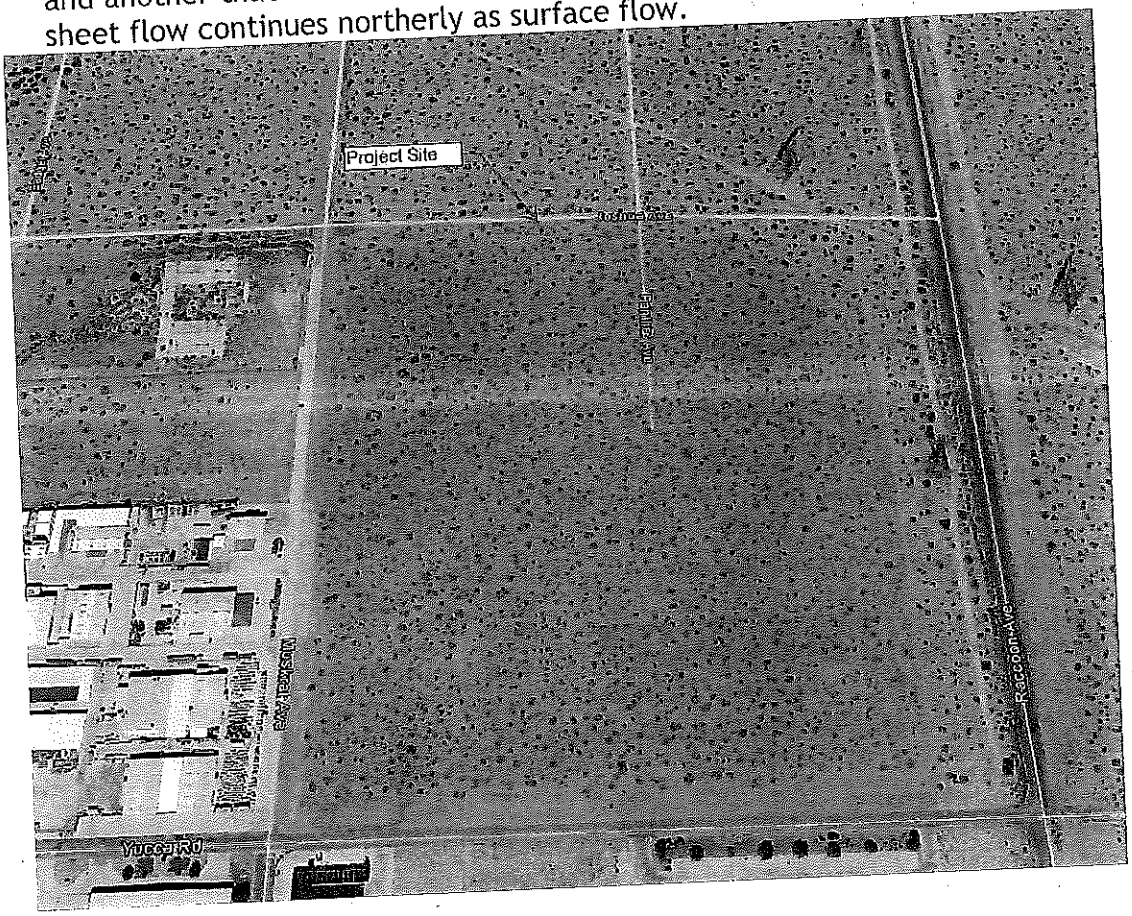
- Determination of points of flow concentration and watershed areas.
- Determination of the 100-year 24 hours storm runoff based upon the onsite drainage conditions utilizing the San Bernardino County Flood

Control District (SBCFCD) SCS Unit Hydrograph Method.

- Determination of the 10-year and 100-year peak flow rates for the offsite area utilizing the San Bernardino County Flood Control District (SBCFCD) Rational Method.

II. SITE DISCUSSION

The current property is vacant, undeveloped and undisturbed land with uniform slope of approximately 1.5 percent. The topography indicates that the runoff drains in a northerly direction in the form of sheet flow, and there is a dirt road at the north end of the site, at the future alignment of Joshua that routes the flow to the west, where it currently ponds due to the low point created by the past construction of Muskrat below exiting ground elevations. There are no evidence of defined washes on site. There are two exit points for onsite flows. One previously described at the intersection of Joshua and Muskrat that drains the bulk of the subject site, and another that drains a small area along the east of the site. The eastern sheet flow continues northerly as surface flow.



III. RAINFALL DATA

The San Bernardino County Flood Control District (SBCFCD) hydrology Manual, (Reference 1) was used to develop the hydrological parameters for the 10-year and 100-year storm events. The Rational Method was used to determine the peak flow rates associated with the existing project conditions as well as the time of concentration used in the Unit Hydrograph method. In addition, the Unit Hydrograph Method was utilized to determine the runoff volume. Computations were performed using the CivilCADD drainage software for San Bernardino County Developed by CivilDesign Corporation.

Rainfall data was taken from NOAA14 (See appendix A).

Return Period - Duration	Isohyetal (in)
10 year - 1 hour	0.550
2 year - 6 hour	0.719
2 year - 24 hour	1.27
100 year - 1 hour	0.944
100 year - 6 hour	1.97
100 year - 24 hour	3.69

Hydrologic Soil Group "B" and an Antecedent Moisture Conditions (AMC) 2 (10yr) and 3 (100yr) are used for the study area. The percentage impervious is 85, and the SCS runoff is 56 (AMC 2 adjusted by program for AMC 3). Refer to Appendix C for additional detail.

The projects runoff is designed to be contained in a system of basins that will act as both water quality infiltration, and flood storage for peak runoff mitigation. The 100- year 24 runoff event is the limiting factor for design.

IV. ONSITE RUNOFF

Existing Condition/Pre Development

While the runoff from the subject site in the existing condition is primarily sheet flow, there are two main concentrations of flow that have been identified. However, the areas are combined for purposes of analysis and for future routing into the regional channel. This channel is proposed to be located north of the subject site, and it is anticipated that the connection will be made along Muskrat Road. As such the northeast corner of the site will be the ultimate outfall for the project. Drainage areas used in

calculations are shown as Area A1 and A2 and Nodes 101 to 103 on the Existing Conditions Drainage Exhibit in Appendix A. The peak flow rate and flood volume is as follows;

Area A - Q = 31.5 cfs - Tc = 37.6 min - Volume = 6.8 ac ft

Proposed Condition/Post Development

The proposed condition is to utilize basins for water quality and flood routing for the developed project. The Rationale method was prepared for determination of time of concentration for use in the development of the Unit Hydrograph. The post development peak flow rate and flood volume is as follows;

Area A - Q = 70.0 cfs - Tc = 16.1 min - Volume = 8.6 ac ft

The post development runoff will then be routed through the proposed basins to confirm post development runoff is mitigated to less than pre-development runoff. The basins are designed to be dual purpose retention and water quality basins relying on infiltration. Per infiltration tests (appendix E), an average infiltration rate of 3.77 in/hr was used for calculations. The basins are preliminarily sized and analyzed based on infiltration being the only outfall for the routing of the 100 yr 24 hour storm event.

After routing through the proposed basins the post development 100 year 24 hour runoff for Area A is 6.0 cfs with 3.3 ac-ft stored. At time of final design the basin details shall be specified and designed per this report. Refer to Appendices A and C for detailed output files and the Site Plan (Appendix B) for grading details.

The primary hydraulic design elements are the roads, drive aisles, curb and gutter, and the curb opening structures outleting to the basins. Drive aisles and curb and gutter within the project will be used to carry runoff. At this stage, no stormdrain is proposed on the site. All runoff will be controlled via surface drainage and open scupper designs. Refer to the Proposed Conditions Drainage Exhibit in Appendix A and Appendix C and D for additional detail.

V. OFFSITE RUNOFF

The potential offsite contributing areas to the subject site are from the south. UEG reviewed the paving plans for Yucca Road, walked the subject site, and confirmed the following; there is a high point just west of the intersection of Yucca and Muskrat that flows back to the west, keeping any offsite flows from the west from impacting the subject property. Similarly

the grade of Yucca continues easterly with no designed low point until the intersection with Raccoon. That keeps any flows originating south of the centerline of Yucca from impacting the subject site. Thus the only offsite flow is from a very small area within the intersection of Yucca and Muskrat. That flow will be accepted into the projects system of drainage and is included in the area calculations and routing. Refer to Appendix F for paving plan reference that confirms the offsite conditions and drainage patterns.

VI. STORMWATER TREATMENT

Stormwater treatment will be provided by the bottom of the proposed basins, where the required volume will infiltrate into the groundwater. Water quality calculations were prepared based on the San Bernardino County Model Water Quality Management Plan Guidance document. The following calculations were used in preliminary sizing of facilities;

- WQ Contributing area
    - Area A - 33.4 acres
- 2 yr 1 hour rainfall - 0.32"
- Impervious ratio - 85% (from SBCFCD hydrology Manual)
- $C_{BMP} = 0.66$
- Drainage Area Region - Desert - Regression Coefficient $P_6 = 1.2371$
- $P_6 = 1.2371 \times 0.32" = 0.40"$
- Regression Constant a = 1.963 for 48 hours
- $P_0 = a * C_{BMP} * P_6 = 1.963 \times 0.66 \times 0.40 = 0.514$
- $V_0 = (P_0 * A)/12$
    - $V_A = (0.514 \times 33.4)/12 = 1.43$ acft

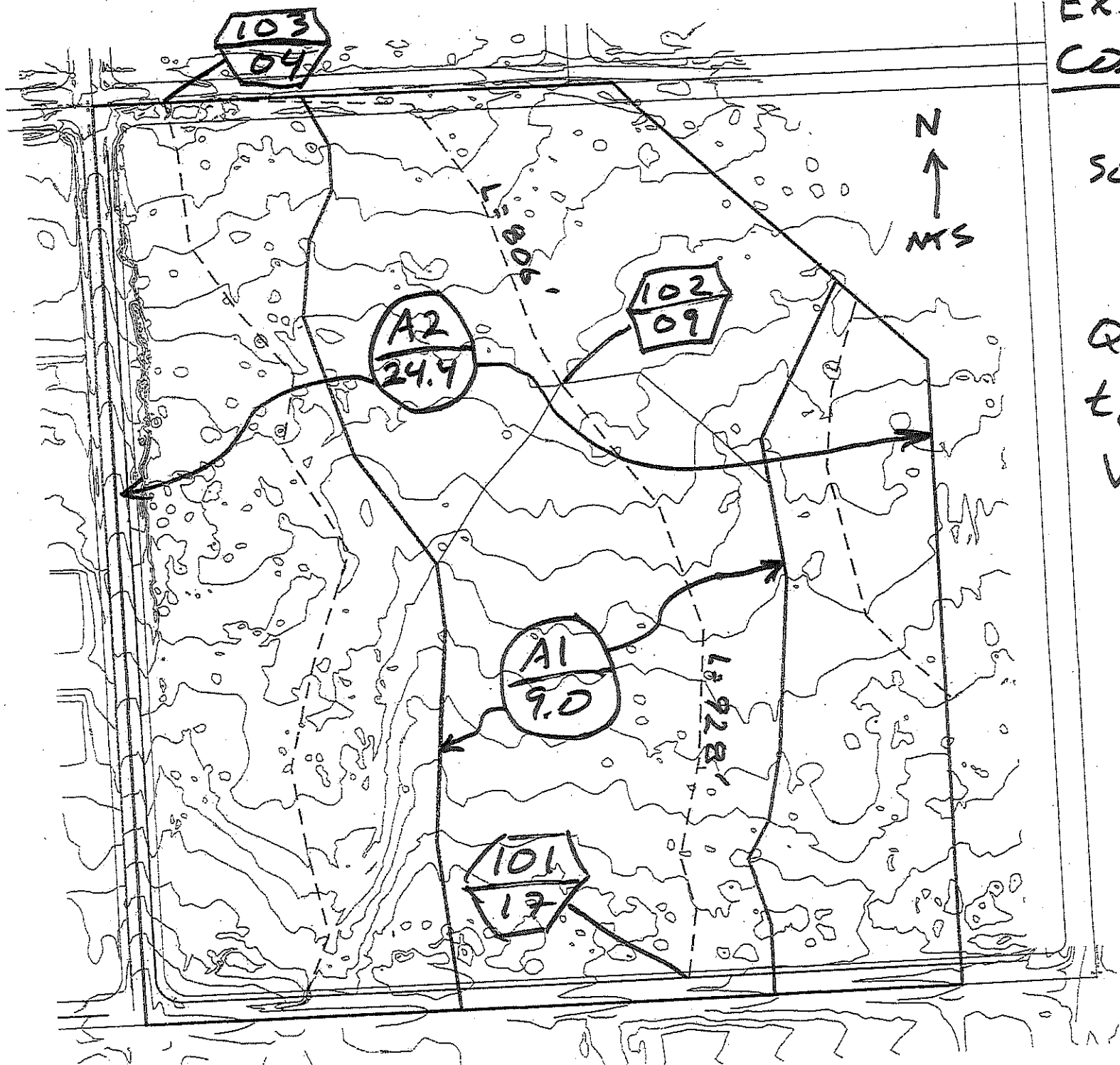
VII. CONCLUSION

The proposed development of an industrial use project in the subject location can be mitigated as designed and analyzed in this report to be compatible with the City of Adelanto Master Plan of Drainage. The development of the subject site will not change area drainage patterns, impact any of the surrounding properties, or change any of the regional master plan facilities. The Site will construct combination retention and detention basins of sufficient size to handle water quality through infiltration, and flood mitigation through retention and infiltration. The streets and drive aisles will be analyzed to confirm containment of the 10 year runoff within the curb, and the 100 year runoff within the right of way. At time of final design, the basins and drainage structures will need be designed and analyzed in conjunction with final grading and paving plans, street grades and curb inlets will need to be designed and sized to confirm capacity with final street design.

REFERENCES

1. San Bernardino County Flood Control and Water Conservation District Hydrology Manual, August 1986.

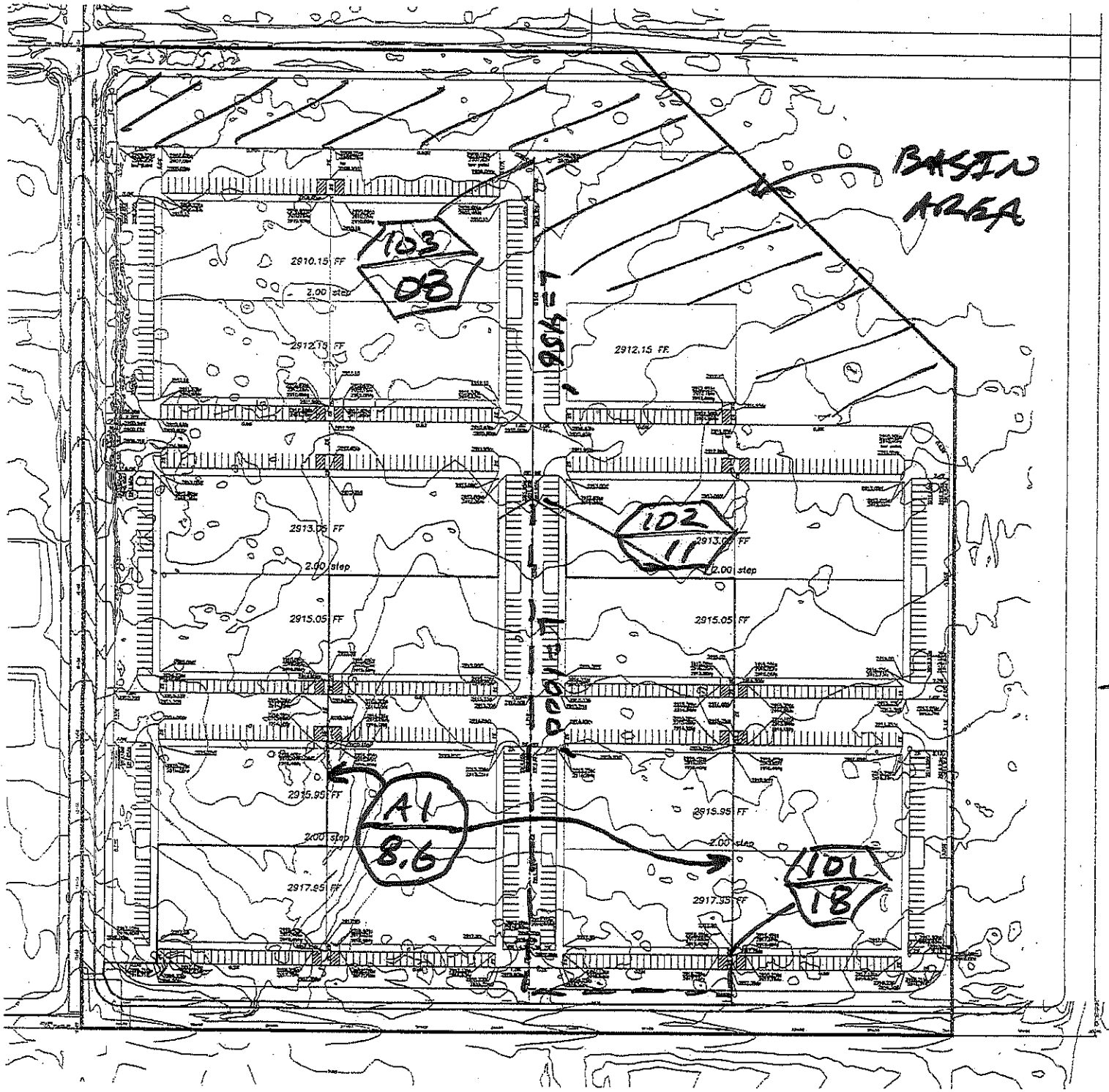
APPENDIX A:
PROJECT PRE AND POST CONDITION EXHIBITS



EXISTING CONDITION

SOIL = B
S = 0.7

Q_{100} = 31.5 CFS
t_c = 37.6 MIN
V = 6.8 AC. FT



PROPOSED CONDITION

$Q_{100} = 70.0$ cfs

$t_c = 16.1$ min

$V = 8.6$ ac-ft

ROUTED

$Q_{out} = 6.0$ cfs

$V_{STORED} = 3.3$ ac-ft

WATER QUALITY

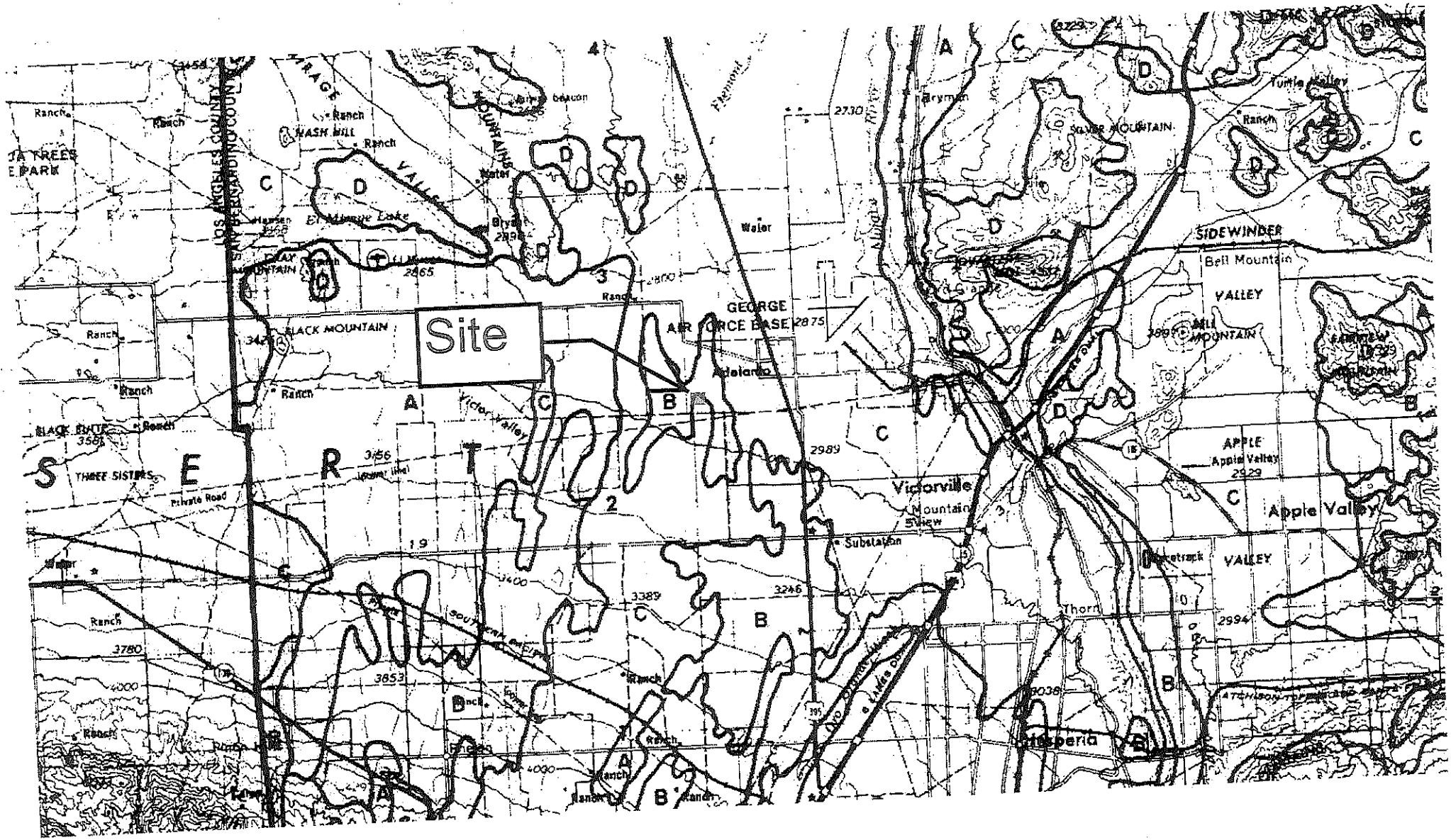
$V_{BMP} = 1.4$ ac-ft

BASIN TOTAL

4.7 ac-ft REQUIRED

APPENDIX B:
PRELIMINARY SITEPLAN

APPENDIX C:
PROJECT RATIONAL
SCS UNIT HYDROGRAPH
HYDROLOGY STUDY INFORMATION


Site
GEORGE
AIR FORCE BASE
Adelanto
Victorville
Mountain View
Substation
Hesperia
Thorn
Apple Valley
APPLE
Apple Valley
VALLEY
SIDEWINDER
Bell Mountain
VALLEY
BLACK MOUNTAIN
THREE SISTERS
Private Road
Victor Valley
Water
Ranch
Bryman
Turtle Valley
SILVER MOUNTAIN
El Mirage Lake
NASH HILL
LOS ANGELES COUNTY
SAN BERNARDINO COUNTY
S E R T
2730
2865
2875
2989
3389
3246
3853
3780
3400
2994
2929
3156
3400
4000
3038

Chris Morgan

From: Beau Cooper
Sent: Thursday, October 20, 2016 2:28 PM
To: Chris Morgan
Subject: FW: Adelanto

FYI

Beau D. Cooper
909.466.9240 x203 | 909.292.6677 cell

From: Anna Scott [mailto:ascott@geotekusa.com]
Sent: Thursday, October 20, 2016 2:27 PM
To: Beau Cooper <bcooper@unitedeng.com>
Subject: RE: Adelanto

Hi! I would say Class B….. Hope this helps!

Anna M. Scott
Project Geologist

GeoTek, Inc.
710 East Parkridge Avenue, Suite 105
Corona, California 92879

Office: 951-710-1160
Fax: 951-710-1167
Mobile: 951-205-1653

GEOTEK

From: Beau Cooper [mailto:bcooper@unitedeng.com]
Sent: Thursday, October 20, 2016 2:23 PM
To: Anna Scott <ascott@geotekusa.com>
Subject: RE: Adelanto

Hi Anna,
Could you please confirm which County Soil type this project would be? I have the project approximately located and it appears to be close to the line between Class B or C. Since your firm has already been out there I thought maybe you would have a more defined location?

Thanks,

Beau D. Cooper
909.466.9240 x203 | 909.292.6677 cell

NOAA Atlas 14, Volume 6, Version 2
Location name: Adelanto, California, USA*
Latitude: 34.5665°, Longitude: -117.4469°
Elevation: 2916.33 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.888 (0.732-1.08)	1.24 (1.02-1.51)	1.72 (1.40-2.10)	2.11 (1.73-2.62)	2.69 (2.12-3.44)	3.14 (2.42-4.10)	3.62 (2.74-4.85)	4.13 (3.04-5.69)	4.85 (3.41-6.95)	5.40 (3.67-8.03)
10-min	0.636 (0.522-0.774)	0.882 (0.726-1.08)	1.22 (1.01-1.51)	1.51 (1.24-1.88)	1.93 (1.52-2.47)	2.25 (1.74-2.95)	2.60 (1.96-3.48)	2.96 (2.17-4.08)	3.47 (2.44-4.98)	3.88 (2.63-5.75)
15-min	0.512 (0.424-0.624)	0.712 (0.588-0.872)	0.988 (0.812-1.22)	1.22 (0.996-1.51)	1.55 (1.22-1.99)	1.82 (1.40-2.37)	2.09 (1.58-2.80)	2.39 (1.75-3.29)	2.80 (1.97-4.02)	3.12 (2.12-4.64)
30-min	0.358 (0.296-0.438)	0.498 (0.412-0.610)	0.692 (0.568-0.850)	0.854 (0.696-1.06)	1.09 (0.856-1.39)	1.27 (0.982-1.66)	1.46 (1.11-1.96)	1.67 (1.23-2.30)	1.96 (1.38-2.81)	2.18 (1.49-3.24)
60-min	0.230 (0.190-0.282)	0.321 (0.265-0.393)	0.446 (0.366-0.547)	0.550 (0.449-0.682)	0.700 (0.552-0.895)	0.818 (0.633-1.07)	0.944 (0.712-1.26)	1.08 (0.789-1.48)	1.26 (0.888-1.81)	1.41 (0.958-2.09)
2-hr	0.162 (0.134-0.198)	0.219 (0.181-0.268)	0.298 (0.245-0.366)	0.365 (0.298-0.452)	0.460 (0.363-0.589)	0.537 (0.415-0.702)	0.618 (0.466-0.827)	0.703 (0.516-0.968)	0.822 (0.578-1.18)	0.916 (0.624-1.36)
3-hr	0.132 (0.109-0.162)	0.177 (0.146-0.217)	0.239 (0.196-0.293)	0.291 (0.238-0.361)	0.367 (0.289-0.470)	0.428 (0.330-0.559)	0.491 (0.371-0.658)	0.559 (0.410-0.770)	0.654 (0.461-0.938)	0.729 (0.496-1.08)
6-hr	0.090 (0.074-0.111)	0.120 (0.099-0.147)	0.161 (0.133-0.198)	0.196 (0.160-0.243)	0.246 (0.194-0.315)	0.287 (0.221-0.374)	0.329 (0.248-0.441)	0.374 (0.275-0.515)	0.438 (0.308-0.629)	0.489 (0.332-0.726)
12-hr	0.057 (0.047-0.069)	0.077 (0.064-0.095)	0.105 (0.086-0.129)	0.129 (0.105-0.159)	0.162 (0.128-0.208)	0.189 (0.146-0.247)	0.217 (0.164-0.291)	0.247 (0.181-0.340)	0.288 (0.203-0.414)	0.321 (0.219-0.477)
24-hr	0.038 (0.034-0.044)	0.053 (0.047-0.061)	0.073 (0.065-0.085)	0.090 (0.079-0.105)	0.115 (0.097-0.138)	0.134 (0.111-0.164)	0.154 (0.124-0.194)	0.175 (0.138-0.226)	0.204 (0.154-0.276)	0.228 (0.166-0.318)
2-day	0.021 (0.019-0.024)	0.030 (0.026-0.034)	0.042 (0.037-0.048)	0.052 (0.045-0.060)	0.066 (0.056-0.079)	0.077 (0.064-0.095)	0.089 (0.072-0.112)	0.101 (0.080-0.131)	0.118 (0.089-0.159)	0.132 (0.096-0.184)
3-day	0.015 (0.013-0.017)	0.021 (0.019-0.025)	0.030 (0.027-0.035)	0.038 (0.033-0.044)	0.048 (0.041-0.058)	0.056 (0.046-0.069)	0.064 (0.052-0.081)	0.073 (0.058-0.095)	0.086 (0.065-0.116)	0.096 (0.070-0.134)
4-day	0.012 (0.011-0.014)	0.017 (0.015-0.020)	0.024 (0.021-0.028)	0.030 (0.026-0.035)	0.038 (0.033-0.046)	0.045 (0.037-0.055)	0.052 (0.042-0.065)	0.059 (0.046-0.076)	0.069 (0.052-0.093)	0.077 (0.056-0.108)
7-day	0.007 (0.006-0.008)	0.010 (0.009-0.012)	0.015 (0.013-0.017)	0.018 (0.016-0.022)	0.024 (0.020-0.028)	0.028 (0.023-0.034)	0.032 (0.026-0.040)	0.036 (0.029-0.047)	0.042 (0.032-0.057)	0.047 (0.034-0.066)
10-day	0.005 (0.005-0.006)	0.008 (0.007-0.009)	0.011 (0.010-0.013)	0.014 (0.012-0.016)	0.018 (0.015-0.021)	0.021 (0.017-0.025)	0.024 (0.019-0.030)	0.027 (0.021-0.035)	0.032 (0.024-0.043)	0.035 (0.026-0.049)
20-day	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.006 (0.006-0.007)	0.008 (0.007-0.010)	0.011 (0.009-0.013)	0.013 (0.010-0.016)	0.015 (0.012-0.018)	0.017 (0.013-0.022)	0.020 (0.015-0.027)	0.022 (0.016-0.031)
30-day	0.002 (0.002-0.003)	0.003 (0.003-0.004)	0.005 (0.004-0.006)	0.006 (0.005-0.007)	0.008 (0.007-0.010)	0.010 (0.008-0.012)	0.011 (0.009-0.014)	0.013 (0.010-0.017)	0.016 (0.012-0.021)	0.017 (0.013-0.024)
45-day	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.004 (0.003-0.004)	0.005 (0.004-0.006)	0.007 (0.006-0.008)	0.008 (0.007-0.010)	0.009 (0.007-0.012)	0.011 (0.008-0.014)	0.013 (0.010-0.017)	0.014 (0.010-0.020)
60-day	0.001 (0.001-0.002)	0.002 (0.002-0.002)	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.006 (0.005-0.007)	0.007 (0.006-0.008)	0.008 (0.006-0.010)	0.009 (0.007-0.012)	0.011 (0.008-0.015)	0.012 (0.009-0.017)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

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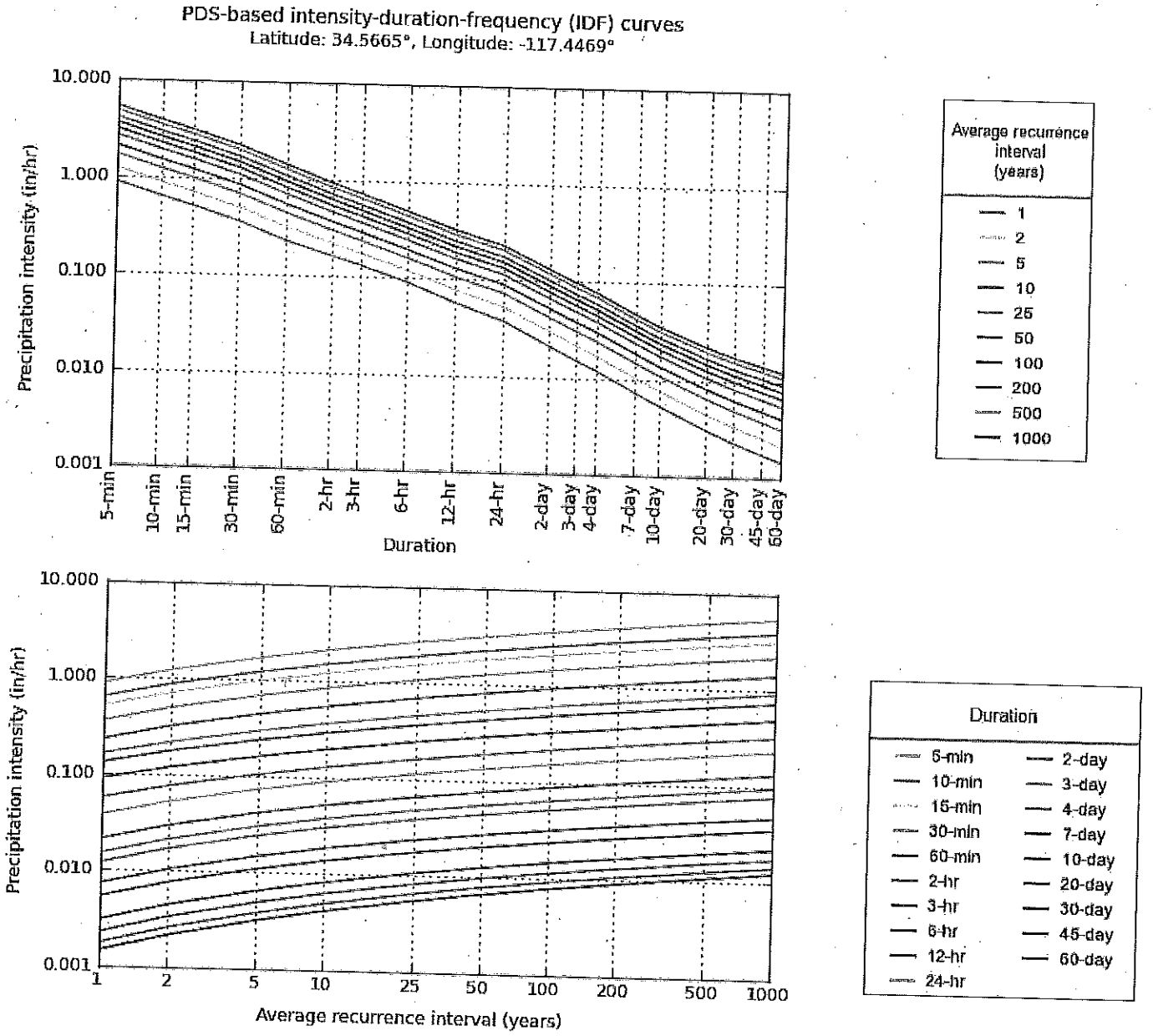
PF graphical



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Created (GMT): Thu Oct 20 20:54:17 2016

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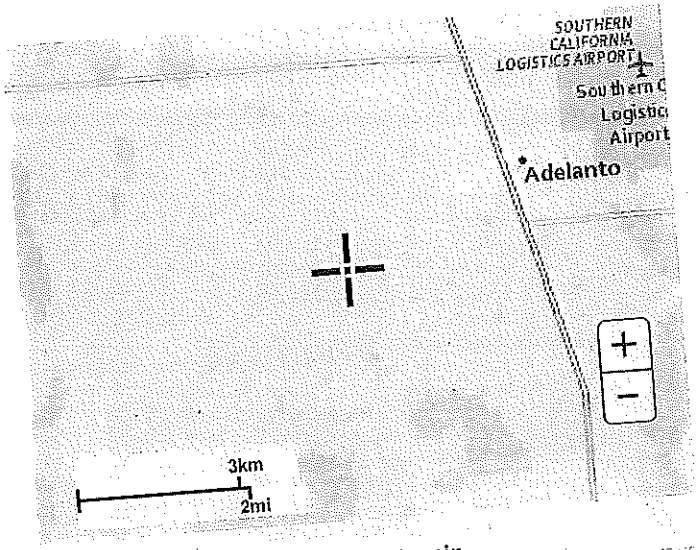
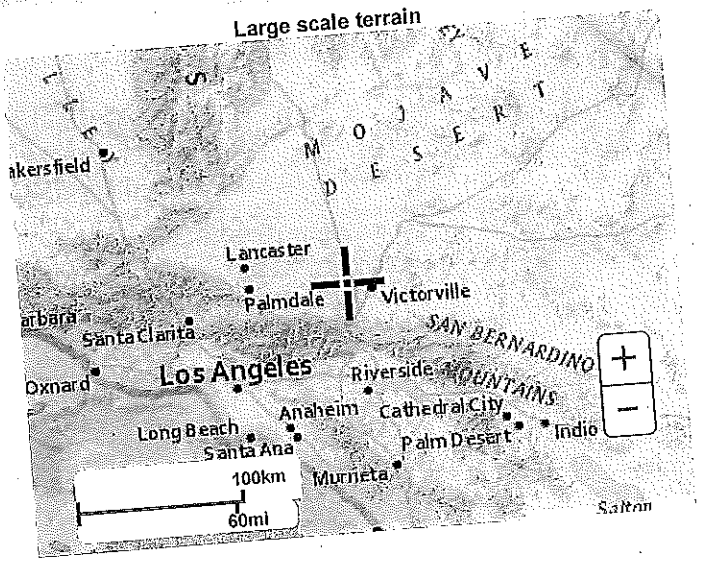
Maps & aerials

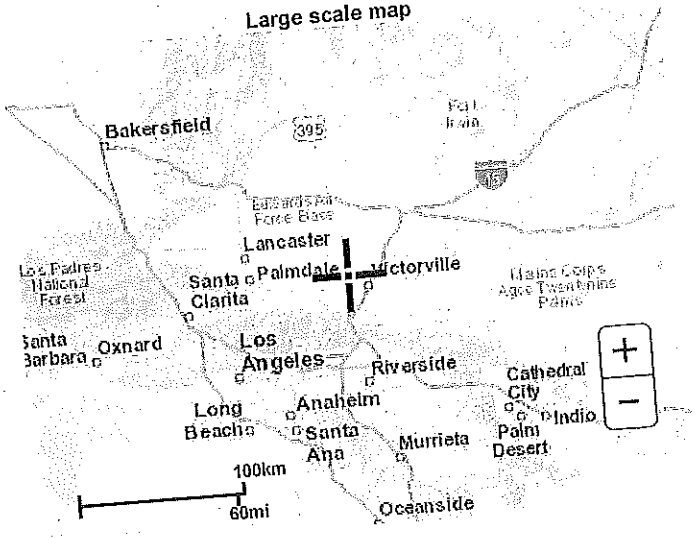
Small scale terrain



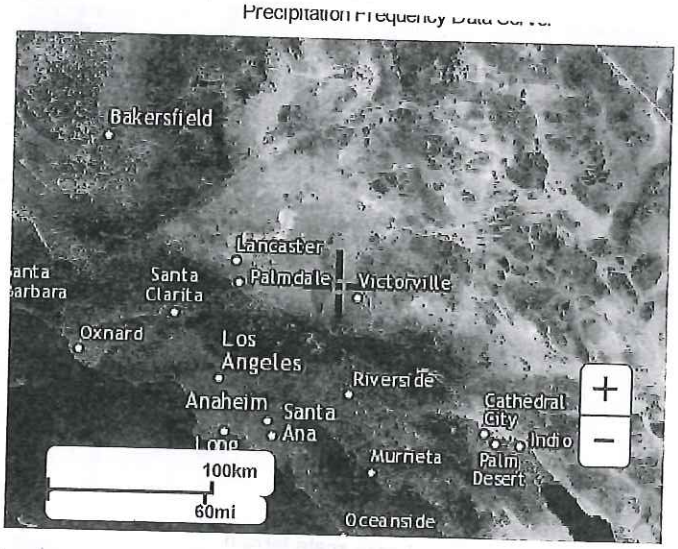
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2005 Version 7.1

Rational Hydrology Study Date: 10/20/16

Adelanto Frontier Site Rough Check Rational Tc and Q
100 yr
Overall Area

Program License Serial Number 6232

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.944 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 101.000 to Point/Station 102.000

**** INITIAL AREA EVALUATION ****

UNDEVELOPED (average cover) subarea
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 69.00
Adjusted SCS curve number for AMC 3 = 86.20
Pervious ratio(Ap) = 1.0000 Max loss rate(Fm)= 0.262 (In/Hr)
Initial subarea data:
Initial area flow distance = 928.000(Ft.)
Top (of initial area) elevation = 2917.000(Ft.)
Bottom (of initial area) elevation = 2909.000(Ft.)
Difference in elevation = 8.000(Ft.)
Slope = 0.00862 s(%)= 0.86
TC = k(0.706)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 28.101 min.
Rainfall intensity = 1.605(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.753
Subarea runoff = 10.885(CFS)

```
      Total initial stream area =        9.000(Ac.)
      Pervious area fraction = 1.000
      Initial area Fm value =    0.262(In/Hr)


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      102.000 to Point/Station
103.000
      **** IRREGULAR CHANNEL FLOW TRAVEL TIME ****
      ----------------------------------------------------------------------
---
      Estimated mean flow rate at midpoint of channel =      0.000(CFS)
      Depth of flow =   0.548(Ft.), Average velocity =   1.411(Ft/s)
            ******* Irregular Channel Data ***********
      ----------------------------------------------------------------------
      Information entered for subchannel number 1 :
      Point number      'X' coordinate     'Y' coordinate
            1              0.00              1.00
            2             50.00              0.00
            3            100.00              1.00
      Manning's 'N' friction factor =   0.035
      ----------------------------------------------------------------------
      Sub-Channel flow  =     21.228(CFS)
        '       '     flow top width =     54.848(Ft.)
        '       '     velocity=    1.411(Ft/s)
        '       '     area =     15.041(Sq.Ft)
        '       '     Froude number =     0.475

      Upstream point elevation =  2909.000(Ft.)
      Downstream point elevation =  2904.000(Ft.)
      Flow length =   806.000(Ft.)
      Travel time  =    9.52 min.
      Time of concentration =   37.62 min.
      Depth of flow =   0.548(Ft.)
      Average velocity =   1.411(Ft/s)
      Total irregular channel flow =    21.228(CFS)
      Irregular channel normal depth above invert elev. =   0.548(Ft.)
      Average velocity of channel(s) =   1.411(Ft/s)
       Adding area flow to channel
      UNDEVELOPED (average cover) subarea
      Decimal fraction soil group A = 0.000
      Decimal fraction soil group B = 1.000
      Decimal fraction soil group C = 0.000
      Decimal fraction soil group D = 0.000
      SCS curve number for soil(AMC 2)  = 69.00
      Adjusted SCS curve number for AMC 3 = 86.20
      Pervious ratio(Ap) = 1.0000     Max loss rate(Fm)=     0.262
(In/Hr)
      Rainfall intensity =     1.309(In/Hr) for a   100.0 year storm
      Effective runoff coefficient used for area,(total area with
modified
      rational method)(Q=KCIA) is C = 0.720
      Subarea runoff =     20.598(CFS) for   24.400(Ac.)
      Total runoff =     31.483(CFS)
      Effective area this stream =       33.40(Ac.)
      Total Study Area (Main Stream No. 1) =       33.40(Ac.)
      Area averaged Fm value =    0.262(In/Hr)
      Depth of flow =   0.636(Ft.), Average velocity =   1.557(Ft/s)
      End of computations, Total Study Area =           33.40 (Ac.)
```

The following figures may
be used for a unit hydrograph study of the same area.
Note: These figures do not consider reduced effective area
effects caused by confluences in the rational equation.

Area averaged pervious area fraction(Ap) = 1.000
Area averaged SCS curve number = 69.0

U n i t H y d r o g r a p h A n a l y s i s

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Study date 10/20/16

++

San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6232

Adelanto Frontier Unit Hydrograph Existing Condition
100 yr 24 hr
Overall Area

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
33.40	1	0.94
Rainfall data for year 100		
33.40	6	1.97
Rainfall data for year 100		
33.40	24	3.69

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
69.0	86.2	33.40	1.000	0.262	1.000	0.262

Area-averaged adjusted loss rate Fm (In/Hr) = 0.262

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
33.40	1.000	69.0	86.2	1.60	0.619

Area-averaged catchment yield fraction, Y = 0.619
Area-averaged low loss fraction, Yb = 0.381
User entry of time of concentration = 0.790 (hours)
++

++ Watershed area = 33.40(Ac.)
Catchment Lag time = 0.632 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 13.1857
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.262(In/Hr)
Average low loss rate fraction (Yb) = 0.381 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.448(In)
Computed peak 30-minute rainfall = 0.767(In)
Specified peak 1-hour rainfall = 0.944(In)
Computed peak 3-hour rainfall = 1.482(In)
Specified peak 6-hour rainfall = 1.970(In)
Specified peak 24-hour rainfall = 3.690(In)

Rainfall depth area reduction factors:
Using a total area of 33.40(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998	Adjusted rainfall = 0.447(In)
30-minute factor = 0.998	Adjusted rainfall = 0.766(In)
1-hour factor = 0.998	Adjusted rainfall = 0.943(In)
3-hour factor = 1.000	Adjusted rainfall = 1.482(In)
6-hour factor = 1.000	Adjusted rainfall = 1.970(In)
24-hour factor = 1.000	Adjusted rainfall = 3.690(In)

U n i t H y d r o g r a p h
++

+++

Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))

(K = 403.93 (CFS))

1	0.582	2.349
2	2.328	7.056
3	5.189	11.555
4	9.293	16.577
5	16.646	29.700
6	28.654	48.504
7	40.276	46.947
8	49.154	35.861
9	56.084	27.992
10	61.273	20.959
11	65.393	16.641
12	68.870	14.046
13	71.936	12.386
14	74.517	10.425
15	76.818	9.292
16	78.871	8.295
17	80.618	7.058
18	82.220	6.471
19	83.645	5.754
20	84.984	5.408
21	86.247	5.104
22	87.379	4.573
23	88.426	4.228
24	89.292	3.497
25	90.080	3.182
26	90.829	3.027
27	91.557	2.938
28	92.205	2.620
29	92.830	2.523
30	93.415	2.364
31	93.966	2.226
32	94.422	1.841
33	94.870	1.811
34	95.318	1.811
35	95.727	1.649
36	96.070	1.388
37	96.413	1.385
38	96.756	1.383
39	97.038	1.139
40	97.275	0.959
41	97.512	0.959
42	97.745	0.941
43	97.904	0.641
44	98.036	0.533
45	98.168	0.533
46	98.303	0.546
47	98.458	0.626
48	98.616	0.639
49	98.774	0.639
50	98.932	0.639
51	99.091	0.639
52	99.249	0.639
53	99.407	0.639
54	99.534	0.512
55	99.616	0.334
56	99.699	0.333
57	99.781	0.333
58	99.864	0.333
59	99.946	0.333
60	100.000	0.218

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4472	0.4472
2	0.5506	0.1034
3	0.6218	0.0712
4	0.6779	0.0561
5	0.7248	0.0469
6	0.7656	0.0407
7	0.8018	0.0362
8	0.8346	0.0328
9	0.8646	0.0300
10	0.8924	0.0278
11	0.9182	0.0259
12	0.9425	0.0243
13	0.9741	0.0316
14	1.0043	0.0302
15	1.0332	0.0289
16	1.0611	0.0278
17	1.0879	0.0268
18	1.1138	0.0259
19	1.1389	0.0251
20	1.1632	0.0243
21	1.1868	0.0236
22	1.2098	0.0230
23	1.2321	0.0224
24	1.2539	0.0218
25	1.2752	0.0213
26	1.2959	0.0208
27	1.3162	0.0203
28	1.3361	0.0199
29	1.3555	0.0194
30	1.3746	0.0191
31	1.3933	0.0187
32	1.4116	0.0183
33	1.4296	0.0180
34	1.4473	0.0177
35	1.4647	0.0174
36	1.4818	0.0171
37	1.4985	0.0168
38	1.5150	0.0165
39	1.5313	0.0162
40	1.5473	0.0160
41	1.5631	0.0158
42	1.5786	0.0155
43	1.5940	0.0153
44	1.6091	0.0151
45	1.6240	0.0149
46	1.6387	0.0147
47	1.6533	0.0145
48	1.6676	0.0144
49	1.6818	0.0142
50	1.6958	0.0140
51	1.7097	0.0138
52	1.7234	0.0137
53	1.7369	0.0135
54	1.7503	0.0134
55	1.7635	0.0132
56	1.7766	0.0131

57	1.7896	0.0130
58	1.8024	0.0128
59	1.8151	0.0127
60	1.8277	0.0126
61	1.8401	0.0125
62	1.8525	0.0123
63	1.8647	0.0122
64	1.8768	0.0121
65	1.8888	0.0120
66	1.9006	0.0119
67	1.9124	0.0118
68	1.9241	0.0117
69	1.9357	0.0116
70	1.9471	0.0115
71	1.9585	0.0114
72	1.9698	0.0113
73	1.9821	0.0123
74	1.9944	0.0122
75	2.0065	0.0122
76	2.0186	0.0121
77	2.0306	0.0120
78	2.0425	0.0119
79	2.0543	0.0118
80	2.0660	0.0117
81	2.0777	0.0117
82	2.0893	0.0116
83	2.1008	0.0115
84	2.1122	0.0114
85	2.1235	0.0113
86	2.1348	0.0113
87	2.1460	0.0112
88	2.1571	0.0111
89	2.1682	0.0111
90	2.1792	0.0110
91	2.1901	0.0109
92	2.2010	0.0109
93	2.2118	0.0108
94	2.2225	0.0107
95	2.2332	0.0107
96	2.2438	0.0106
97	2.2544	0.0106
98	2.2649	0.0105
99	2.2753	0.0104
100	2.2857	0.0104
101	2.2960	0.0103
102	2.3063	0.0103
103	2.3165	0.0102
104	2.3266	0.0102
105	2.3367	0.0101
106	2.3468	0.0100
107	2.3568	0.0100
108	2.3667	0.0099
109	2.3766	0.0099
110	2.3865	0.0098
111	2.3963	0.0098
112	2.4060	0.0098
113	2.4157	0.0097
114	2.4254	0.0097
115	2.4350	0.0096
116	2.4445	0.0096

	2.4541	0.0095
117	2.4635	0.0095
118	2.4730	0.0094
119	2.4824	0.0094
120	2.4917	0.0093
121	2.5010	0.0093
122	2.5103	0.0093
123	2.5195	0.0092
124	2.5287	0.0092
125	2.5378	0.0091
126	2.5469	0.0091
127	2.5560	0.0091
128	2.5650	0.0090
129	2.5740	0.0090
130	2.5829	0.0089
131	2.5918	0.0089
132	2.6007	0.0089
133	2.6095	0.0088
134	2.6183	0.0088
135	2.6271	0.0088
136	2.6358	0.0087
137	2.6445	0.0087
138	2.6532	0.0087
139	2.6618	0.0086
140	2.6704	0.0086
141	2.6789	0.0086
142	2.6875	0.0085
143	2.6960	0.0085
144	2.7044	0.0085
145	2.7129	0.0084
146	2.7213	0.0084
147	2.7296	0.0084
148	2.7380	0.0083
149	2.7463	0.0083
150	2.7545	0.0083
151	2.7628	0.0082
152	2.7710	0.0082
153	2.7792	0.0082
154	2.7873	0.0082
155	2.7955	0.0081
156	2.8036	0.0081
157	2.8116	0.0081
158	2.8197	0.0080
159	2.8277	0.0080
160	2.8357	0.0080
161	2.8436	0.0080
162	2.8516	0.0079
163	2.8595	0.0079
164	2.8674	0.0079
165	2.8752	0.0079
166	2.8830	0.0078
167	2.8908	0.0078
168	2.8986	0.0078
169	2.9064	0.0078
170	2.9141	0.0077
171	2.9218	0.0077
172	2.9295	0.0077
173	2.9371	0.0077
174	2.9448	0.0076
175	2.9524	0.0076
176		

177	2.9600	0.0076
178	2.9675	0.0076
179	2.9751	0.0075
180	2.9826	0.0075
181	2.9901	0.0075
182	2.9975	0.0075
183	3.0050	0.0074
184	3.0124	0.0074
185	3.0198	0.0074
186	3.0272	0.0074
187	3.0345	0.0074
188	3.0419	0.0073
189	3.0492	0.0073
190	3.0565	0.0073
191	3.0638	0.0073
192	3.0710	0.0073
193	3.0782	0.0072
194	3.0855	0.0072
195	3.0926	0.0072
196	3.0998	0.0072
197	3.1070	0.0072
198	3.1141	0.0071
199	3.1212	0.0071
200	3.1283	0.0071
201	3.1354	0.0071
202	3.1424	0.0071
203	3.1495	0.0070
204	3.1565	0.0070
205	3.1635	0.0070
206	3.1704	0.0070
207	3.1774	0.0070
208	3.1843	0.0069
209	3.1913	0.0069
210	3.1982	0.0069
211	3.2051	0.0069
212	3.2119	0.0069
213	3.2188	0.0069
214	3.2256	0.0068
215	3.2324	0.0068
216	3.2392	0.0068
217	3.2460	0.0068
218	3.2528	0.0068
219	3.2595	0.0067
220	3.2662	0.0067
221	3.2730	0.0067
222	3.2797	0.0067
223	3.2863	0.0067
224	3.2930	0.0067
225	3.2997	0.0066
226	3.3063	0.0066
227	3.3129	0.0066
228	3.3195	0.0066
229	3.3261	0.0066
230	3.3327	0.0066
231	3.3392	0.0066
232	3.3457	0.0065
233	3.3523	0.0065
234	3.3588	0.0065
235	3.3653	0.0065
236	3.3717	0.0065

237	3.3782	0.0065
238	3.3846	0.0064
239	3.3911	0.0064
240	3.3975	0.0064
241	3.4039	0.0064
242	3.4103	0.0064
243	3.4167	0.0064
244	3.4230	0.0063
245	3.4294	0.0063
246	3.4357	0.0063
247	3.4420	0.0063
248	3.4483	0.0063
249	3.4546	0.0063
250	3.4609	0.0063
251	3.4671	0.0062
252	3.4734	0.0062
253	3.4796	0.0062
254	3.4858	0.0062
255	3.4920	0.0062
256	3.4982	0.0062
257	3.5044	0.0062
258	3.5106	0.0062
259	3.5167	0.0061
260	3.5229	0.0061
261	3.5290	0.0061
262	3.5351	0.0061
263	3.5412	0.0061
264	3.5473	0.0061
265	3.5534	0.0061
266	3.5595	0.0061
267	3.5655	0.0060
268	3.5715	0.0060
269	3.5776	0.0060
270	3.5836	0.0060
271	3.5896	0.0060
272	3.5956	0.0060
273	3.6016	0.0060
274	3.6075	0.0060
275	3.6135	0.0059
276	3.6194	0.0059
277	3.6254	0.0059
278	3.6313	0.0059
279	3.6372	0.0059
280	3.6431	0.0059
281	3.6490	0.0059
282	3.6548	0.0059
283	3.6607	0.0059
284	3.6666	0.0058
285	3.6724	0.0058
286	3.6782	0.0058
287	3.6840	0.0058
288	3.6898	

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0058	0.0022	0.0036

2	0.0058	0.0022	0.0036
3	0.0058	0.0022	0.0036
4	0.0059	0.0022	0.0036
5	0.0059	0.0022	0.0036
6	0.0059	0.0022	0.0036
7	0.0059	0.0023	0.0037
8	0.0059	0.0023	0.0037
9	0.0059	0.0023	0.0037
10	0.0060	0.0023	0.0037
11	0.0060	0.0023	0.0037
12	0.0060	0.0023	0.0037
13	0.0060	0.0023	0.0037
14	0.0060	0.0023	0.0037
15	0.0061	0.0023	0.0037
16	0.0061	0.0023	0.0037
17	0.0061	0.0023	0.0038
18	0.0061	0.0023	0.0038
19	0.0061	0.0023	0.0038
20	0.0061	0.0023	0.0038
21	0.0062	0.0023	0.0038
22	0.0062	0.0023	0.0038
23	0.0062	0.0024	0.0038
24	0.0062	0.0024	0.0038
25	0.0062	0.0024	0.0039
26	0.0063	0.0024	0.0039
27	0.0063	0.0024	0.0039
28	0.0063	0.0024	0.0039
29	0.0063	0.0024	0.0039
30	0.0063	0.0024	0.0039
31	0.0064	0.0024	0.0039
32	0.0064	0.0024	0.0039
33	0.0064	0.0024	0.0040
34	0.0064	0.0024	0.0040
35	0.0065	0.0024	0.0040
36	0.0065	0.0025	0.0040
37	0.0065	0.0025	0.0040
38	0.0065	0.0025	0.0040
39	0.0066	0.0025	0.0040
40	0.0066	0.0025	0.0041
41	0.0066	0.0025	0.0041
42	0.0066	0.0025	0.0041
43	0.0066	0.0025	0.0041
44	0.0067	0.0025	0.0041
45	0.0067	0.0026	0.0041
46	0.0067	0.0026	0.0042
47	0.0067	0.0026	0.0042
48	0.0068	0.0026	0.0042
49	0.0068	0.0026	0.0042
50	0.0068	0.0026	0.0042
51	0.0069	0.0026	0.0042
52	0.0069	0.0026	0.0043
53	0.0069	0.0026	0.0043
54	0.0069	0.0026	0.0043
55	0.0070	0.0027	0.0043
56	0.0070	0.0027	0.0043
57	0.0070	0.0027	0.0043
58	0.0071	0.0027	0.0044
59	0.0071	0.0027	0.0044
60	0.0071	0.0027	0.0044
61			

62	0.0072	0.0027	0.0044
63	0.0072	0.0027	0.0045
64	0.0072	0.0027	0.0045
65	0.0073	0.0028	0.0045
66	0.0073	0.0028	0.0045
67	0.0073	0.0028	0.0045
68	0.0073	0.0028	0.0046
69	0.0074	0.0028	0.0046
70	0.0074	0.0028	0.0046
71	0.0074	0.0028	0.0046
72	0.0075	0.0028	0.0047
73	0.0075	0.0029	0.0047
74	0.0075	0.0029	0.0047
75	0.0076	0.0029	0.0047
76	0.0076	0.0029	0.0047
77	0.0077	0.0029	0.0048
78	0.0077	0.0029	0.0048
79	0.0077	0.0029	0.0048
80	0.0078	0.0030	0.0048
81	0.0078	0.0030	0.0048
82	0.0078	0.0030	0.0049
83	0.0079	0.0030	0.0049
84	0.0079	0.0030	0.0049
85	0.0080	0.0030	0.0049
86	0.0080	0.0030	0.0050
87	0.0080	0.0031	0.0050
88	0.0081	0.0031	0.0050
89	0.0081	0.0031	0.0050
90	0.0082	0.0031	0.0051
91	0.0082	0.0031	0.0051
92	0.0082	0.0031	0.0051
93	0.0083	0.0032	0.0052
94	0.0083	0.0032	0.0052
95	0.0084	0.0032	0.0052
96	0.0084	0.0032	0.0053
97	0.0085	0.0032	0.0053
98	0.0085	0.0032	0.0053
99	0.0086	0.0033	0.0053
100	0.0086	0.0033	0.0054
101	0.0087	0.0033	0.0054
102	0.0087	0.0033	0.0054
103	0.0088	0.0034	0.0055
104	0.0088	0.0034	0.0055
105	0.0089	0.0034	0.0055
106	0.0089	0.0034	0.0056
107	0.0090	0.0034	0.0056
108	0.0091	0.0035	0.0057
109	0.0091	0.0035	0.0057
110	0.0092	0.0035	0.0057
111	0.0093	0.0035	0.0058
112	0.0093	0.0035	0.0058
113	0.0094	0.0036	0.0058
114	0.0094	0.0036	0.0059
115	0.0095	0.0036	0.0059
116	0.0096	0.0036	0.0060
117	0.0097	0.0037	0.0060
118	0.0097	0.0037	0.0061
119	0.0098	0.0037	0.0061
120	0.0098	0.0038	0.0062
121	0.0099	0.0038	

122	0.0100	0.0038	0.0062
123	0.0101	0.0038	0.0063
124	0.0102	0.0039	0.0063
125	0.0103	0.0039	0.0064
126	0.0103	0.0039	0.0064
127	0.0104	0.0040	0.0065
128	0.0105	0.0040	0.0065
129	0.0106	0.0040	0.0066
130	0.0107	0.0041	0.0066
131	0.0108	0.0041	0.0067
132	0.0109	0.0041	0.0067
133	0.0110	0.0042	0.0068
134	0.0111	0.0042	0.0068
135	0.0112	0.0043	0.0069
136	0.0113	0.0043	0.0070
137	0.0114	0.0044	0.0071
138	0.0115	0.0044	0.0071
139	0.0117	0.0044	0.0072
140	0.0117	0.0045	0.0073
141	0.0119	0.0045	0.0074
142	0.0120	0.0046	0.0074
143	0.0122	0.0046	0.0075
144	0.0122	0.0047	0.0076
145	0.0113	0.0043	0.0070
146	0.0114	0.0043	0.0070
147	0.0116	0.0044	0.0072
148	0.0117	0.0044	0.0072
149	0.0119	0.0045	0.0074
150	0.0120	0.0046	0.0074
151	0.0122	0.0047	0.0076
152	0.0123	0.0047	0.0076
153	0.0126	0.0048	0.0078
154	0.0127	0.0048	0.0079
155	0.0130	0.0049	0.0080
156	0.0131	0.0050	0.0081
157	0.0134	0.0051	0.0083
158	0.0135	0.0052	0.0084
159	0.0138	0.0053	0.0086
160	0.0140	0.0053	0.0087
161	0.0144	0.0055	0.0089
162	0.0145	0.0055	0.0090
163	0.0149	0.0057	0.0092
164	0.0151	0.0058	0.0094
165	0.0155	0.0059	0.0096
166	0.0158	0.0060	0.0098
167	0.0162	0.0062	0.0101
168	0.0165	0.0063	0.0102
169	0.0171	0.0065	0.0106
170	0.0174	0.0066	0.0108
171	0.0180	0.0069	0.0111
172	0.0183	0.0070	0.0114
173	0.0191	0.0073	0.0118
174	0.0194	0.0074	0.0120
175	0.0203	0.0077	0.0126
176	0.0208	0.0079	0.0129
177	0.0218	0.0083	0.0135
178	0.0224	0.0085	0.0138
179	0.0236	0.0090	0.0146
180	0.0243	0.0093	0.0151
181	0.0259	0.0099	0.0160

182	0.0268	0.0102	0.0166
183	0.0289	0.0110	0.0179
184	0.0302	0.0115	0.0187
185	0.0243	0.0092	0.0150
186	0.0259	0.0099	0.0160
187	0.0300	0.0114	0.0186
188	0.0328	0.0125	0.0203
189	0.0407	0.0155	0.0252
190	0.0469	0.0179	0.0291
191	0.0712	0.0218	0.0494
192	0.1034	0.0218	0.0816
193	0.4472	0.0218	0.4254
194	0.0561	0.0213	0.0347
195	0.0362	0.0138	0.0224
196	0.0278	0.0106	0.0172
197	0.0316	0.0120	0.0196
198	0.0278	0.0106	0.0172
199	0.0251	0.0096	0.0155
200	0.0230	0.0087	0.0142
201	0.0213	0.0081	0.0132
202	0.0199	0.0076	0.0123
203	0.0187	0.0071	0.0116
204	0.0177	0.0067	0.0109
205	0.0168	0.0064	0.0104
206	0.0160	0.0061	0.0099
207	0.0153	0.0058	0.0095
208	0.0147	0.0056	0.0091
209	0.0142	0.0054	0.0088
210	0.0137	0.0052	0.0085
211	0.0132	0.0050	0.0082
212	0.0128	0.0049	0.0079
213	0.0125	0.0047	0.0077
214	0.0121	0.0046	0.0075
215	0.0118	0.0045	0.0073
216	0.0115	0.0044	0.0071
217	0.0123	0.0047	0.0076
218	0.0121	0.0046	0.0075
219	0.0118	0.0045	0.0073
220	0.0116	0.0044	0.0072
221	0.0113	0.0043	0.0070
222	0.0111	0.0042	0.0069
223	0.0109	0.0042	0.0068
224	0.0107	0.0041	0.0066
225	0.0106	0.0040	0.0065
226	0.0104	0.0040	0.0064
227	0.0102	0.0039	0.0063
228	0.0100	0.0038	0.0062
229	0.0099	0.0038	0.0061
230	0.0098	0.0037	0.0060
231	0.0096	0.0037	0.0059
232	0.0095	0.0036	0.0059
233	0.0093	0.0036	0.0058
234	0.0092	0.0035	0.0057
235	0.0091	0.0035	0.0056
236	0.0090	0.0034	0.0056
237	0.0089	0.0034	0.0055
238	0.0088	0.0033	0.0054
239	0.0087	0.0033	0.0054
240	0.0086	0.0033	0.0053
241	0.0085	0.0032	0.0052

242	0.0084	0.0032	0.0052
243	0.0083	0.0032	0.0051
244	0.0082	0.0031	0.0051
245	0.0081	0.0031	0.0050
246	0.0080	0.0031	0.0050
247	0.0079	0.0030	0.0049
248	0.0079	0.0030	0.0049
249	0.0078	0.0030	0.0048
250	0.0077	0.0029	0.0048
251	0.0076	0.0029	0.0047
252	0.0076	0.0029	0.0047
253	0.0075	0.0029	0.0046
254	0.0074	0.0028	0.0046
255	0.0074	0.0028	0.0046
256	0.0073	0.0028	0.0045
257	0.0072	0.0028	0.0045
258	0.0072	0.0027	0.0044
259	0.0071	0.0027	0.0044
260	0.0071	0.0027	0.0044
261	0.0070	0.0027	0.0043
262	0.0069	0.0026	0.0043
263	0.0069	0.0026	0.0043
264	0.0068	0.0026	0.0042
265	0.0068	0.0026	0.0042
266	0.0067	0.0026	0.0042
267	0.0067	0.0025	0.0041
268	0.0066	0.0025	0.0041
269	0.0066	0.0025	0.0041
270	0.0065	0.0025	0.0040
271	0.0065	0.0025	0.0040
272	0.0064	0.0025	0.0040
273	0.0064	0.0024	0.0040
274	0.0064	0.0024	0.0039
275	0.0063	0.0024	0.0039
276	0.0063	0.0024	0.0039
277	0.0062	0.0024	0.0039
278	0.0062	0.0024	0.0038
279	0.0062	0.0023	0.0038
280	0.0061	0.0023	0.0038
281	0.0061	0.0023	0.0038
282	0.0060	0.0023	0.0037
283	0.0060	0.0023	0.0037
284	0.0060	0.0023	0.0037
285	0.0059	0.0023	0.0037
286	0.0059	0.0022	0.0037
287	0.0059	0.0022	0.0036
288	0.0058	0.0022	0.0036

Total soil rain loss = 1.23(In)
Total effective rainfall = 2.46(In)
Peak flow rate in flood hydrograph = 31.67(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 10.0 20.0 30.0 40.0
0+ 5	0.0001	0.01 Q	
0+10	0.0003	0.03 Q	
0+15	0.0008	0.08 Q	
0+20	0.0017	0.14 Q	
0+25	0.0034	0.24 Q	
0+30	0.0063	0.42 Q	
0+35	0.0103	0.59 Q	
0+40	0.0153	0.72 Q	
0+45	0.0209	0.82 Q	
0+50	0.0271	0.90 Q	
0+55	0.0337	0.96 Q	
1+ 0	0.0407	1.01 VQ	
1+ 5	0.0480	1.06 VQ	
1+10	0.0556	1.10 VQ	
1+15	0.0634	1.14 VQ	
1+20	0.0715	1.17 VQ	
1+25	0.0798	1.20 VQ	
1+30	0.0882	1.23 VQ	
1+35	0.0969	1.25 VQ	
1+40	0.1056	1.27 VQ	
1+45	0.1146	1.30 VQ	
1+50	0.1236	1.32 VQ	
1+55	0.1328	1.34 VQ	
2+ 0	0.1422	1.35 VQ	
2+ 5	0.1516	1.37 VQ	

2+10	0.1611	1.38	VQ
2+15	0.1708	1.40	VQ
2+20	0.1805	1.41	|Q
2+25	0.1903	1.43	|Q
2+30	0.2002	1.44	|Q
2+35	0.2102	1.45	|Q
2+40	0.2203	1.46	|Q
2+45	0.2305	1.47	|Q
2+50	0.2407	1.49	|Q
2+55	0.2510	1.50	|Q
3+ 0	0.2614	1.51	|Q
3+ 5	0.2718	1.52	|Q
3+10	0.2824	1.53	|Q
3+15	0.2929	1.54	|Q
3+20	0.3036	1.54	|Q
3+25	0.3143	1.55	|Q
3+30	0.3250	1.56	|Q
3+35	0.3358	1.57	|Q
3+40	0.3467	1.58	|QV
3+45	0.3576	1.58	|QV
3+50	0.3686	1.59	|QV
3+55	0.3796	1.60	|QV
4+ 0	0.3907	1.61	|QV
4+ 5	0.4018	1.62	|QV
4+10	0.4130	1.62	|QV
4+15	0.4242	1.63	|QV
4+20	0.4355	1.64	|QV
4+25	0.4468	1.65	|QV
4+30	0.4582	1.66	|QV
4+35	0.4697	1.66	|QV

4+40	0.4812	1.67	IQV
4+45	0.4928	1.68	IQV
4+50	0.5044	1.69	IQV
4+55	0.5160	1.69	IQ V
5+ 0	0.5278	1.70	IQ V
5+ 5	0.5395	1.71	IQ V
5+10	0.5513	1.71	IQ V
5+15	0.5632	1.72	IQ V
5+20	0.5751	1.73	IQ V
5+25	0.5870	1.73	IQ V
5+30	0.5990	1.74	IQ V
5+35	0.6110	1.75	IQ V
5+40	0.6231	1.75	IQ V
5+45	0.6352	1.76	IQ V
5+50	0.6474	1.77	IQ V
5+55	0.6597	1.78	IQ V
6+ 0	0.6719	1.78	IQ V
6+ 5	0.6843	1.79	IQ V
6+10	0.6967	1.80	IQ V
6+15	0.7091	1.81	IQ V
6+20	0.7216	1.81	IQ V
6+25	0.7342	1.82	IQ V
6+30	0.7468	1.83	IQ V
6+35	0.7594	1.84	IQ V
6+40	0.7721	1.85	IQ V
6+45	0.7849	1.85	IQ V
6+50	0.7978	1.86	IQ V
6+55	0.8106	1.87	IQ V
7+ 0	0.8236	1.88	IQ V
7+ 5	0.8366	1.89	IQ V

7+10	0.8497	1.90	|Q	V	|	|	|
7+15	0.8628	1.91	|Q	V	|	|	|
7+20	0.8760	1.92	|Q	V	|	|	|
7+25	0.8893	1.92	|Q	V	|	|	|
7+30	0.9026	1.93	|Q	V	|	|	|
7+35	0.9160	1.94	|Q	V	|	|	|
7+40	0.9294	1.95	|Q	V	|	|	|
7+45	0.9429	1.96	|Q	V	|	|	|
7+50	0.9565	1.97	|Q	V	|	|	|
7+55	0.9702	1.98	|Q	V	|	|	|
8+ 0	0.9839	1.99	|Q	V	|	|	|
8+ 5	0.9977	2.00	| Q	V	|	|	|
8+10	1.0116	2.01	| Q	V	|	|	|
8+15	1.0255	2.02	| Q	V	|	|	|
8+20	1.0395	2.03	| Q	V	|	|	|
8+25	1.0536	2.05	| Q	V	|	|	|
8+30	1.0678	2.06	| Q	V	|	|	|
8+35	1.0820	2.07	| Q	V	|	|	|
8+40	1.0963	2.08	| Q	V	|	|	|
8+45	1.1107	2.09	| Q	V	|	|	|
8+50	1.1252	2.10	| Q	V	|	|	|
8+55	1.1398	2.11	| Q	V	|	|	|
9+ 0	1.1544	2.13	| Q	V	|	|	|
9+ 5	1.1692	2.14	| Q	V	|	|	|
9+10	1.1840	2.15	| Q	V	|	|	|
9+15	1.1989	2.16	| Q	V	|	|	|
9+20	1.2139	2.18	| Q	V	|	|	|
9+25	1.2290	2.19	| Q	V	|	|	|
9+30	1.2442	2.20	| Q	V	|	|	|
9+35	1.2594	2.22	| Q	V	|	|	|

9+40	1.2748	2.23	Q	V
9+45	1.2903	2.25	Q	V
9+50	1.3059	2.26	Q	V
9+55	1.3215	2.28	Q	V
10+ 0	1.3373	2.29	Q	V
10+ 5	1.3532	2.31	Q	V
10+10	1.3692	2.32	Q	V
10+15	1.3853	2.34	Q	V
10+20	1.4015	2.35	Q	V
10+25	1.4178	2.37	Q	V
10+30	1.4342	2.39	Q	V
10+35	1.4508	2.40	Q	V
10+40	1.4675	2.42	Q	V
10+45	1.4843	2.44	Q	V
10+50	1.5012	2.46	Q	V
10+55	1.5183	2.48	Q	V
11+ 0	1.5355	2.50	Q	V
11+ 5	1.5528	2.52	Q	V
11+10	1.5703	2.54	Q	V
11+15	1.5879	2.56	Q	V
11+20	1.6056	2.58	Q	V
11+25	1.6235	2.60	Q	V
11+30	1.6416	2.62	Q	V
11+35	1.6598	2.64	Q	V
11+40	1.6781	2.67	Q	V
11+45	1.6967	2.69	Q	V
11+50	1.7154	2.71	Q	V
11+55	1.7342	2.74	Q	V
12+ 0	1.7533	2.77	Q	V
12+ 5	1.7725	2.79	Q	V

12+10	1.7918	2.81	Q	V		
12+15	1.8113	2.83	Q	V		
12+20	1.8310	2.85	Q	V		
12+25	1.8506	2.86	Q	V		
12+30	1.8703	2.85	Q	V		
12+35	1.8899	2.85	Q	V		
12+40	1.9096	2.86	Q	V		
12+45	1.9293	2.87	Q	V		
12+50	1.9492	2.89	Q	V		
12+55	1.9693	2.91	Q	V		
13+ 0	1.9895	2.94	Q	V		
13+ 5	2.0099	2.97	Q	V		
13+10	2.0306	3.00	Q	V		
13+15	2.0514	3.03	Q	V		
13+20	2.0726	3.07	Q	V		
13+25	2.0939	3.11	Q	V		
13+30	2.1156	3.15	Q	V		
13+35	2.1376	3.19	Q	V		
13+40	2.1599	3.23	Q	V		
13+45	2.1825	3.28	Q	V		
13+50	2.2054	3.33	Q	V		
13+55	2.2287	3.39	Q	V		
14+ 0	2.2524	3.44	Q	V		
14+ 5	2.2766	3.50	Q	V		
14+10	2.3011	3.56	Q	V		
14+15	2.3261	3.63	Q	V		
14+20	2.3516	3.70	Q	V		
14+25	2.3776	3.78	Q	V		
14+30	2.4042	3.86	Q	V		
14+35	2.4314	3.95	Q	V		

14+40	2.4592	4.04
14+45	2.4877	4.14
14+50	2.5169	4.24
14+55	2.5468	4.35
15+ 0	2.5777	4.48
15+ 5	2.6094	4.61
15+10	2.6421	4.75
15+15	2.6760	4.91
15+20	2.7110	5.09
15+25	2.7473	5.27
15+30	2.7849	5.45
15+35	2.8237	5.64
15+40	2.8639	5.84
15+45	2.9053	6.01
15+50	2.9476	6.14
15+55	2.9916	6.39
16+ 0	3.0394	6.94
16+ 5	3.0990	8.65
16+10	3.1777	11.43
16+15	3.2764	14.34
16+20	3.3994	17.85
16+25	3.5668	24.31
16+30	3.7850	31.67
16+35	3.9942	30.38
16+40	4.1674	25.15
16+45	4.3129	21.12
16+50	4.4346	17.67
16+55	4.5408	15.42
17+ 0	4.6365	13.89
17+ 5	4.7243	12.76

17+10	4.8040	11.57		Q		V
17+15	4.8779	10.73		Q		V
17+20	4.9466	9.97		Q		V
17+25	5.0097	9.17		Q		V
17+30	5.0692	8.64		Q		V
17+35	5.1251	8.11		Q		V
17+40	5.1783	7.73		Q		V
17+45	5.2291	7.38		Q		V
17+50	5.2770	6.95		Q		V
17+55	5.3224	6.60		Q		V
18+ 0	5.3646	6.12		Q		V
18+ 5	5.4048	5.84		Q		V
18+10	5.4436	5.63		Q		V
18+15	5.4812	5.45		Q		V
18+20	5.5170	5.21		Q		V
18+25	5.5519	5.06		Q		V
18+30	5.5856	4.90		Q		V
18+35	5.6184	4.76		Q		V
18+40	5.6496	4.53		Q		V
18+45	5.6801	4.43		Q		V
18+50	5.7100	4.34		Q		V
18+55	5.7389	4.19		Q		V
19+ 0	5.7665	4.01		Q		V
19+ 5	5.7936	3.93		Q		V
19+10	5.8201	3.85		Q		V
19+15	5.8454	3.68		Q		V
19+20	5.8697	3.54		Q		V
19+25	5.8936	3.46		Q		V
19+30	5.9169	3.38		Q		V
19+35	5.9389	3.20		Q		V

			| V
19+40	5.9603	3.10	| Q | | | V
19+45	5.9813	3.05	| Q | | | V
19+50	6.0021	3.02	| Q | | | V
19+55	6.0227	3.00	| Q | | | V
20+ 0	6.0432	2.97	| Q | | | V
20+ 5	6.0633	2.93	| Q | | | V
20+10	6.0832	2.88	| Q | | | V
20+15	6.1028	2.84	| Q | | | V
20+20	6.1220	2.80	| Q | | | V
20+25	6.1410	2.75	| Q | | | V
20+30	6.1592	2.65	| Q | | | V
20+35	6.1767	2.54	| Q | | | V
20+40	6.1940	2.50	| Q | | | V
20+45	6.2109	2.47	| Q | | | V
20+50	6.2277	2.43	| Q | | | V
20+55	6.2441	2.38	| Q | | | V
21+ 0	6.2599	2.29	| Q | | | V
21+ 5	6.2748	2.17	| Q | | | V
21+10	6.2896	2.14	| Q | | | V
21+15	6.3041	2.11	| Q | | | V
21+20	6.3185	2.09	| Q | | | V
21+25	6.3327	2.06	| Q | | | V
21+30	6.3467	2.04	| Q | | | V
21+35	6.3605	2.01	| Q | | | V
21+40	6.3742	1.99	|Q | | | V
21+45	6.3878	1.97	|Q | | | V
21+50	6.4012	1.95	|Q | | | V
21+55	6.4145	1.93	|Q | | | V
22+ 0	6.4276	1.91	|Q | | | V
22+ 5	6.4407	1.89	|Q | | | V

22+10	6.4536	1.87	Q				V
22+15	6.4663	1.86	Q				V
22+20	6.4790	1.84	Q				V
22+25	6.4915	1.82	Q				V
22+30	6.5040	1.81	Q				V
22+35	6.5163	1.79	Q				V
22+40	6.5285	1.78	Q				V
22+45	6.5407	1.76	Q				V
22+50	6.5527	1.75	Q				V
22+55	6.5646	1.73	Q				V
23+ 0	6.5764	1.72	Q				V
23+ 5	6.5882	1.70	Q				V
23+10	6.5998	1.69	Q				V
23+15	6.6114	1.68	Q				V
23+20	6.6229	1.67	Q				V
23+25	6.6343	1.65	Q				V
23+30	6.6456	1.64	Q				V
23+35	6.6568	1.63	Q				V
23+40	6.6679	1.62	Q				V
23+45	6.6790	1.61	Q				V
23+50	6.6900	1.60	Q				V
23+55	6.7009	1.58	Q				V
24+ 0	6.7117	1.57	Q				V
24+ 5	6.7224	1.55	Q				V
24+10	6.7329	1.52	Q				V
24+15	6.7430	1.47	Q				V
24+20	6.7526	1.40	Q				V
24+25	6.7615	1.28	Q				V
24+30	6.7690	1.10	Q				V
24+35	6.7754	0.93	Q				V

24+40	6.7809	0.79 Ω	
24+45	6.7856	0.69 Ω	
24+50	6.7897	0.61 Ω	
24+55	6.7935	0.54 Ω	
25+ 0	6.7968	0.49 Ω	
25+ 5	6.7999	0.44 Ω	
25+10	6.8026	0.40 Ω	
25+15	6.8051	0.36 Ω	
25+20	6.8074	0.33 Ω	
25+25	6.8095	0.30 Ω	
25+30	6.8114	0.28 Ω	
25+35	6.8132	0.26 Ω	
25+40	6.8148	0.24 Ω	
25+45	6.8163	0.22 Ω	
25+50	6.8176	0.20 Ω	
25+55	6.8189	0.18 Ω	
26+ 0	6.8200	0.17 Ω	
26+ 5	6.8211	0.15 Ω	
26+10	6.8221	0.14 Ω	
26+15	6.8230	0.13 Ω	
26+20	6.8238	0.12 Ω	
26+25	6.8246	0.11 Ω	
26+30	6.8253	0.10 Ω	
26+35	6.8259	0.09 Ω	
26+40	6.8265	0.09 Ω	
26+45	6.8271	0.08 Ω	
26+50	6.8276	0.07 Ω	
26+55	6.8280	0.07 Ω	
27+ 0	6.8285	0.06 Ω	
27+ 5	6.8288	0.06 Ω	

V|	27+10	6.8292	0.05	Q	|	| |
V|	27+15	6.8295	0.05	Q	|	| |
V|	27+20	6.8298	0.04	Q	|	| |
V|	27+25	6.8300	0.04	Q	|	| |
V|	27+30	6.8303	0.03	Q	|	| |
V|	27+35	6.8305	0.03	Q	|	| |
V|	27+40	6.8307	0.03	Q	|	| |
V|	27+45	6.8309	0.03	Q	|	| |
V|	27+50	6.8311	0.03	Q	|	| |
V|	27+55	6.8312	0.02	Q	|	| |
V|	28+ 0	6.8314	0.02	Q	|	| |
V|	28+ 5	6.8315	0.02	Q	|	| |
V|	28+10	6.8316	0.02	Q	|	| |
V|	28+15	6.8317	0.01	Q	|	| |
V|	28+20	6.8318	0.01	Q	|	| |
V|	28+25	6.8318	0.01	Q	|	| |
V|	28+30	6.8319	0.01	Q	|	| |
V|	28+35	6.8319	0.01	Q	|	| |
V|	28+40	6.8320	0.00	Q	|	| |
V|	28+45	6.8320	0.00	Q	|	| |
V|	28+50	6.8320	0.00	Q	|	| |
V	28+55	6.8320	0.00	Q	|	| |

San Bernardino County Rational Hydrology Program

(Hydrology Manual Date - August 1986)

CIVILCADD/CIVILDESIGN Engineering Software, (c) 1989-2005 Version 7.1

Rational Hydrology Study Date: 10/20/16

Adelanto Frontier Proposed Tc and Q
100 yr
Entire Area
àS

Program License Serial Number 6232

********* Hydrology Study Control Information **********

Rational hydrology study storm event year is 100.0
Computed rainfall intensity:
Storm year = 100.00 1 hour rainfall = 0.944 (In.)
Slope used for rainfall intensity curve b = 0.7000
Soil antecedent moisture condition (AMC) = 3

++

Process from Point/Station 101.000 to Point/Station 102.000

**** INITIAL AREA EVALUATION ****

COMMERCIAL subarea type
Decimal fraction soil group A = 0.000
Decimal fraction soil group B = 1.000
Decimal fraction soil group C = 0.000
Decimal fraction soil group D = 0.000
SCS curve number for soil(AMC 2) = 56.00
Adjusted SCS curve number for AMC 3 = 75.80
Pervious ratio(Ap) = 0.1000 Max loss rate(Fm)= 0.044 (In/Hr)
Initial subarea data:
Initial area flow distance = 1000.000(Ft.)
Top (of initial area) elevation = 2918.000(Ft.)
Bottom (of initial area) elevation = 2911.000(Ft.)
Difference in elevation = 7.000(Ft.)
Slope = 0.00700 s(%)= 0.70
TC = k(0.304)*[(length^3)/(elevation change)]^0.2
Initial area time of concentration = 12.997 min.
Rainfall intensity = 2.754(In/Hr) for a 100.0 year storm
Effective runoff coefficient used for area (Q=KCIA) is C = 0.886
Subarea runoff = 20.976(CFS)

```
      Total initial stream area =        8.600(Ac.)
      Pervious area fraction = 0.100
      Initial area Fm value =    0.044(In/Hr)


      ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
      Process from Point/Station      102.000 to Point/Station
103.000
      **** IMPROVED CHANNEL TRAVEL TIME ****
      ----------------------------------------------------------------------
----
      Upstream point elevation =  2911.000(Ft.)
      Downstream point elevation =  2908.000(Ft.)
      Channel length thru subarea  =   456.000(Ft.)
      Channel base width      =   40.000(Ft.)
      Slope or 'Z' of left channel bank =  50.000
      Slope or 'Z' of right channel bank =  50.000
      Estimated mean flow rate at midpoint of channel =     45.537(CFS)
      Manning's 'N'    = 0.020
      Maximum depth of channel  =    0.300(Ft.)
      Flow(q) thru subarea =    45.537(CFS)
      Depth of flow =   0.327(Ft.), Average velocity =   2.474(Ft/s)
      !!Warning: Water is above left or right bank elevations
      Channel flow top width =   70.000(Ft.)
      Flow Velocity =    2.47(Ft/s)
      Travel time  =    3.07 min.
      Time of concentration =   16.07 min.
      Critical depth =      0.301(Ft.)
      ERROR - Channel depth exceeds maximum allowable depth
       Adding area flow to channel
      COMMERCIAL subarea type
      Decimal fraction soil group A = 0.000
      Decimal fraction soil group B = 1.000
      Decimal fraction soil group C = 0.000
      Decimal fraction soil group D = 0.000
      SCS curve number for soil(AMC 2)  = 56.00
      Adjusted SCS curve number for AMC 3 = 75.80
      Pervious ratio(Ap) = 0.1000     Max loss rate(Fm)=     0.044
(In/Hr)
      Rainfall intensity =      2.374(In/Hr) for a   100.0 year storm
      Effective runoff coefficient used for area,(total area with
modified
      rational method)(Q=KCIA) is C = 0.883
      Subarea runoff =     49.062(CFS) for   24.800(Ac.)
      Total runoff =     70.038(CFS)
      Effective area this stream =       33.40(Ac.)
      Total Study Area (Main Stream No. 1) =       33.40(Ac.)
      Area averaged Fm value =    0.044(In/Hr)
      Depth of flow =   0.405(Ft.), Average velocity =   2.938(Ft/s)
      !!Warning: Water is above left or right bank elevations
      ERROR - Channel depth exceeds maximum allowable depth
      Critical depth =      0.379(Ft.)
      End of computations, Total Study Area =           33.40 (Ac.)
      The following figures may
      be used for a unit hydrograph study of the same area.
      Note: These figures do not consider reduced effective area
      effects caused by confluences in the rational equation.

      Area averaged pervious area fraction(Ap) = 0.100
```

Area averaged SCS curve number = 56.0

U n i t H y d r o g r a p h A n a l y s i s

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Study date 10/20/16

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 6232

Adelanto Frontier SCS Proposed Condition
100 yr 24 hr
entire area
àS

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

Sub-Area (Ac.)	Duration (hours)	Isohyetal (In)
Rainfall data for year 100		
33.40	1	0.94
Rainfall data for year 100		
33.40	6	1.97
Rainfall data for year 100		
33.40	24	3.69

++

******** Area-averaged max loss rate, Fm ********

SCS curve No.(AMCII)	SCS curve NO.(AMC 3)	Area (Ac.)	Area Fraction	Fp(Fig C6) (In/Hr)	Ap (dec.)	Fm (In/Hr)
56.0	75.8	33.40	1.000	0.440	0.200	0.088

Area-averaged adjusted loss rate Fm (In/Hr) = 0.088

********* Area-Averaged low loss rate fraction, Yb **********

Area (Ac.)	Area Fract	SCS CN (AMC2)	SCS CN (AMC3)	S	Pervious Yield Fr
6.68	0.200	56.0	75.8	3.19	0.404
26.72	0.800	98.0	98.0	0.20	0.937

Area-averaged catchment yield fraction, Y = 0.830
Area-averaged low loss fraction, Yb = 0.170
User entry of time of concentration = 0.245 (hours)
++

++

Watershed area = 33.40(Ac.)
Catchment Lag time = 0.196 hours
Unit interval = 5.000 minutes
Unit interval percentage of lag time = 42.5170
Hydrograph baseflow = 0.00(CFS)
Average maximum watershed loss rate(Fm) = 0.088(In/Hr)
Average low loss rate fraction (Yb) = 0.170 (decimal)
DESERT S-Graph Selected
Computed peak 5-minute rainfall = 0.448(In)
Computed peak 30-minute rainfall = 0.767(In)
Specified peak 1-hour rainfall = 0.944(In)
Computed peak 3-hour rainfall = 1.482(In)
Specified peak 6-hour rainfall = 1.970(In)
Specified peak 24-hour rainfall = 3.690(In)

Rainfall depth area reduction factors:
Using a total area of 33.40(Ac.) (Ref: fig. E-4)

5-minute factor = 0.998	Adjusted rainfall = 0.447(In)
30-minute factor = 0.998	Adjusted rainfall = 0.766(In)
1-hour factor = 0.998	Adjusted rainfall = 0.943(In)
3-hour factor = 1.000	Adjusted rainfall = 1.482(In)
6-hour factor = 1.000	Adjusted rainfall = 1.970(In)
24-hour factor = 1.000	Adjusted rainfall = 3.690(In)

U n i t H y d r o g r a p h
++

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Interval Number	'S' Graph Mean values	Unit Hydrograph ((CFS))

(K = 403.93 (CFS))

1	3.033	12.252
2	21.611	75.040
3	52.573	125.066
4	67.989	62.272
5	76.740	35.348
6	82.508	23.297
7	86.734	17.072
8	89.821	12.466
9	92.135	9.349
10	93.998	7.524
11	95.449	5.863
12	96.603	4.660
13	97.466	3.485
14	98.040	2.319
15	98.498	1.853
16	99.008	2.059
17	99.483	1.919
18	99.775	1.180
19	100.000	0.908

Peak Unit Number	Adjusted mass rainfall (In)	Unit rainfall (In)
1	0.4472	0.4472
2	0.5506	0.1034
3	0.6218	0.0712
4	0.6779	0.0561
5	0.7248	0.0469
6	0.7656	0.0407
7	0.8018	0.0362
8	0.8346	0.0328
9	0.8646	0.0300
10	0.8924	0.0278
11	0.9182	0.0259
12	0.9425	0.0243
13	0.9741	0.0316
14	1.0043	0.0302
15	1.0332	0.0289
16	1.0611	0.0278
17	1.0879	0.0268
18	1.1138	0.0259
19	1.1389	0.0251
20	1.1632	0.0243
21	1.1868	0.0236
22	1.2098	0.0230
23	1.2321	0.0224
24	1.2539	0.0218
25	1.2752	0.0213
26	1.2959	0.0208
27	1.3162	0.0203
28	1.3361	0.0199
29	1.3555	0.0194
30	1.3746	0.0191
31	1.3933	0.0187
32	1.4116	0.0183
33	1.4296	0.0180
34	1.4473	0.0177
35	1.4647	0.0174
36	1.4818	0.0171

37	1.4985	0.0168
38	1.5150	0.0165
39	1.5313	0.0162
40	1.5473	0.0160
41	1.5631	0.0158
42	1.5786	0.0155
43	1.5940	0.0153
44	1.6091	0.0151
45	1.6240	0.0149
46	1.6387	0.0147
47	1.6533	0.0145
48	1.6676	0.0144
49	1.6818	0.0142
50	1.6958	0.0140
51	1.7097	0.0138
52	1.7234	0.0137
53	1.7369	0.0135
54	1.7503	0.0134
55	1.7635	0.0132
56	1.7766	0.0131
57	1.7896	0.0130
58	1.8024	0.0128
59	1.8151	0.0127
60	1.8277	0.0126
61	1.8401	0.0125
62	1.8525	0.0123
63	1.8647	0.0122
64	1.8768	0.0121
65	1.8888	0.0120
66	1.9006	0.0119
67	1.9124	0.0118
68	1.9241	0.0117
69	1.9357	0.0116
70	1.9471	0.0115
71	1.9585	0.0114
72	1.9698	0.0113
73	1.9821	0.0123
74	1.9944	0.0122
75	2.0065	0.0122
76	2.0186	0.0121
77	2.0306	0.0120
78	2.0425	0.0119
79	2.0543	0.0118
80	2.0660	0.0117
81	2.0777	0.0117
82	2.0893	0.0116
83	2.1008	0.0115
84	2.1122	0.0114
85	2.1235	0.0113
86	2.1348	0.0113
87	2.1460	0.0112
88	2.1571	0.0111
89	2.1682	0.0111
90	2.1792	0.0110
91	2.1901	0.0109
92	2.2010	0.0109
93	2.2118	0.0108
94	2.2225	0.0107
95	2.2332	0.0107
96	2.2438	0.0106

97	2.2544	0.0106
98	2.2649	0.0105
99	2.2753	0.0104
100	2.2857	0.0104
101	2.2960	0.0103
102	2.3063	0.0103
103	2.3165	0.0102
104	2.3266	0.0102
105	2.3367	0.0101
106	2.3468	0.0100
107	2.3568	0.0100
108	2.3667	0.0099
109	2.3766	0.0099
110	2.3865	0.0098
111	2.3963	0.0098
112	2.4060	0.0098
113	2.4157	0.0097
114	2.4254	0.0097
115	2.4350	0.0096
116	2.4445	0.0096
117	2.4541	0.0095
118	2.4635	0.0095
119	2.4730	0.0094
120	2.4824	0.0094
121	2.4917	0.0093
122	2.5010	0.0093
123	2.5103	0.0093
124	2.5195	0.0092
125	2.5287	0.0092
126	2.5378	0.0091
127	2.5469	0.0091
128	2.5560	0.0091
129	2.5650	0.0090
130	2.5740	0.0090
131	2.5829	0.0089
132	2.5918	0.0089
133	2.6007	0.0089
134	2.6095	0.0088
135	2.6183	0.0088
136	2.6271	0.0088
137	2.6358	0.0087
138	2.6445	0.0087
139	2.6532	0.0087
140	2.6618	0.0086
141	2.6704	0.0086
142	2.6789	0.0086
143	2.6875	0.0085
144	2.6960	0.0085
145	2.7044	0.0085
146	2.7129	0.0084
147	2.7213	0.0084
148	2.7296	0.0084
149	2.7380	0.0083
150	2.7463	0.0083
151	2.7545	0.0083
152	2.7628	0.0082
153	2.7710	0.0082
154	2.7792	0.0082
155	2.7873	0.0082
156	2.7955	0.0081

	2.8036	0.0081
157	2.8116	0.0081
158	2.8197	0.0080
159	2.8277	0.0080
160	2.8357	0.0080
161	2.8436	0.0080
162	2.8516	0.0079
163	2.8595	0.0079
164	2.8674	0.0079
165	2.8752	0.0079
166	2.8830	0.0078
167	2.8908	0.0078
168	2.8986	0.0078
169	2.9064	0.0078
170	2.9141	0.0077
171	2.9218	0.0077
172	2.9295	0.0077
173	2.9371	0.0077
174	2.9448	0.0076
175	2.9524	0.0076
176	2.9600	0.0076
177	2.9675	0.0076
178	2.9751	0.0075
179	2.9826	0.0075
180	2.9901	0.0075
181	2.9975	0.0075
182	3.0050	0.0074
183	3.0124	0.0074
184	3.0198	0.0074
185	3.0272	0.0074
186	3.0345	0.0074
187	3.0419	0.0073
188	3.0492	0.0073
189	3.0565	0.0073
190	3.0638	0.0073
191	3.0710	0.0073
192	3.0782	0.0072
193	3.0855	0.0072
194	3.0926	0.0072
195	3.0998	0.0072
196	3.1070	0.0072
197	3.1141	0.0071
198	3.1212	0.0071
199	3.1283	0.0071
200	3.1354	0.0071
201	3.1424	0.0071
202	3.1495	0.0070
203	3.1565	0.0070
204	3.1635	0.0070
205	3.1704	0.0070
206	3.1774	0.0070
207	3.1843	0.0069
208	3.1913	0.0069
209	3.1982	0.0069
210	3.2051	0.0069
211	3.2119	0.0069
212	3.2188	0.0069
213	3.2256	0.0068
214	3.2324	0.0068
215	3.2392	0.0068
216		

217	3.2460	0.0068
218	3.2528	0.0068
219	3.2595	0.0067
220	3.2662	0.0067
221	3.2730	0.0067
222	3.2797	0.0067
223	3.2863	0.0067
224	3.2930	0.0067
225	3.2997	0.0066
226	3.3063	0.0066
227	3.3129	0.0066
228	3.3195	0.0066
229	3.3261	0.0066
230	3.3327	0.0066
231	3.3392	0.0066
232	3.3457	0.0065
233	3.3523	0.0065
234	3.3588	0.0065
235	3.3653	0.0065
236	3.3717	0.0065
237	3.3782	0.0065
238	3.3846	0.0064
239	3.3911	0.0064
240	3.3975	0.0064
241	3.4039	0.0064
242	3.4103	0.0064
243	3.4167	0.0064
244	3.4230	0.0064
245	3.4294	0.0063
246	3.4357	0.0063
247	3.4420	0.0063
248	3.4483	0.0063
249	3.4546	0.0063
250	3.4609	0.0063
251	3.4671	0.0063
252	3.4734	0.0062
253	3.4796	0.0062
254	3.4858	0.0062
255	3.4920	0.0062
256	3.4982	0.0062
257	3.5044	0.0062
258	3.5106	0.0062
259	3.5167	0.0062
260	3.5229	0.0061
261	3.5290	0.0061
262	3.5351	0.0061
263	3.5412	0.0061
264	3.5473	0.0061
265	3.5534	0.0061
266	3.5595	0.0061
267	3.5655	0.0061
268	3.5715	0.0060
269	3.5776	0.0060
270	3.5836	0.0060
271	3.5896	0.0060
272	3.5956	0.0060
273	3.6016	0.0060
274	3.6075	0.0060
275	3.6135	0.0060
276	3.6194	0.0059

277	3.6254	0.0059
278	3.6313	0.0059
279	3.6372	0.0059
280	3.6431	0.0059
281	3.6490	0.0059
282	3.6548	0.0059
283	3.6607	0.0059
284	3.6666	0.0059
285	3.6724	0.0058
286	3.6782	0.0058
287	3.6840	0.0058
288	3.6898	0.0058

Unit Period (number)	Unit Rainfall (In)	Unit Soil-Loss (In)	Effective Rainfall (In)
1	0.0058	0.0010	0.0048
2	0.0058	0.0010	0.0048
3	0.0058	0.0010	0.0048
4	0.0059	0.0010	0.0049
5	0.0059	0.0010	0.0049
6	0.0059	0.0010	0.0049
7	0.0059	0.0010	0.0049
8	0.0059	0.0010	0.0049
9	0.0059	0.0010	0.0049
10	0.0060	0.0010	0.0050
11	0.0060	0.0010	0.0050
12	0.0060	0.0010	0.0050
13	0.0060	0.0010	0.0050
14	0.0060	0.0010	0.0050
15	0.0061	0.0010	0.0050
16	0.0061	0.0010	0.0051
17	0.0061	0.0010	0.0051
18	0.0061	0.0010	0.0051
19	0.0061	0.0010	0.0051
20	0.0061	0.0010	0.0051
21	0.0062	0.0011	0.0051
22	0.0062	0.0011	0.0052
23	0.0062	0.0011	0.0052
24	0.0062	0.0011	0.0052
25	0.0062	0.0011	0.0052
26	0.0063	0.0011	0.0052
27	0.0063	0.0011	0.0052
28	0.0063	0.0011	0.0053
29	0.0063	0.0011	0.0053
30	0.0063	0.0011	0.0053
31	0.0064	0.0011	0.0053
32	0.0064	0.0011	0.0053
33	0.0064	0.0011	0.0053
34	0.0064	0.0011	0.0054
35	0.0065	0.0011	0.0054
36	0.0065	0.0011	0.0054
37	0.0065	0.0011	0.0054
38	0.0065	0.0011	0.0054
39	0.0066	0.0011	0.0055
40	0.0066	0.0011	0.0055
41	0.0066		

42	0.0066	0.0011	0.0055
43	0.0066	0.0011	0.0055
44	0.0067	0.0011	0.0055
45	0.0067	0.0011	0.0056
46	0.0067	0.0011	0.0056
47	0.0067	0.0011	0.0056
48	0.0068	0.0011	0.0056
49	0.0068	0.0012	0.0056
50	0.0068	0.0012	0.0057
51	0.0069	0.0012	0.0057
52	0.0069	0.0012	0.0057
53	0.0069	0.0012	0.0057
54	0.0069	0.0012	0.0057
55	0.0070	0.0012	0.0058
56	0.0070	0.0012	0.0058
57	0.0070	0.0012	0.0058
58	0.0070	0.0012	0.0058
59	0.0071	0.0012	0.0059
60	0.0071	0.0012	0.0059
61	0.0071	0.0012	0.0059
62	0.0072	0.0012	0.0059
63	0.0072	0.0012	0.0060
64	0.0072	0.0012	0.0060
65	0.0073	0.0012	0.0060
66	0.0073	0.0012	0.0060
67	0.0073	0.0012	0.0061
68	0.0073	0.0012	0.0061
69	0.0074	0.0013	0.0061
70	0.0074	0.0013	0.0061
71	0.0074	0.0013	0.0062
72	0.0075	0.0013	0.0062
73	0.0075	0.0013	0.0062
74	0.0075	0.0013	0.0063
75	0.0076	0.0013	0.0063
76	0.0076	0.0013	0.0063
77	0.0077	0.0013	0.0064
78	0.0077	0.0013	0.0064
79	0.0077	0.0013	0.0064
80	0.0078	0.0013	0.0064
81	0.0078	0.0013	0.0065
82	0.0078	0.0013	0.0065
83	0.0079	0.0013	0.0065
84	0.0079	0.0013	0.0066
85	0.0080	0.0014	0.0066
86	0.0080	0.0014	0.0066
87	0.0080	0.0014	0.0067
88	0.0081	0.0014	0.0067
89	0.0081	0.0014	0.0067
90	0.0082	0.0014	0.0068
91	0.0082	0.0014	0.0068
92	0.0082	0.0014	0.0068
93	0.0083	0.0014	0.0069
94	0.0083	0.0014	0.0069
95	0.0084	0.0014	0.0070
96	0.0084	0.0014	0.0070
97	0.0085	0.0014	0.0070
98	0.0085	0.0014	0.0071
99	0.0086	0.0015	0.0071
100	0.0086	0.0015	0.0072
101	0.0087	0.0015	0.0072

	0.0087	0.0015	0.0072
102	0.0088	0.0015	0.0073
103	0.0088	0.0015	0.0073
104	0.0089	0.0015	0.0074
105	0.0089	0.0015	0.0074
106	0.0090	0.0015	0.0075
107	0.0091	0.0015	0.0075
108	0.0091	0.0016	0.0076
109	0.0092	0.0016	0.0076
110	0.0093	0.0016	0.0077
111	0.0093	0.0016	0.0077
112	0.0094	0.0016	0.0078
113	0.0094	0.0016	0.0078
114	0.0095	0.0016	0.0079
115	0.0096	0.0016	0.0079
116	0.0097	0.0016	0.0080
117	0.0097	0.0016	0.0081
118	0.0098	0.0017	0.0081
119	0.0098	0.0017	0.0082
120	0.0099	0.0017	0.0083
121	0.0100	0.0017	0.0083
122	0.0101	0.0017	0.0084
123	0.0102	0.0017	0.0084
124	0.0103	0.0017	0.0085
125	0.0103	0.0018	0.0086
126	0.0104	0.0018	0.0087
127	0.0105	0.0018	0.0087
128	0.0106	0.0018	0.0088
129	0.0107	0.0018	0.0089
130	0.0108	0.0018	0.0090
131	0.0109	0.0018	0.0090
132	0.0110	0.0019	0.0091
133	0.0111	0.0019	0.0092
134	0.0112	0.0019	0.0093
135	0.0113	0.0019	0.0094
136	0.0114	0.0019	0.0095
137	0.0115	0.0020	0.0095
138	0.0117	0.0020	0.0097
139	0.0117	0.0020	0.0097
140	0.0119	0.0020	0.0099
141	0.0120	0.0020	0.0099
142	0.0122	0.0021	0.0101
143	0.0122	0.0021	0.0102
144	0.0113	0.0019	0.0094
145	0.0114	0.0019	0.0094
146	0.0116	0.0020	0.0096
147	0.0117	0.0020	0.0097
148	0.0119	0.0020	0.0099
149	0.0120	0.0020	0.0100
150	0.0122	0.0021	0.0101
151	0.0123	0.0021	0.0102
152	0.0126	0.0021	0.0104
153	0.0127	0.0022	0.0105
154	0.0130	0.0022	0.0108
155	0.0131	0.0022	0.0109
156	0.0134	0.0023	0.0111
157	0.0135	0.0023	0.0112
158	0.0138	0.0024	0.0115
159	0.0140	0.0024	0.0116
160	0.0144	0.0024	0.0119
161			

162	0.0145	0.0025	0.0121
163	0.0149	0.0025	0.0124
164	0.0151	0.0026	0.0126
165	0.0155	0.0026	0.0129
166	0.0158	0.0027	0.0131
167	0.0162	0.0028	0.0135
168	0.0165	0.0028	0.0137
169	0.0171	0.0029	0.0142
170	0.0174	0.0030	0.0144
171	0.0180	0.0031	0.0149
172	0.0183	0.0031	0.0152
173	0.0191	0.0032	0.0158
174	0.0194	0.0033	0.0161
175	0.0203	0.0034	0.0168
176	0.0208	0.0035	0.0172
177	0.0218	0.0037	0.0181
178	0.0224	0.0038	0.0186
179	0.0236	0.0040	0.0196
180	0.0243	0.0041	0.0202
181	0.0259	0.0044	0.0215
182	0.0268	0.0046	0.0223
183	0.0289	0.0049	0.0240
184	0.0302	0.0051	0.0251
185	0.0243	0.0041	0.0202
186	0.0259	0.0044	0.0215
187	0.0300	0.0051	0.0249
188	0.0328	0.0056	0.0272
189	0.0407	0.0069	0.0338
190	0.0469	0.0073	0.0396
191	0.0712	0.0073	0.0639
192	0.1034	0.0073	0.0960
193	0.4472	0.0073	0.4399
194	0.0561	0.0073	0.0487
195	0.0362	0.0062	0.0301
196	0.0278	0.0047	0.0230
197	0.0316	0.0054	0.0262
198	0.0278	0.0047	0.0231
199	0.0251	0.0043	0.0208
200	0.0230	0.0039	0.0191
201	0.0213	0.0036	0.0176
202	0.0199	0.0034	0.0165
203	0.0187	0.0032	0.0155
204	0.0177	0.0030	0.0147
205	0.0168	0.0028	0.0139
206	0.0160	0.0027	0.0133
207	0.0153	0.0026	0.0127
208	0.0147	0.0025	0.0122
209	0.0142	0.0024	0.0118
210	0.0137	0.0023	0.0114
211	0.0132	0.0022	0.0110
212	0.0128	0.0022	0.0106
213	0.0125	0.0021	0.0103
214	0.0121	0.0021	0.0100
215	0.0118	0.0020	0.0098
216	0.0115	0.0019	0.0095
217	0.0123	0.0021	0.0102
218	0.0121	0.0021	0.0100
219	0.0118	0.0020	0.0098
220	0.0116	0.0020	0.0096
221	0.0113	0.0019	0.0094

222	0.0111	0.0019	0.0092
223	0.0109	0.0019	0.0091
224	0.0107	0.0018	0.0089
225	0.0106	0.0018	0.0088
226	0.0104	0.0018	0.0086
227	0.0102	0.0017	0.0085
228	0.0100	0.0017	0.0083
229	0.0099	0.0017	0.0082
230	0.0098	0.0017	0.0081
231	0.0096	0.0016	0.0080
232	0.0095	0.0016	0.0079
233	0.0093	0.0016	0.0078
234	0.0092	0.0016	0.0077
235	0.0091	0.0015	0.0076
236	0.0090	0.0015	0.0075
237	0.0089	0.0015	0.0074
238	0.0088	0.0015	0.0073
239	0.0087	0.0015	0.0072
240	0.0086	0.0015	0.0071
241	0.0085	0.0014	0.0070
242	0.0084	0.0014	0.0069
243	0.0083	0.0014	0.0069
244	0.0082	0.0014	0.0068
245	0.0081	0.0014	0.0067
246	0.0080	0.0014	0.0067
247	0.0079	0.0014	0.0066
248	0.0079	0.0013	0.0065
249	0.0078	0.0013	0.0065
250	0.0077	0.0013	0.0064
251	0.0076	0.0013	0.0063
252	0.0076	0.0013	0.0063
253	0.0075	0.0013	0.0062
254	0.0074	0.0013	0.0062
255	0.0074	0.0013	0.0061
256	0.0073	0.0012	0.0061
257	0.0072	0.0012	0.0060
258	0.0072	0.0012	0.0060
259	0.0071	0.0012	0.0059
260	0.0071	0.0012	0.0059
261	0.0070	0.0012	0.0058
262	0.0069	0.0012	0.0058
263	0.0069	0.0012	0.0057
264	0.0068	0.0012	0.0057
265	0.0068	0.0012	0.0056
266	0.0067	0.0012	0.0056
267	0.0067	0.0011	0.0055
268	0.0066	0.0011	0.0055
269	0.0066	0.0011	0.0055
270	0.0065	0.0011	0.0054
271	0.0065	0.0011	0.0054
272	0.0064	0.0011	0.0054
273	0.0064	0.0011	0.0053
274	0.0064	0.0011	0.0053
275	0.0063	0.0011	0.0052
276	0.0063	0.0011	0.0052
277	0.0062	0.0011	0.0052
278	0.0062	0.0011	0.0051
279	0.0062	0.0011	0.0051
280	0.0061	0.0010	0.0051
281	0.0061	0.0010	0.0050

282	0.0060	0.0010	0.0050
283	0.0060	0.0010	0.0050
284	0.0060	0.0010	0.0050
285	0.0059	0.0010	0.0049
286	0.0059	0.0010	0.0049
287	0.0059	0.0010	0.0049
288	0.0058	0.0010	0.0048

Total soil rain loss = 0.54(In)
Total effective rainfall = 3.15(In)
Peak flow rate in flood hydrograph = 70.04(CFS)

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24 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0	20.0	40.0	60.0	80.0
0+ 5	0.0004	0.06	Q				
0+10	0.0033	0.42	Q				
0+15	0.0104	1.02	Q				
0+20	0.0195	1.33	Q				
0+25	0.0298	1.50	Q				
0+30	0.0410	1.62	Q				
0+35	0.0527	1.70	Q				
0+40	0.0649	1.77	Q				
0+45	0.0775	1.82	Q				
0+50	0.0903	1.86	Q				
0+55	0.1033	1.90	Q				
1+ 0	0.1166	1.92	Q				
1+ 5	0.1300	1.95	Q				
1+10	0.1435	1.96	Q				
1+15	0.1571	1.98	Q				

1+20	0.1709	1.99	Q
1+25	0.1847	2.01	VQ
1+30	0.1986	2.02	VQ
1+35	0.2126	2.03	VQ
1+40	0.2266	2.04	IQ
1+45	0.2407	2.04	IQ
1+50	0.2548	2.05	IQ
1+55	0.2690	2.06	IQ
2+ 0	0.2832	2.06	IQ
2+ 5	0.2975	2.07	IQ
2+10	0.3118	2.08	IQ
2+15	0.3261	2.08	IQ
2+20	0.3405	2.09	IQ
2+25	0.3550	2.10	IQ
2+30	0.3695	2.10	IQ
2+35	0.3840	2.11	IQ
2+40	0.3986	2.12	IQ
2+45	0.4132	2.13	IQ
2+50	0.4279	2.13	IQ
2+55	0.4427	2.14	IQV
3+ 0	0.4575	2.15	IQV
3+ 5	0.4723	2.15	IQV
3+10	0.4872	2.16	IQV
3+15	0.5021	2.17	IQV
3+20	0.5171	2.18	IQV
3+25	0.5322	2:18	IQV
3+30	0.5473	2.19	IQV
3+35	0.5624	2.20	IQV
3+40	0.5776	2.21	IQV
3+45	0.5929	2.22	IQV

3+50	0.6082	2.22	|QV	|	|	|
3+55	0.6236	2.23	|QV	|	|	|
4+ 0	0.6390	2.24	|QV	|	|	|
4+ 5	0.6545	2.25	|QV	|	|	|
4+10	0.6700	2.26	|Q V	|	|	|
4+15	0.6856	2.27	|Q V	|	|	|
4+20	0.7013	2.27	|Q V	|	|	|
4+25	0.7170	2.28	|Q V	|	|	|
4+30	0.7328	2.29	|Q V	|	|	|
4+35	0.7486	2.30	|Q V	|	|	|
4+40	0.7645	2.31	|Q V	|	|	|
4+45	0.7805	2.32	|Q V	|	|	|
4+50	0.7965	2.33	|Q V	|	|	|
4+55	0.8126	2.34	|Q V	|	|	|
5+ 0	0.8288	2.35	|Q V	|	|	|
5+ 5	0.8450	2.36	|Q V	|	|	|
5+10	0.8613	2.37	|Q V	|	|	|
5+15	0.8777	2.38	|Q V	|	|	|
5+20	0.8941	2.38	|Q V	|	|	|
5+25	0.9106	2.39	|Q V	|	|	|
5+30	0.9272	2.40	|Q V	|	|	|
5+35	0.9438	2.42	|Q V	|	|	|
5+40	0.9605	2.43	|Q V	|	|	|
5+45	0.9773	2.44	|Q V	|	|	|
5+50	0.9941	2.45	|Q V	|	|	|
5+55	1.0110	2.46	|Q V	|	|	|
6+ 0	1.0280	2.47	|Q V	|	|	|
6+ 5	1.0451	2.48	|Q V	|	|	|
6+10	1.0623	2.49	|Q V	|	|	|
6+15	1.0795	2.50	|Q V	|	|	|

6+20	1.0968	2.51	IQ	V					
6+25	1.1142	2.52	IQ	V					
6+30	1.1316	2.54	IQ	V					
6+35	1.1492	2.55	IQ	V					
6+40	1.1668	2.56	IQ	V					
6+45	1.1845	2.57	IQ	V					
6+50	1.2023	2.58	IQ	V					
6+55	1.2202	2.60	IQ	V					
7+ 0	1.2382	2.61	IQ	V					
7+ 5	1.2562	2.62	IQ	V					
7+10	1.2744	2.63	IQ	V					
7+15	1.2926	2.65	IQ	V					
7+20	1.3109	2.66	IQ	V					
7+25	1.3293	2.67	IQ	V					
7+30	1.3479	2.69	IQ	V					
7+35	1.3665	2.70	IQ	V					
7+40	1.3852	2.72	IQ	V					
7+45	1.4040	2.73	IQ	V					
7+50	1.4229	2.75	IQ	V					
7+55	1.4419	2.76	IQ	V					
8+ 0	1.4610	2.78	IQ	V					
8+ 5	1.4803	2.79	IQ	V					
8+10	1.4996	2.81	IQ	V					
8+15	1.5190	2.82	IQ	V					
8+20	1.5386	2.84	IQ	V					
8+25	1.5582	2.85	IQ	V					
8+30	1.5780	2.87	IQ	V					
8+35	1.5979	2.89	IQ	V					
8+40	1.6179	2.90	IQ	V					
8+45	1.6380	2.92	IQ	V					

8+50	1.6583	2.94	IQ	V			
8+55	1.6786	2.96	IQ	V			
9+ 0	1.6991	2.98	IQ	V			
9+ 5	1.7198	3.00	IQ	V			
9+10	1.7405	3.01	IQ	V			
9+15	1.7614	3.03	IQ	V			
9+20	1.7824	3.05	IQ	V			
9+25	1.8036	3.07	IQ	V			
9+30	1.8249	3.09	IQ	V			
9+35	1.8463	3.11	IQ	V			
9+40	1.8679	3.14	IQ	V			
9+45	1.8897	3.16	IQ	V			
9+50	1.9116	3.18	IQ	V			
9+55	1.9336	3.20	IQ	V			
10+ 0	1.9558	3.22	IQ	V			
10+ 5	1.9782	3.25	IQ	V			
10+10	2.0007	3.27	IQ	V			
10+15	2.0234	3.30	IQ	V			
10+20	2.0463	3.32	IQ	V			
10+25	2.0693	3.35	IQ	V			
10+30	2.0926	3.37	IQ	V			
10+35	2.1160	3.40	IQ	V			
10+40	2.1396	3.43	IQ	V			
10+45	2.1634	3.45	IQ	V			
10+50	2.1874	3.48	IQ	V			
10+55	2.2115	3.51	IQ	V			
11+ 0	2.2359	3.54	IQ	V			
11+ 5	2.2605	3.57	IQ	V			
11+10	2.2854	3.60	IQ	V			
11+15	2.3104	3.64	IQ	V			

11+20	2.3357	3.67	Q	V		
11+25	2.3612	3.70	Q	V		
11+30	2.3869	3.74	Q	V		
11+35	2.4129	3.77	Q	V		
11+40	2.4391	3.81	Q	V		
11+45	2.4656	3.85	Q	V		
11+50	2.4924	3.89	Q	V		
11+55	2.5194	3.93	Q	V		
12+ 0	2.5468	3.97	Q	V		
12+ 5	2.5743	4.00	Q	V		
12+10	2.6016	3.97	Q	V		
12+15	2.6285	3.90	Q	V		
12+20	2.6552	3.88	Q	V		
12+25	2.6820	3.90	Q	V		
12+30	2.7090	3.92	Q	V		
12+35	2.7363	3.96	Q	V		
12+40	2.7638	4.00	Q	V		
12+45	2.7916	4.04	Q	V		
12+50	2.8198	4.09	Q	V		
12+55	2.8483	4.14	Q	V		
13+ 0	2.8772	4.20	Q	V		
13+ 5	2.9066	4.26	Q	V		
13+10	2.9363	4.32	Q	V		
13+15	2.9665	4.39	Q	V		
13+20	2.9972	4.46	Q	V		
13+25	3.0284	4.53	Q	V		
13+30	3.0602	4.61	Q	V		
13+35	3.0925	4.69	Q	V		
13+40	3.1253	4.77	Q	V		
13+45	3.1588	4.87	Q	V		

13+50	3.1930	4.96	Q	V		
13+55	3.2278	5.06	Q	V		
14+ 0	3.2634	5.17	Q	V		
14+ 5	3.2998	5.28	Q	V		
14+10	3.3370	5.40	Q	V		
14+15	3.3751	5.53	Q	V		
14+20	3.4141	5.67	Q	V		
14+25	3.4542	5.82	Q	V		
14+30	3.4953	5.97	Q	V		
14+35	3.5376	6.14	Q	V		
14+40	3.5812	6.32	Q	V		
14+45	3.6261	6.52	Q	V		
14+50	3.6724	6.73	Q	V		
14+55	3.7204	6.97	Q	V		
15+ 0	3.7702	7.22	Q	V		
15+ 5	3.8220	7.52	Q	V		
15+10	3.8759	7.83	Q	V		
15+15	3.9323	8.20	Q	V		
15+20	3.9916	8.60	Q	V		
15+25	4.0535	8.99	Q	V		
15+30	4.1153	8.98	Q	V		
15+35	4.1753	8.71	Q	V		
15+40	4.2372	8.99	Q	V		
15+45	4.3039	9.68	Q	V		
15+50	4.3779	10.75	Q	V		
15+55	4.4645	12.57	Q	V		
16+ 0	4.5753	16.09	Q	V		
16+ 5	4.7576	26.46	Q	V		
16+10	5.1257	53.45		V	Q	
16+15	5.6081	70.04		V		Q

16+20	5.9041	42.98		Q	V
16+25	6.1058	29.29		Q	V
16+30	6.2615	22.62		Q	V
16+35	6.3934	19.15		Q	V
16+40	6.5053	16.25		Q	V
16+45	6.6019	14.03		Q	V
16+50	6.6875	12.43		Q	V
16+55	6.7635	11.03		Q	V
17+ 0	6.8316	9.89		Q	V
17+ 5	6.8925	8.85		Q	V
17+10	6.9471	7.92		Q	V
17+15	6.9976	7.34		Q	V
17+20	7.0461	7.05		Q	V
17+25	7.0919	6.64		Q	V
17+30	7.1333	6.02		Q	V
17+35	7.1719	5.60		Q	V
17+40	7.2064	5.01		Q	V
17+45	7.2394	4.80		Q	V
17+50	7.2712	4.62		Q	V
17+55	7.3019	4.46		Q	V
18+ 0	7.3316	4.31		Q	V
18+ 5	7.3605	4.19		Q	V
18+10	7.3890	4.14		Q	V
18+15	7.4176	4.15		Q	V
18+20	7.4458	4.10		Q	V
18+25	7.4736	4.04		Q	V
18+30	7.5009	3.97		Q	V
18+35	7.5277	3.90		Q	V
18+40	7.5541	3.83		Q	V
18+45	7.5800	3.76		Q	V

18+50	7.6054	3.69	Q				V
18+55	7.6304	3.63	Q				V
19+ 0	7.6550	3.57	Q				V
19+ 5	7.6792	3.51	Q				V
19+10	7.7031	3.46	Q				V
19+15	7.7265	3.40	Q				V
19+20	7.7496	3.35	Q				V
19+25	7.7723	3.30	Q				V
19+30	7.7947	3.25	Q				V
19+35	7.8168	3.21	Q				V
19+40	7.8386	3.16	Q				V
19+45	7.8601	3.12	Q				V
19+50	7.8813	3.08	Q				V
19+55	7.9022	3.04	Q				V
20+ 0	7.9229	3.00	Q				V
20+ 5	7.9433	2.96	Q				V
20+10	7.9635	2.93	Q				V
20+15	7.9834	2.89	Q				V
20+20	8.0031	2.86	Q				V
20+25	8.0225	2.83	Q				V
20+30	8.0418	2.79	Q				V
20+35	8.0608	2.76	Q				V
20+40	8.0796	2.73	Q				V
20+45	8.0983	2.71	Q				V
20+50	8.1167	2.68	Q				V
20+55	8.1349	2.65	Q				V
21+ 0	8.1530	2.62	Q				V
21+ 5	8.1709	2.60	Q				V
21+10	8.1886	2.57	Q				V
21+15	8.2062	2.55	Q				V

21+20	8.2236	2.53 IΩ
21+25	8.2408	2.50 IΩ
21+30	8.2579	2.48 IΩ
21+35	8.2748	2.46 IΩ
21+40	8.2916	2.44 IΩ
21+45	8.3083	2.42 IΩ
21+50	8.3248	2.40 IΩ
21+55	8.3411	2.38 IΩ
22+ 0	8.3574	2.36 IΩ
22+ 5	8.3735	2.34 IΩ
22+10	8.3895	2.32 IΩ
22+15	8.4053	2.30 IΩ
22+20	8.4210	2.28 IΩ
22+25	8.4367	2.27 IΩ
22+30	8.4522	2.25 IΩ
22+35	8.4675	2.23 IΩ
22+40	8.4828	2.22 IΩ
22+45	8.4980	2.20 IΩ
22+50	8.5130	2.19 IΩ
22+55	8.5280	2.17 IΩ
23+ 0	8.5428	2.16 IΩ
23+ 5	8.5575	2.14 IΩ
23+10	8.5722	2.13 IΩ
23+15	8.5867	2.11 IΩ
23+20	8.6012	2.10 IΩ
23+25	8.6155	2.08 IΩ
23+30	8.6298	2.07 IΩ
23+35	8.6440	2.06 IΩ
23+40	8.6581	2.04 IΩ
23+45	8.6720	2.03 IΩ

V|	23+50	8.6860	2.02	|Q	|	|
V|	23+55	8.6998	2.01	|Q	|	|
V|	24+ 0	8.7135	2.00	Q	|	|
V|	24+ 5	8.7268	1.92	Q	|	|
V|	24+10	8.7375	1.55	Q	|	|
V|	24+15	8.7440	0.94	Q	|	|
V|	24+20	8.7483	0.64	Q	|	|
V|	24+25	8.7515	0.46	Q	|	|
V|	24+30	8.7539	0.35	Q	|	|
V|	24+35	8.7558	0.26	Q	|	|
V|	24+40	8.7571	0.20	Q	|	|
V|	24+45	8.7582	0.16	Q	|	|
V|	24+50	8.7590	0.12	Q	|	|
V|	24+55	8.7597	0.09	Q	|	|
V|	25+ 0	8.7601	0.07	Q	|	|
V|	25+ 5	8.7605	0.05	Q	|	|
V|	25+10	8.7607	0.04	Q	|	|
V|	25+15	8.7609	0.03	Q	|	|
V|	25+20	8.7611	0.02	Q	|	|
V|	25+25	8.7611	0.01	Q	|	|
V|	25+30	8.7612	0.00	Q	|	|

```
                    FLOOD HYDROGRAPH ROUTING PROGRAM
          Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2012
                    Study date: 10/20/16

    ------------------------------------------------------------------------
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    Adelanto Frontier Proposed Conditon Routed
    100 yr 24 hr
    Overall Area
    Assumed Basin
    ------------------------------------------------------------------------
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    Program License Serial Number 6232

    ------------------------------------------------------------------------
--
    ********************* HYDROGRAPH INFORMATION
**********************
                From study/file name: adelantopro.rte
    ****************************HYDROGRAPH
DATA****************************
                Number of intervals =    306
                Time interval =     5.0 (Min.)
                Maximum/Peak flow rate =        70.042 (CFS)
                Total volume =        8.761 (Ac.Ft)
          Status of hydrographs being held in storage
                     Stream 1  Stream 2  Stream 3  Stream 4  Stream 5
          Peak (CFS)      0.000     0.000     0.000     0.000
0.000      Vol (Ac.Ft)      0.000     0.000     0.000     0.000
0.000
    ***********************************************************************
*****

    ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++
    Process from Point/Station      103.000 to Point/Station
104.000
    **** RETARDING BASIN ROUTING ****
    ------------------------------------------------------------------------
----
    User entry of depth-outflow-storage data
    ------------------------------------------------------------------------
--
    Total number of inflow hydrograph intervals = 306
    Hydrograph time unit =  5.000 (Min.)
    Initial depth in storage basin =    0.00(Ft.)
    ------------------------------------------------------------------------
--
    ------------------------------------------------------------------------
```

Initial basin depth = 0.00 (Ft.)
Initial basin storage = 0.00 (Ac.Ft)
Initial basin outflow = 0.00 (CFS)

Depth vs. Storage and Depth vs. Discharge data:

Basin Depth (Ft.)	Storage (Ac.Ft)	Outflow (CFS)	(S-O*dt/2) (Ac.Ft)	(S+O*dt/2) (Ac.Ft)
0.000	0.000	0.000	0.000	0.000
1.000	1.500	6.000	1.479	1.521
2.000	3.000	6.000	2.979	3.021
3.000	4.500	6.000	4.479	4.521

Hydrograph Detention Basin Routing

Graph values: 'I'= unit inflow; 'O'=outflow at time shown

Time (Hours)	Depth (Ft.)	Inflow (CFS)	Outflow (CFS)	Storage (Ac.Ft)	.0	17.5	35.02	52.53	70.04
0.083	0.00	0.06	0.00	0.000	O	|	|	|	|
0.167	0.00	0.42	0.01	0.002	O	|	|	|	|
0.250	0.00	1.02	0.03	0.007	O	|	|	|	|
0.333	0.01	1.33	0.06	0.014	O	|	|	|	|
0.417	0.02	1.50	0.09	0.024	O	|	|	|	|
0.500	0.02	1.62	0.13	0.034	O	|	|	|	|
0.583	0.03	1.70	0.18	0.044	O	|	|	|	|
0.667	0.04	1.77	0.22	0.055	O	|	|	|	|
0.750	0.04	1.82	0.26	0.065	O	|	|	|	|
0.833	0.05	1.86	0.30	0.076	O	|	|	|	|
0.917	0.06	1.90	0.35	0.087	O	|	|	|	|
1.000	0.06	1.92	0.39	0.097	O	|	|	|	|
1.083	0.07	1.95	0.43	0.108	O	|	|	|	|
1.167	0.08	1.96	0.47	0.118	O	|	|	|	|
1.250	0.09	1.98	0.51	0.128	O	|	|	|	|

1.333	1.99	0.55	0.138	O
0.09				
1.417	2.01	0.59	0.148	O
0.10				
1.500	2.02	0.63	0.158	O
0.11				
1.583	2.03	0.67	0.167	O
0.11				
1.667	2.04	0.71	0.177	O
0.12				
1.750	2.04	0.74	0.186	O
0.12				
1.833	2.05	0.78	0.195	O
0.13				
1.917	2.06	0.81	0.203	O
0.14				
2.000	2.06	0.85	0.212	O
0.14				
2.083	2.07	0.88	0.220	O
0.15				
2.167	2.08	0.91	0.228	O
0.15				
2.250	2.08	0.94	0.236	O
0.16				
2.333	2.09	0.98	0.244	O
0.16				
2.417	2.10	1.01	0.251	O
0.17				
2.500	2.10	1.04	0.259	O
0.17				
2.583	2.11	1.06	0.266	O
0.18				
2.667	2.12	1.09	0.273	O
0.18				
2.750	2.13	1.12	0.280	O
0.19				
2.833	2.13	1.15	0.287	O
0.19				
2.917	2.14	1.18	0.294	O
0.20				
3.000	2.15	1.20	0.300	O
0.20				
3.083	2.15	1.23	0.307	O
0.20				
3.167	2.16	1.25	0.313	O
0.21				
3.250	2.17	1.28	0.319	O
0.21				
3.333	2.18	1.30	0.325	O
0.22				
3.417	2.18	1.33	0.331	O
0.22				
3.500	2.19	1.35	0.337	OI
0.22				
3.583	2.20	1.37	0.343	OI
0.23				
3.667	2.21	1.39	0.349	OI
0.23				
3.750	2.22	1.42	0.354	OI
0.24				

3.833	2.22	1.44	0.360	OI				
0.24								
3.917	2.23	1.46	0.365	OI				
0.24								
4.000	2.24	1.48	0.370	OI				
0.25								
4.083	2.25	1.50	0.376	OI				
0.25								
4.167	2.26	1.52	0.381	OI				
0.25								
4.250	2.27	1.54	0.386	OI				
0.26								
4.333	2.27	1.56	0.391	OI				
0.26								
4.417	2.28	1.58	0.395	OI				
0.26								
4.500	2.29	1.60	0.400	OI				
0.27								
4.583	2.30	1.62	0.405	OI				
0.27								
4.667	2.31	1.64	0.410	OI				
0.27								
4.750	2.32	1.66	0.414	OI				
0.28								
4.833	2.33	1.67	0.419	OI				
0.28								
4.917	2.34	1.69	0.423	OI				
0.28								
5.000	2.35	1.71	0.428	OI				
0.29								
5.083	2.36	1.73	0.432	OI				
0.29								
5.167	2.37	1.75	0.436	OI				
0.29								
5.250	2.38	1.76	0.441	OI				
0.29								
5.333	2.38	1.78	0.445	OI				
0.30								
5.417	2.39	1.80	0.449	OI				
0.30								
5.500	2.40	1.81	0.453	OI				
0.30								
5.583	2.42	1.83	0.457	OI				
0.30								
5.667	2.43	1.84	0.461	OI				
0.31								
5.750	2.44	1.86	0.465	OI				
0.31								
5.833	2.45	1.88	0.469	OI				
0.31								
5.917	2.46	1.89	0.473	OI				
0.32								
6.000	2.47	1.91	0.477	OI				
0.32								
6.083	2.48	1.92	0.481	OI				
0.32								
6.167	2.49	1.94	0.484	OI				
0.32								
6.250	2.50	1.95	0.488	OI				
0.33								

6.333	2.51	1.97	0.492	OI
0.33				
6.417	2.52	1.98	0.496	OI
0.33				
6.500	2.54	2.00	0.499	OI
0.33				
6.583	2.55	2.01	0.503	OI
0.34				
6.667	2.56	2.03	0.507	OI
0.34				
6.750	2.57	2.04	0.510	OI
0.34				
6.833	2.58	2.06	0.514	OI
0.34				
6.917	2.60	2.07	0.518	OI
0.35				
7.000	2.61	2.09	0.521	OI
0.35				
7.083	2.62	2.10	0.525	OI
0.35				
7.167	2.63	2.11	0.529	OI
0.35				
7.250	2.65	2.13	0.532	OI
0.35				
7.333	2.66	2.14	0.536	OI
0.36				
7.417	2.67	2.16	0.539	OI
0.36				
7.500	2.69	2.17	0.543	OI
0.36				
7.583	2.70	2.19	0.546	OI
0.36				
7.667	2.72	2.20	0.550	IO
0.37				
7.750	2.73	2.21	0.554	IO
0.37				
7.833	2.75	2.23	0.557	IO
0.37				
7.917	2.76	2.24	0.561	IO
0.37				
8.000	2.78	2.26	0.564	IO
0.38				
8.083	2.79	2.27	0.568	IO
0.38				
8.167	2.81	2.29	0.571	IO
0.38				
8.250	2.82	2.30	0.575	IO
0.38				
8.333	2.84	2.31	0.579	IO
0.39				
8.417	2.85	2.33	0.582	IO
0.39				
8.500	2.87	2.34	0.586	IO
0.39				
8.583	2.89	2.36	0.589	IO
0.39				
8.667	2.90	2.37	0.593	IO
0.40				
8.750	2.92	2.39	0.597	IO
0.40				

8.833	2.94	2.40	0.600	O				
0.40								
8.917	2.96	2.42	0.604	O				
0.40								
9.000	2.98	2.43	0.608	O				
0.41								
9.083	3.00	2.45	0.612	O				
0.41								
9.167	3.01	2.46	0.615	O				
0.41								
9.250	3.03	2.48	0.619	O				
0.41								
9.333	3.05	2.49	0.623	O				
0.42								
9.417	3.07	2.51	0.627	O				
0.42								
9.500	3.09	2.52	0.631	O				
0.42								
9.583	3.11	2.54	0.635	O				
0.42								
9.667	3.14	2.56	0.639	O				
0.43								
9.750	3.16	2.57	0.643	O				
0.43								
9.833	3.18	2.59	0.647	O				
0.43								
9.917	3.20	2.60	0.651	O				
0.43								
10.000	3.22	2.62	0.655	O				
0.44								
10.083	3.25	2.64	0.659	O				
0.44								
10.167	3.27	2.65	0.664	O				
0.44								
10.250	3.30	2.67	0.668	O				
0.45								
10.333	3.32	2.69	0.672	O				
0.45								
10.417	3.35	2.71	0.677	O				
0.45								
10.500	3.37	2.72	0.681	O				
0.45								
10.583	3.40	2.74	0.685	O				
0.46								
10.667	3.43	2.76	0.690	O				
0.46								
10.750	3.45	2.78	0.695	O				
0.46								
10.833	3.48	2.80	0.699	O				
0.47								
10.917	3.51	2.82	0.704	O				
0.47								
11.000	3.54	2.84	0.709	O				
0.47								
11.083	3.57	2.86	0.714	O				
0.48								
11.167	3.60	2.88	0.719	O				
0.48								
11.250	3.64	2.90	0.724	O				
0.48								

11.333	3.67	2.92	0.729	IO					
0.49									
11.417	3.70	2.94	0.734	IO					
0.49									
11.500	3.74	2.96	0.740	IO					
0.49									
11.583	3.77	2.98	0.745	IO					
0.50									
11.667	3.81	3.00	0.750	IO					
0.50									
11.750	3.85	3.02	0.756	IO					
0.50									
11.833	3.89	3.05	0.762	IO					
0.51									
11.917	3.93	3.07	0.768	IO					
0.51									
12.000	3.97	3.09	0.774	IO					
0.52									
12.083	4.00	3.12	0.780	IO					
0.52									
12.167	3.97	3.14	0.786	IO					
0.52									
12.250	3.90	3.16	0.791	IO					
0.53									
12.333	3.88	3.18	0.796	IO					
0.53									
12.417	3.90	3.20	0.801	IO					
0.53									
12.500	3.92	3.22	0.805	IO					
0.54									
12.583	3.96	3.24	0.810	IO					
0.54									
12.667	4.00	3.26	0.815	IO					
0.54									
12.750	4.04	3.28	0.820	IO					
0.55									
12.833	4.09	3.30	0.826	IO					
0.55									
12.917	4.14	3.32	0.831	IO					
0.55									
13.000	4.20	3.35	0.837	IO					
0.56									
13.083	4.26	3.37	0.843	IO					
0.56									
13.167	4.32	3.40	0.849	IO					
0.57									
13.250	4.39	3.42	0.856	IOI					
0.57									
13.333	4.46	3.45	0.863	IOI					
0.58									
13.417	4.53	3.48	0.870	IOI					
0.58									
13.500	4.61	3.51	0.877	IOI					
0.58									
13.583	4.69	3.54	0.885	IOI					
0.59									
13.667	4.77	3.57	0.893	IOI					
0.60									
13.750	4.87	3.61	0.901	IOI					
0.60									

13.833	4.96	3.64	0.910	|OI	|	|	|	|
0.61								
13.917	5.06	3.68	0.920	|OI	|	|	|	|
0.61								
14.000	5.17	3.72	0.929	|OI	|	|	|	|
0.62								
14.083	5.28	3.76	0.939	|OI	|	|	|	|
0.63								
14.167	5.40	3.80	0.950	|OI	|	|	|	|
0.63								
14.250	5.53	3.85	0.962	|OI	|	|	|	|
0.64								
14.333	5.67	3.89	0.973	|OI	|	|	|	|
0.65								
14.417	5.82	3.94	0.986	|OI	|	|	|	|
0.66								
14.500	5.97	4.00	0.999	|OI	|	|	|	|
0.67								
14.583	6.14	4.05	1.013	|OI	|	|	|	|
0.68								
14.667	6.32	4.11	1.028	|OI	|	|	|	|
0.69								
14.750	6.52	4.18	1.044	|OI	|	|	|	|
0.70								
14.833	6.73	4.24	1.060	|O I	|	|	|	|
0.71								
14.917	6.97	4.31	1.078	|O I	|	|	|	|
0.72								
15.000	7.22	4.39	1.097	| OI	|	|	|	|
0.73								
15.083	7.52	4.47	1.117	| OI	|	|	|	|
0.74								
15.167	7.83	4.56	1.139	| OI	|	|	|	|
0.76								
15.250	8.20	4.65	1.163	| OI	|	|	|	|
0.78								
15.333	8.60	4.75	1.188	| OI	|	|	|	|
0.79								
15.417	8.99	4.86	1.216	| O I	|	|	|	|
0.81								
15.500	8.98	4.97	1.244	| O I	|	|	|	|
0.83								
15.583	8.71	5.08	1.270	| OI	|	|	|	|
0.85								
15.667	8.99	5.18	1.295	| O I	|	|	|	|
0.86								
15.750	9.68	5.29	1.324	| O I	|	|	|	|
0.88								
15.833	10.75	5.43	1.357	| O I	|	|	|	|
0.90								
15.917	12.57	5.60	1.399	| O I	|	|	|	|
0.93								
16.000	16.09	5.84	1.459	| O I|		|	|	|
0.97								
16.083	26.46	6.00	1.565	| O | I	|	|	|	|
1.04								
16.167	53.45	6.00	1.798	| O |	|	I	|	|
1.20								
16.250	70.04	6.00	2.182	| O |	|	|	|	I
1.45								

```
16.333   42.98   6.00   2.530  |O        |         |  I      |         |
 1.69
16.417   29.29   6.00   2.738  |O        |     I   |         |         |
 1.83
16.500   22.62   6.00   2.875  |O        | I       |         |         |
 1.92
16.583   19.15   6.00   2.978  |O         I        |         |         |
 1.99
16.667   16.25   6.00   3.058  |O       I|         |         |         |
 2.04
16.750   14.03   6.00   3.121  |O      I |         |         |         |
 2.08
16.833   12.43   6.00   3.171  |O    I   |         |         |         |
 2.11
16.917   11.03   6.00   3.210  |O   I    |         |         |         |
 2.14
17.000    9.89   6.00   3.241  |O  I     |         |         |         |
 2.16
17.083    8.85   6.00   3.264  |O  I     |         |         |         |
 2.18
17.167    7.92   6.00   3.281  |OI       |         |         |         |
 2.19
17.250    7.34   6.00   3.292  |OI       |         |         |         |
 2.19
17.333    7.05   6.00   3.300  |OI       |         |         |         |
 2.20
17.417    6.64   6.00   3.306  |OI       |         |         |         |
 2.20
17.500    6.02   6.00   3.308  |O        |         |         |         |
 2.21
17.583    5.60   6.00   3.307  |O        |         |         |         |
 2.20
17.667    5.01   6.00   3.302  |O        |         |         |         |
 2.20
17.750    4.80   6.00   3.295  |O        |         |         |         |
 2.20
17.833    4.62   6.00   3.286  |O        |         |         |         |
 2.19
17.917    4.46   6.00   3.276  |O        |         |         |         |
 2.18
18.000    4.31   6.00   3.264  |IO       |         |         |         |
 2.18
18.083    4.19   6.00   3.252  |IO       |         |         |         |
 2.17
18.167    4.14   6.00   3.240  |IO       |         |         |         |
 2.16
18.250    4.15   6.00   3.227  |IO       |         |         |         |
 2.15
18.333    4.10   6.00   3.214  |IO       |         |         |         |
 2.14
18.417    4.04   6.00   3.201  |IO       |         |         |         |
 2.13
18.500    3.97   6.00   3.187  |IO       |         |         |         |
 2.12
18.583    3.90   6.00   3.173  |IO       |         |         |         |
 2.12
18.667    3.83   6.00   3.158  |IO       |         |         |         |
 2.11
18.750    3.76   6.00   3.143  |IO       |         |         |         |
 2.10
```

18.833	3.69	6.00	3.127	IO							
2.08											
18.917	3.63	6.00	3.111	IO							
2.07											
19.000	3.57	6.00	3.095	IO							
2.06											
19.083	3.51	6.00	3.078	IO							
2.05											
19.167	3.46	6.00	3.060	IO							
2.04											
19.250	3.40	6.00	3.043	IO							
2.03											
19.333	3.35	6.00	3.025	IO							
2.02											
19.417	3.30	6.00	3.006	IO							
2.00											
19.500	3.25	6.00	2.987	IO							
1.99											
19.583	3.21	6.00	2.968	IO							
1.98											
19.667	3.16	6.00	2.949	IO							
1.97											
19.750	3.12	6.00	2.929	IO							
1.95											
19.833	3.08	6.00	2.909	IO							
1.94											
19.917	3.04	6.00	2.889	IO							
1.93											
20.000	3.00	6.00	2.868	IO							
1.91											
20.083	2.96	6.00	2.848	IO							
1.90											
20.167	2.93	6.00	2.827	IO							
1.88											
20.250	2.89	6.00	2.805	IO							
1.87											
20.333	2.86	6.00	2.784	IO							
1.86											
20.417	2.83	6.00	2.762	IO							
1.84											
20.500	2.79	6.00	2.740	IO							
1.83											
20.583	2.76	6.00	2.718	IO							
1.81											
20.667	2.73	6.00	2.696	IO							
1.80											
20.750	2.71	6.00	2.673	IO							
1.78											
20.833	2.68	6.00	2.650	IO							
1.77											
20.917	2.65	6.00	2.627	IO							
1.75											
21.000	2.62	6.00	2.604	IO							
1.74											
21.083	2.60	6.00	2.581	IO							
1.72											
21.167	2.57	6.00	2.557	IO							
1.70											
21.250	2.55	6.00	2.534	IO							
1.69											

21.333	2.53	6.00	2.510	IO							
1.67											
21.417	2.50	6.00	2.486	IO							
1.66											
21.500	2.48	6.00	2.461	IO							
1.64											
21.583	2.46	6.00	2.437	IO							
1.62											
21.667	2.44	6.00	2.413	IO							
1.61											
21.750	2.42	6.00	2.388	IO							
1.59											
21.833	2.40	6.00	2.363	IO							
1.58											
21.917	2.38	6.00	2.338	IO							
1.56											
22.000	2.36	6.00	2.313	IO							
1.54											
22.083	2.34	6.00	2.288	IO							
1.53											
22.167	2.32	6.00	2.263	IO							
1.51											
22.250	2.30	6.00	2.238	IO							
1.49											
22.333	2.28	6.00	2.212	IO							
1.47											
22.417	2.27	6.00	2.186	IO							
1.46											
22.500	2.25	6.00	2.161	IO							
1.44											
22.583	2.23	6.00	2.135	IO							
1.42											
22.667	2.22	6.00	2.109	IO							
1.41											
22.750	2.20	6.00	2.083	IO							
1.39											
22.833	2.19	6.00	2.056	I O							
1.37											
22.917	2.17	6.00	2.030	I O							
1.35											
23.000	2.16	6.00	2.004	I O							
1.34											
23.083	2.14	6.00	1.977	I O							
1.32											
23.167	2.13	6.00	1.951	I O							
1.30											
23.250	2.11	6.00	1.924	I O							
1.28											
23.333	2.10	6.00	1.897	I O							
1.26											
23.417	2.08	6.00	1.870	I O							
1.25											
23.500	2.07	6.00	1.843	I O							
1.23											
23.583	2.06	6.00	1.816	I O							
1.21											
23.667	2.04	6.00	1.789	I O							
1.19											
23.750	2.03	6.00	1.761	I O							
1.17											

23.833	2.02	6.00	1.734	I	O
1.16					
23.917	2.01	6.00	1.707	I	O
1.14					
24.000	2.00	6.00	1.679	I	O
1.12					
24.083	1.92	6.00	1.651	I	O
1.10					
24.167	1.55	6.00	1.622	I	O
1.08					
24.250	0.94	6.00	1.589	I	O
1.06					
24.333	0.64	6.00	1.553	I	O
1.04					
24.417	0.46	6.00	1.516	I	O
1.01					
24.500	0.35	5.91	1.478	I	O
0.99					
24.583	0.26	5.76	1.439	I	O
0.96					
24.667	0.20	5.61	1.402	I	O
0.93					
24.750	0.16	5.46	1.365	I	O
0.91					
24.833	0.12	5.32	1.329	I	O
0.89					
24.917	0.09	5.17	1.294	I	O
0.86					
25.000	0.07	5.04	1.259	I	O
0.84					
25.083	0.05	4.90	1.225	I	O
0.82					
25.167	0.04	4.77	1.192	I	O
0.79					
25.250	0.03	4.64	1.160	I	O
0.77					
25.333	0.02	4.51	1.129	I	O
0.75					
25.417	0.01	4.39	1.098	I	O
0.73					
25.500	0.00	4.27	1.068	IO	
0.71					
25.583	0.00	4.16	1.039	IO	
0.69					
25.667	0.00	4.04	1.011	IO	
0.67					
25.750	0.00	3.93	0.984	IO	
0.66					
25.833	0.00	3.83	0.957	IO	
0.64					
25.917	0.00	3.72	0.931	IO	
0.62					
26.000	0.00	3.62	0.905	IO	
0.60					
26.083	0.00	3.52	0.881	IO	
0.59					
26.167	0.00	3.43	0.857	IO	
0.57					
26.250	0.00	3.33	0.834	IO	
0.56					

26.333	0.00	3.24	0.811	IO
0.54				
26.417	0.00	3.16	0.789	IO
0.53				
26.500	0.00	3.07	0.768	IO
0.51				
26.583	0.00	2.99	0.747	IO
0.50				
26.667	0.00	2.91	0.726	IO
0.48				
26.750	0.00	2.83	0.707	IO
0.47				
26.833	0.00	2.75	0.687	IO
0.46				
26.917	0.00	2.68	0.669	IO
0.45				
27.000	0.00	2.60	0.651	IO
0.43				
27.083	0.00	2.53	0.633	IO
0.42				
27.167	0.00	2.46	0.616	IO
0.41				
27.250	0.00	2.40	0.599	IO
0.40				
27.333	0.00	2.33	0.583	IO
0.39				
27.417	0.00	2.27	0.567	IO
0.38				
27.500	0.00	2.21	0.551	IO
0.37				
27.583	0.00	2.15	0.536	O
0.36				
27.667	0.00	2.09	0.522	O
0.35				
27.750	0.00	2.03	0.508	O
0.34				
27.833	0.00	1.98	0.494	O
0.33				
27.917	0.00	1.92	0.480	O
0.32				
28.000	0.00	1.87	0.467	O
0.31				
28.083	0.00	1.82	0.455	O
0.30				
28.167	0.00	1.77	0.442	O
0.29				
28.250	0.00	1.72	0.430	O
0.29				
28.333	0.00	1.67	0.419	O
0.28				
28.417	0.00	1.63	0.407	O
0.27				
28.500	0.00	1.58	0.396	O
0.26				
28.583	0.00	1.54	0.385	O
0.26				
28.667	0.00	1.50	0.375	O
0.25				
28.750	0.00	1.46	0.365	O
0.24				

28.833	0.00	1.42	0.355	O					
0.24									
28.917	0.00	1.38	0.345	O					
0.23									
29.000	0.00	1.34	0.336	O					
0.22									
29.083	0.00	1.31	0.327	O					
0.22									
29.167	0.00	1.27	0.318	O					
0.21									
29.250	0.00	1.24	0.309	O					
0.21									
29.333	0.00	1.20	0.301	O					
0.20									
29.417	0.00	1.17	0.293	O					
0.20									
29.500	0.00	1.14	0.285	O					
0.19									
29.583	0.00	1.11	0.277	O					
0.18									
29.667	0.00	1.08	0.269	O					
0.18									
29.750	0.00	1.05	0.262	O					
0.17									
29.833	0.00	1.02	0.255	O					
0.17									
29.917	0.00	0.99	0.248	O					
0.17									
30.000	0.00	0.97	0.241	O					
0.16									
30.083	0.00	0.94	0.235	O					
0.16									
30.167	0.00	0.91	0.228	O					
0.15									
30.250	0.00	0.89	0.222	O					
0.15									
30.333	0.00	0.86	0.216	O					
0.14									
30.417	0.00	0.84	0.210	O					
0.14									
30.500	0.00	0.82	0.205	O					
0.14									
30.583	0.00	0.80	0.199	O					
0.13									
30.667	0.00	0.77	0.194	O					
0.13									
30.750	0.00	0.75	0.188	O					
0.13									
30.833	0.00	0.73	0.183	O					
0.12									
30.917	0.00	0.71	0.178	O					
0.12									
31.000	0.00	0.69	0.173	O					
0.12									
31.083	0.00	0.67	0.169	O					
0.11									
31.167	0.00	0.66	0.164	O					
0.11									
31.250	0.00	0.64	0.160	O					
0.11									

31.333	0.00	0.62	0.155	O
0.10				
31.417	0.00	0.60	0.151	O
0.10				
31.500	0.00	0.59	0.147	O
0.10				
31.583	0.00	0.57	0.143	O
0.10				
31.667	0.00	0.56	0.139	O
0.09				
31.750	0.00	0.54	0.135	O
0.09				
31.833	0.00	0.53	0.132	O
0.09				
31.917	0.00	0.51	0.128	O
0.09				
32.000	0.00	0.50	0.125	O
0.08				
32.083	0.00	0.48	0.121	O
0.08				
32.167	0.00	0.47	0.118	O
0.08				
32.250	0.00	0.46	0.115	O
0.08				
32.333	0.00	0.45	0.112	O
0.07				
32.417	0.00	0.43	0.109	O
0.07				
32.500	0.00	0.42	0.106	O
0.07				
32.583	0.00	0.41	0.103	O
0.07				
32.667	0.00	0.40	0.100	O
0.07				
32.750	0.00	0.39	0.097	O
0.06				
32.833	0.00	0.38	0.095	O
0.06				
32.917	0.00	0.37	0.092	O
0.06				
33.000	0.00	0.36	0.090	O
0.06				
33.083	0.00	0.35	0.087	O
0.06				
33.167	0.00	0.34	0.085	O
0.06				
33.250	0.00	0.33	0.082	O
0.05				
33.333	0.00	0.32	0.080	O
0.05				
33.417	0.00	0.31	0.078	O
0.05				
33.500	0.00	0.30	0.076	O
0.05				
33.583	0.00	0.30	0.074	O
0.05				
33.667	0.00	0.29	0.072	O
0.05				
33.750	0.00	0.28	0.070	O
0.05				

33.833	0.00	0.27	0.068	O	|	|	|	|
0.05								
33.917	0.00	0.26	0.066	O	|	|	|	|
0.04								
34.000	0.00	0.26	0.064	O	|	|	|	|
0.04								
34.083	0.00	0.25	0.063	O	|	|	|	|
0.04								
34.167	0.00	0.24	0.061	O	|	|	|	|
0.04								
34.250	0.00	0.24	0.059	O	|	|	|	|
0.04								
34.333	0.00	0.23	0.058	O	|	|	|	|
0.04								
34.417	0.00	0.22	0.056	O	|	|	|	|
0.04								
34.500	0.00	0.22	0.055	O	|	|	|	|
0.04								
34.583	0.00	0.21	0.053	O	|	|	|	|
0.04								
34.667	0.00	0.21	0.052	O	|	|	|	|
0.03								
34.750	0.00	0.20	0.050	O	|	|	|	|
0.03								
34.833	0.00	0.20	0.049	O	|	|	|	|
0.03								
34.917	0.00	0.19	0.047	O	|	|	|	|
0.03								
35.000	0.00	0.18	0.046	O	|	|	|	|
0.03								
35.083	0.00	0.18	0.045	O	|	|	|	|
0.03								
35.167	0.00	0.17	0.044	O	|	|	|	|
0.03								
35.250	0.00	0.17	0.043	O	|	|	|	|
0.03								
35.333	0.00	0.17	0.041	O	|	|	|	|
0.03								
35.417	0.00	0.16	0.040	O	|	|	|	|
0.03								
35.500	0.00	0.16	0.039	O	|	|	|	|
0.03								
35.583	0.00	0.15	0.038	O	|	|	|	|
0.03								
35.667	0.00	0.15	0.037	O	|	|	|	|
0.02								
35.750	0.00	0.14	0.036	O	|	|	|	|
0.02								
35.833	0.00	0.14	0.035	O	|	|	|	|
0.02								
35.917	0.00	0.14	0.034	O	|	|	|	|
0.02								
36.000	0.00	0.13	0.033	O	|	|	|	|
0.02								
36.083	0.00	0.13	0.032	O	|	|	|	|
0.02								
36.167	0.00	0.13	0.031	O	|	|	|	|
0.02								
36.250	0.00	0.12	0.031	O	|	|	|	|
0.02								

36.333	0.00	0.12	0.030	O
0.02				
36.417	0.00	0.12	0.029	O
0.02				
36.500	0.00	0.11	0.028	O
0.02				
36.583	0.00	0.11	0.027	O
0.02				
36.667	0.00	0.11	0.027	O
0.02				
36.750	0.00	0.10	0.026	O
0.02				
36.833	0.00	0.10	0.025	O
0.02				
36.917	0.00	0.10	0.025	O
0.02				
37.000	0.00	0.10	0.024	O
0.02				
37.083	0.00	0.09	0.023	O
0.02				
37.167	0.00	0.09	0.023	O
0.02				
37.250	0.00	0.09	0.022	O
0.01				
37.333	0.00	0.09	0.021	O
0.01				
37.417	0.00	0.08	0.021	O
0.01				
37.500	0.00	0.08	0.020	O
0.01				
37.583	0.00	0.08	0.020	O
0.01				
37.667	0.00	0.08	0.019	O
0.01				
37.750	0.00	0.07	0.019	O
0.01				
37.833	0.00	0.07	0.018	O
0.01				
37.917	0.00	0.07	0.018	O
0.01				
38.000	0.00	0.07	0.017	O
0.01				
38.083	0.00	0.07	0.017	O
0.01				
38.167	0.00	0.06	0.016	O
0.01				
38.250	0.00	0.06	0.016	O
0.01				
38.333	0.00	0.06	0.015	O
0.01				
38.417	0.00	0.06	0.015	O
0.01				
38.500	0.00	0.06	0.015	O
0.01				
38.583	0.00	0.06	0.014	O
0.01				
38.667	0.00	0.05	0.014	O
0.01				
38.750	0.00	0.05	0.013	O
0.01				

38.833	0.00	0.05	0.013	O
0.01				
38.917	0.00	0.05	0.013	O
0.01				
39.000	0.00	0.05	0.012	O
0.01				
39.083	0.00	0.05	0.012	O
0.01				
39.167	0.00	0.05	0.012	O
0.01				
39.250	0.00	0.05	0.011	O
0.01				
39.333	0.00	0.04	0.011	O
0.01				
39.417	0.00	0.04	0.011	O
0.01				
39.500	0.00	0.04	0.010	O
0.01				
39.583	0.00	0.04	0.010	O
0.01				
39.667	0.00	0.04	0.010	O
0.01				
39.750	0.00	0.04	0.010	O
0.01				
39.833	0.00	0.04	0.009	O
0.01				
39.917	0.00	0.04	0.009	O
0.01				
40.000	0.00	0.04	0.009	O
0.01				
40.083	0.00	0.03	0.009	O
0.01				
40.167	0.00	0.03	0.008	O
0.01				
40.250	0.00	0.03	0.008	O
0.01				
40.333	0.00	0.03	0.008	O
0.01				
40.417	0.00	0.03	0.008	O
0.01				
40.500	0.00	0.03	0.007	O
0.00				
40.583	0.00	0.03	0.007	O
0.00				
40.667	0.00	0.03	0.007	O
0.00				
40.750	0.00	0.03	0.007	O
0.00				
40.833	0.00	0.03	0.007	O
0.00				
40.917	0.00	0.03	0.007	O
0.00				
41.000	0.00	0.03	0.006	O
0.00				
41.083	0.00	0.02	0.006	O
0.00				
41.167	0.00	0.02	0.006	O
0.00				
41.250	0.00	0.02	0.006	O
0.00				

41.333	0.00	0.02	0.006	O
0.00				
41.417	0.00	0.02	0.006	O
0.00				
41.500	0.00	0.02	0.005	O
0.00				
41.583	0.00	0.02	0.005	O
0.00				
41.667	0.00	0.02	0.005	O
0.00				
41.750	0.00	0.02	0.005	O
0.00				
41.833	0.00	0.02	0.005	O
0.00				
41.917	0.00	0.02	0.005	O
0.00				
42.000	0.00	0.02	0.005	O
0.00				
42.083	0.00	0.02	0.004	O
0.00				
42.167	0.00	0.02	0.004	O
0.00				
42.250	0.00	0.02	0.004	O
0.00				
42.333	0.00	0.02	0.004	O
0.00				
42.417	0.00	0.02	0.004	O
0.00				
42.500	0.00	0.02	0.004	O
0.00				
42.583	0.00	0.02	0.004	O
0.00				
42.667	0.00	0.01	0.004	O
0.00				
42.750	0.00	0.01	0.004	O
0.00				
42.833	0.00	0.01	0.003	O
0.00				
42.917	0.00	0.01	0.003	O
0.00				
43.000	0.00	0.01	0.003	O
0.00				
43.083	0.00	0.01	0.003	O
0.00				
43.167	0.00	0.01	0.003	O
0.00				
43.250	0.00	0.01	0.003	O
0.00				
43.333	0.00	0.01	0.003	O
0.00				
43.417	0.00	0.01	0.003	O
0.00				
43.500	0.00	0.01	0.003	O
0.00				
43.583	0.00	0.01	0.003	O
0.00				
43.667	0.00	0.01	0.003	O
0.00				
43.750	0.00	0.01	0.003	O
0.00				

43.833	0.00	0.01	0.002	O	|	|	|	|
0.00								
43.917	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.000	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.083	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.167	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.250	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.333	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.417	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.500	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.583	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.667	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.750	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.833	0.00	0.01	0.002	O	|	|	|	|
0.00								
44.917	0.00	0.01	0.002	O	|	|	|	|
0.00								
45.000	0.00	0.01	0.002	O	|	|	|	|
0.00								
45.083	0.00	0.01	0.002	O	|	|	|	|
0.00								
45.167	0.00	0.01	0.002	O	|	|	|	|
0.00								
45.250	0.00	0.01	0.002	O	|	|	|	|
0.00								
45.333	0.00	0.01	0.002	O	|	|	|	|
0.00								
45.417	0.00	0.01	0.001	O	|	|	|	|
0.00								

Remaining water in basin = 0.00 (Ac.Ft)

**********HYDROGRAPH DATA**********

Number of intervals = 545
Time interval = 5.0 (Min.)
Maximum/Peak flow rate = 6.000 (CFS)
Total volume = 8.760 (Ac.Ft)

Status of hydrographs being held in storage

	Stream 1	Stream 2	Stream 3	Stream 4	Stream 5
Peak (CFS)	0.000	0.000	0.000	0.000	0.000
Vol (Ac.Ft)	0.000	0.000	0.000	0.000	0.000

****

APPENDIX D:
PROJECT HYDRAULIC CALCULATIONS

APPENDIX E:
INFILTRATION TESTING RESULTS

GeoTek, Inc.
710 E. Parkridge Avenue, Suite 105, Corona, California 92879-1097
(951) 710-1160 Office (951) 710-1167 Fax www.geotekusa.com

October 14, 2016
Project No. 1569-CR

Frontier Enterprises
8300 Utica Avenue, Suite 300
Rancho Cucamonga, California 91730

Attention: Mr. Daniel Pocius

Subject: Infiltration Evaluation
Proposed Storm Water Infiltration Areas
Assessor Parcel Numbers (APNs) 0459-432-29 and -50
Adelanto, San Bernardino County, California

Reference: See Page 5

DRAFT

Dear Mr. Pocius:

As requested and authorized, GeoTek, Inc. (GeoTek) has performed an infiltration evaluation at the subject property. The intent of this study is to evaluate the infiltration properties of the underlying soils at three locations within a proposed water quality area as indicated to us by yourself. This report presents the results of the testing completed by GeoTek.

Site and Project Description

The subject project is located northeast of the intersection of Muskrat Avenue and Yucca Road in Adelanto, San Bernardino County, California. The site consists of approximately 29 acres and is generally undeveloped and vacant land.

Eight test borings (Borings B-1 through B-8) were excavated throughout the site. Three percolation borings (Borings P-1 through P-3) were excavated in the northern portion of the site where the proposed water quality area is to be constructed. These percolation borings were excavated to an approximate depth of 5 feet below the existing grades.

The logs of the percolation borings are presented in Appendix A.

Infiltration Testing

Percolation testing was performed within each of the excavations within the lower 24 inches by a representative from our firm in general conformance with the referenced document (County of San Bernardino), and converted to an infiltration rate.

The infiltration rates are presented in the follow table for each of the borings after the rates had stabilized.

Basin No./Test No.	Infiltration Rate (inches per hour)
P-1	0.35
P-2	8.00
P-3	2.98

DRAFT

Copies of the percolation data sheets and infiltration conversion sheets (Porchet Method) are included in Appendix B.

Over the lifetime of the storm water disposal areas, the infiltration rates may be affected by silt build up and biological activities, as well as local variations in near surface soil conditions. As per the *Design Handbook for Low Impact Development Best Management Practices*, a factor of safety of 3.0 should be applied to the infiltration rate for each test.

Deep Borings

Two test borings (Borings B-1 and B-2) were also excavated with a hollow-stem auger drill rig in the infiltration area to a depth of at least 10 feet below the bottom of the percolation boring. The logs of these borings are presented in Appendix C. The purpose of these explorations was to observe the underlying soil conditions and to verify the presence or absence of groundwater.

Groundwater was not encountered in any of the test borings excavated on the site.

LIMITATIONS

The materials observed on the project site appear to be representative of the area; however, soil materials vary in character between excavations and natural outcrops or conditions exposed during site construction. Site conditions may vary due to seasonal changes or other factors. GeoTek, Inc. assumes no responsibility or liability for work, testing or recommendations performed or provided by others.

Our conclusions and recommendations are professional opinions that are limited to the extent of the available data. Observations during construction are important to allow for any change in recommendations found to be warranted. These opinions have been derived in accordance with current standards of practice and no warranty is expressed or implied. Standards of practice are subject to change with time.

DRAFT

The opportunity to be of service is sincerely appreciated. If you should have any questions, please do not hesitate to call our office.

Respectfully submitted,
GeoTek, Inc.

Edward H. LaMont
CEG 1892, Exp. 07/31/18
Principal Geologist

Paul Hyun Jin Kim
PE 77214, Exp. 06/30/17
Project Engineer

Anna M. Scott
Project Geologist

DRAFT

Enclosures: Figure 1 – Exploration Location Map
Appendix A – Logs of Exploratory Percolation Borings
Appendix B – Percolation Data Sheets and Conversion Sheets (Porchet Method)
Appendix C – Logs of Exploratory Deep Borings

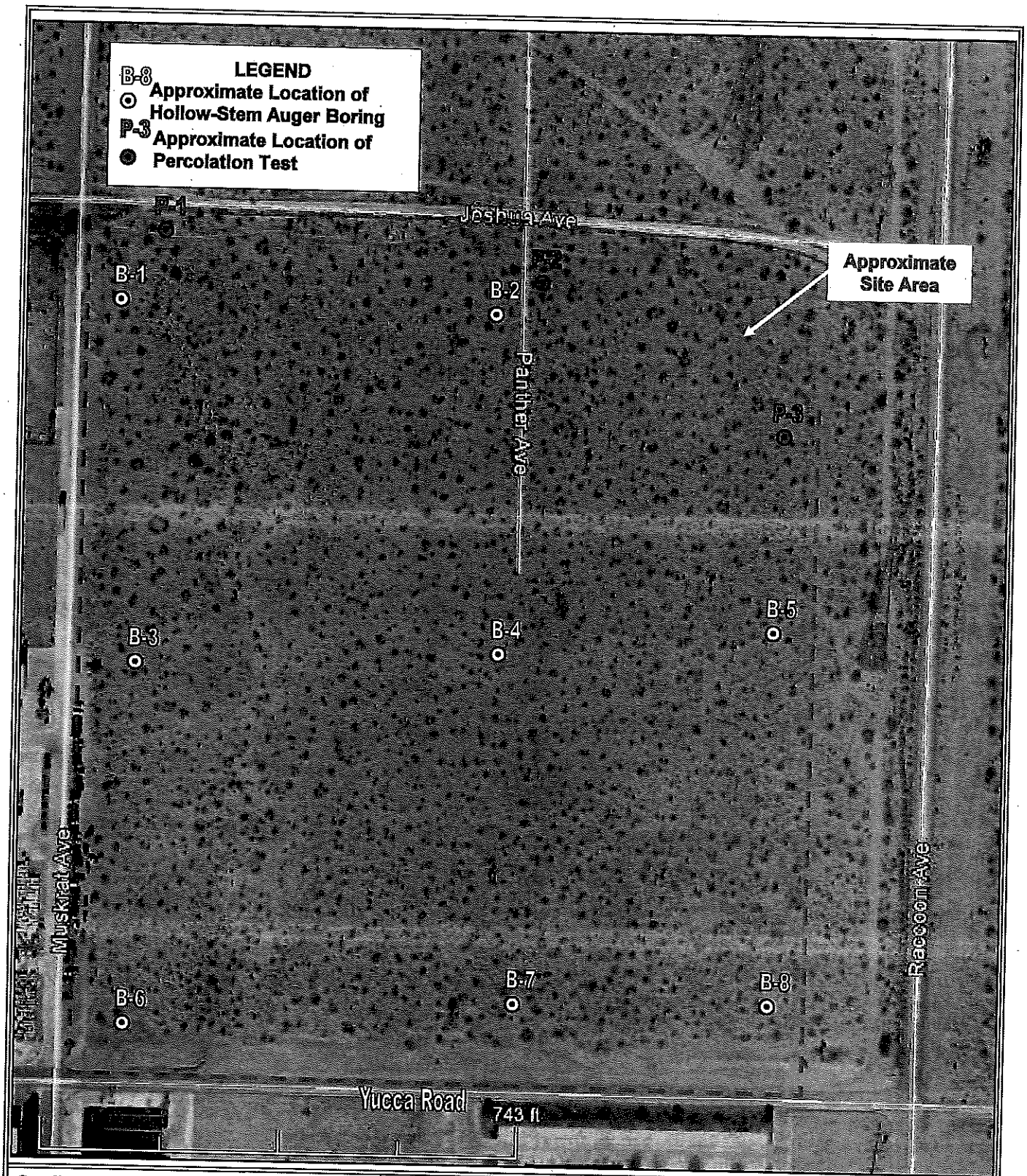
Distribution: (1) Addressee via email (PDF file)

G:\Projects\1551 to 1600\1569CR Credit Holdings, LLC Adelanto\Infiltration Evaluation\1569CR Infiltration Evaluation APNs 0459-432-29 and -50.doc

REFERENCE

The County of San Bernardino Areawide Stormwater Program Technical Guidance Document for Water Quality Management Plans" with an effective date of September 19, 2013.

DRAFT



Credit Holdings, LLC
APNs 0459-432-29 and -50
Adelanto, San Bernardino County, California

GeoTek Project No. 1569-CR

N

Figure 1

Exploration Location Map

GEOTEK

APPENDIX A

LOGS OF EXPLORATORY PERCOLATION BORINGS

DRAFT

APNs 0459-432-29 and -50
Adelanto, San Bernardino County, California
Project No. 1569-CR

GEOTEK

BORING LOG LEGEND

The following abbreviations and symbols often appear in the classification and description of soil and rock on the log of borings:

SOILS

USCS	Unified Soil Classification System
f-c	Fine to coarse
f-m	Fine to medium

GEOLOGIC

B: Attitudes	Bedding: strike/dip
J: Attitudes	Joint: strike/dip
C: Contact line	
.....	Dashed line denotes USCS material change
———	Solid Line denotes unit / formational change
———	Thick solid line denotes end of the boring

(Additional denotations and symbols are provided on the log of boring)

DRAFT

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT: Credit Holdings, LLC
PROJECT NAME: Adelanto
PROJECT NO.: 1569-CR
LOCATION: Muskrat Avenue/Yucca Road

DRILLER: 2R Drilling
DRILL METHOD: Hollow Stem
HAMMER: 140#/30"

LOGGED BY: R. Hankes
OPERATOR: Jerry/Santiago
RIG TYPE: CME 75
DATE: 10/11/2016

Boring No.: P-1

Depth (ft)	Sample Type	Blows/ 6 in	Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Dry Density (pcf)	Others
0				SM	**Alluvium:** Silty fine SAND, light brown, dry, loose			
		15			Silty fine SAND, light brown, slightly moist, dense			
		21						
		29						
5					**Boring Terminated at 5 feet**			
					No groundwater encountered.			
10								
15								
20								
25								
30								

DRAFT

LEGEND

Sample type: Ring; SPT; Small Bulk; Large Bulk; No Recovery; Water Table

Lab testing: AL = Atterberg Limits; SR = Sulfate/Resistivity Test; EI = Expansion Index; SH = Shear Test; SA = Sieve Analysis; HC= Consolidation; RV = R-Value Test; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	Boring No.: P-2 / MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
				SM	Silty fine SAND, light brown, dry, loose			
		7						
		12			Silty fine SAND, light brown, slightly moist, dense			
5		17						
					Boring Terminated at 5 feet			
					No groundwater encountered.			
10								
15								
20								
25								
30								

DRAFT

LEGEND

Sample type: —Ring —SPT —Small Bulk —Large Bulk —No Recovery —Water Table

Lab testing:

AL = Atterberg Limits	EI = Expansion Index	SA = Sieve Analysis	RV = R-Value Test
SR = Sulfate/Resistivity Test	SH = Shear Test	HC= Consolidation	MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	DRILLER:	2R Drilling	LOGGED BY:	R. Hankes
PROJECT NAME:	Adelanto	DRILL METHOD:	Hollow Stem	OPERATOR:	Jerry/Santiago
PROJECT NO.:	1569-CR	HAMMER:	140#/30"	RIG TYPE:	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			DATE:	10/11/2016

Boring No.: P-3

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
				SM	Silty fine SAND, light brown, dry, loose			
		15			Silty fine SAND, light brown, slightly moist, very dense			
		35						
5		36			**Boring Terminated at 5 feet**			
					No groundwater encountered.			
10								
15								
20								
25								
30								

DRAFT

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery ---Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resistivity Test; SH = Shear Test; HC= Consolidation; MD = Maximum Density

APPENDIX B

PERCOLATION DATA SHEETS AND CONVERSION SHEETS

DRAFT

APNs 0459-432-29 and -50

Adelanto, San Bernardino County, California

Project No. 1569-CR

GEOTEK

Project: _____ Job No.: 1569-CR.

Test Hole No.: NW CORNER P-1 Tested By: DVG Date: 10/11, 12/16

Depth of Hole As Drilled: 60" Before Test: 60" After Test: 60"

Reading No.	Time	Time Interval (Min)	Total Depth of Hole (Inches)	Initial Water Level (Inches)	Final Water Level (Inches)	Δ In Water Level (Inches)	Comments
							PREWATER 10/11/16
	857		60	24			BEGIN 10/12/16
	913	16			18	6	1ST 25 MIN.
	915		60	24			
	935	20			18	6	2ND 25 MIN.
	937		60	24			
	947	10			20 3/4	3 1/4	1ST 10 MIN.
	949		60	24			
	959	10			21 1/4	2 3/4	2ND 10 MIN.
	1001		60	24			
	1011	10			22	2	3RD 10 MIN.
	1013		60	24			
	1023	10			23	1	4TH 10 MIN.
	1025		60	24			
	1035	10			23 1/4	3/4	5TH 10 MIN.
	1037		60	24			
	1047	10			23 1/4	3/4	6TH 10 MIN

Project: P-2 Job No.: 1569-CR

Test Hole No.: NORTH END - MID Tested By: DVG Date: 10/11, 12/16

Depth of Hole As Drilled: 60" Before Test: 60" After Test: 60"

Reading No.	Time	Time Interval (Min)	Total Depth of Hole (Inches)	Initial Water Level (Inches)	Final Water Level (Inches)	Δ In Water Level (Inches)	Comments
							PREWATER 10/11/16
	1113		60	24			BEGIN 10/12/16
	1116	3			18	6	1ST 25 MIN.
	1118		60	24			
	1122	4			18	6	2ND 25 MIN.
	1124		60	24			
	1134	10			10	14	1ST 10 MIN.
	1136		60	24			
	1146	10			10	14	2ND 10 MIN.
	1148		60	24			
	1158	10			10 1/4	13 3/4	3RD 10 MIN.
	1200		60	24			
	1210	10			10 1/2	13 1/2	4TH 10 MIN.
	1212		60	24			
	1222	10			11	13	5TH 10 MIN.
	1224		60	24			
	1234	10			11	13	6TH 10 MIN.

DRAFT

PERCOLATION DATA SHEET

Project: _____ Job No.: 1569-CR.

Test Hole No.: NE CORNER P-3 Tested By: DVG Date: 10/11, 12/16

Depth of Hole As Drilled: 60 Before Test: 60" After Test: 60"

Reading No.	Time	Time Interval (Min)	Total Depth of Hole (Inches)	Initial Water Level (Inches)	Final Water Level (Inches)	Δ In Water Level (Inches)	Comments
							PREWATER 10/11/16
	1254		60	24			BEGIN 10/12/16
	1:00	4			18	6	1ST 25 MIN.
	102		60	24			
	110	8			18	6	2ND 25 MIN.
	112		60	24			
	122	10			16	8	1ST 10 MIN.
	124		60	24			
	134	10			17	7	2ND 10 MIN.
	136		60	24			
	146	10			17½	6½	3RD 10 MIN.
	148		60	24			
	158	10			18	6	4TH 10 MIN.
	200		60	24			
	210	10			18	6	5TH 10 MIN
	212		60	24			
	222	10			18¼	5¾	6TH 10 MIN

DRAFT

Client:	**Frontier Enterprises**
Project:	**Adelanto**
Project No:	**1569-CR**
Date:	**10/11/2016**

Boring No. **P-1**

Percolation Rate (Porchet Method)

Time Interval, Δt =	10
Final Depth to Water, D_F =	36.75
Test Hole Radius, r =	4
Initial Depth to Water, D_O =	36
Total Test Hole Depth, D_T =	60

Equation - $I_t = \dfrac{\Delta H\,(60r)}{\Delta t\,(r+2H_{avg})}$

DRAFT

$H_O = D_T - D_O$ =	24
$H_F = D_T - D_F$ =	23.25
$\Delta H = \Delta D = H_O - H_F$ =	0.75
$H_{avg} = (H_O+H_F)/2$ =	23.625

I_t = 0.35 **Inches per Hour**

GEOTEK

Client:	**Frontier Enterprises**
Project:	**Adelanto**
Project No:	**1569-CR**
Date:	**10/11/2016**

Boring No. **P-2**

Percolation Rate (Porchet Method)

Time Interval, Δt =	10
Final Depth to Water, D_F =	49
Test Hole Radius, r =	4
Initial Depth to Water, D_O =	36
Total Test Hole Depth, D_T =	60

Equation - $I_t = \dfrac{\Delta H\,(60r)}{\Delta t\,(r+2H_{avg})}$

DRAFT

$H_O = D_T - D_O$ =	24
$H_F = D_T - D_F$ =	11
$\Delta H = \Delta D = H_O - H_F$ =	13
$H_{avg} = (H_O+H_F)/2$ =	17.5

I_t = 8.00 **Inches per Hour**

GEOTEK

Client:	**Frontier Enterprises**
Project:	**Adelanto**
Project No:	**1569-CR**
Date:	**10/11/2016**

Boring No. **P-3**

Percolation Rate (Porchet Method)

Time Interval, Δt =	10
Final Depth to Water, D_F =	41.75
Test Hole Radius, r =	4
Initial Depth to Water, D_O =	36
Total Test Hole Depth, D_T =	60

Equation - $I_t = \dfrac{\Delta H\,(60r)}{\Delta t\,(r+2H_{avg})}$

DRAFT

$H_O = D_T - D_O$ =	24
$H_F = D_T - D_F$ =	18.25
$\Delta H = \Delta D = H_O - H_F$ =	5.75
$H_{avg} = (H_O+H_F)/2$ =	21.125

I_t = 2.98 **Inches per Hour**

GEOTEK

APPENDIX C

LOGS OF EXPLORATORY DEEP BORINGS

DRAFT

APNs 0459-432-29 and -50
Adelanto, San Bernardino County, California
Project No. 1569-CR

GEOTEK

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-1

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
				SM	Silty fine SAND, light brown, dry, loose.			
		29 50-6"		SM	Silty f SAND, light brown, slightly moist, very dense			
5		23 50-6"			SAME			
		23 38 50		ML	F sandy SILT, gray, slightly moist, very stiff			
10								
		12 20 24		SM-ML	F sandy SILT/silty SAND, gray, slightly moist, very stiff/dense			
15								
		29 50-5"			F sandy SILT/silty SAND, light brown, slightly moist, very stiff/dense			
20								
		19 29 49		SM	Silty f SAND, gray, slightly moist, very dense			
25		32 50-3"			SAME			
30					**Boring Terminated at 29.5 feet** Boring backfilled with excavated soils. No groundwater encountered.			

DRAFT

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery ---Water Table

Lab testing:

AL = Atterberg Limits	EI = Expansion Index	SA = Sieve Analysis	RV = R-Value Test
SR = Sulfate/Resistivity Test	SH = Shear Test	HC= Consolidation	MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	DRILLER:	2R Drilling	LOGGED BY:	R. Hankes
PROJECT NAME:	Adelanto	DRILL METHOD:	Hollow Stem	OPERATOR:	Jerry/Santiago
PROJECT NO.:	1569-CR	HAMMER:	140#/30"	RIG TYPE:	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			DATE:	10/11/2016

Boring No.: B-2

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		27 50-4"		SM	Silty f-m SAND, light brown, dry, very dense			
5		32 50-4"		SM-ML	Silty f SAND/sandy SILT, light brown, slightly moist, stiff/dense			
10		13 24 36		SM	Silty f SAND, gray, slightly moist, very dense			
		26 24 25		ML	F sandy SILT, gray, slightly moist, very stiff			
15		16 26 27			SAME			
20					**Boring Terminated at 20 feet** Boring backfilled with excavated soils. No groundwater encountered.			
25								
30								

DRAFT

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery —Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resistivity Test; SH = Shear Test; HC= Consolidation; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-3

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		26 47 50-5"		SM	F-m SAND, light brown, slightly moist, very dense			
5		32 50-3"			Silty f SAND, light brown, slightly moist, very dense			
		13 19 22		ML	F sandy SILT, light gray, slightly moist, stiff			
10								
		17 32 43		SP	F-c SAND, gray, slightly moist, very dense			
15								
		15 19 30		ML	F sandy SILT, light brown, slightly moist, very stiff			
20					**Boring Terminated at 20 feet** Boring backfilled with excavated soils. No groundwater encountered.			
25								
30								

DRAFT

LEGEND

Sample type: Ring | SPT | Small Bulk | Large Bulk | No Recovery | Water Table

Lab testing:

AL = Atterberg Limits	EI = Expansion Index	SA = Sieve Analysis	RV = R-Value Test
SR = Sulfate/Resistivity Test	SH = Shear Test	HC= Consolidation	MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	DRILLER:	2R Drilling	LOGGED BY:	R. Hankes
PROJECT NAME:	Adelanto	DRILL METHOD:	Hollow Stem	OPERATOR:	Jerry/Santiago
PROJECT NO.:	1569-CR	HAMMER:	140#/30"	RIG TYPE:	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			DATE:	10/11/2016

Boring No.: B-4

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		15 29 37		SM	Silty f SAND, light brown, dry, dense			
5		31 50-5"		SP	f-m SAND, light brown, slightly moist, very dense			
		20 19 13		ML	F sandy SILT, gray, slightly moist, stiff			
10		11 27 36			SAME			
15		23 50-6"			SAME			
20		25 50-6"			SAME			
25		20 21 29		SM	Silty f SAND/sandy SILT, light brown, slightly moist, dense			
30					**Boring Terminated at 30 feet** Boring backfilled with excavated soils. No groundwater encountered.			

DRAFT

LEGEND

Sample type: Ring; SPT; Small Bulk; Large Bulk; No Recovery; Water Table

Lab testing: AL = Atterberg Limits; SR = Sulfate/Resistivity Test; EI = Expansion Index; SH = Shear Test; SA = Sieve Analysis; HC= Consolidation; RV = R-Value Test; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue./Yucca Road			**DATE:**	10/11/2016

Boring No.: B-5

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		10 17 22		SM	F SAND, light brown, dry, medim dense			
5		12 21 26		SP	F-m SAND, light brown, slightly moist, dense			
		25 38 35		SM	Silty f SAND, white and light brown, slightly moist, dense			
		33 50-5"			Silty f-m SAND, reddish brown, slightly moist, very dense			
10								
		10 18 30		ML	F sandy SILT, gray slightly moist, stiff			
15								
		17 23 39			F sandy SILT, light brown, slightly moist, very stiff			
20					**Boring Terminated at 20 feet**			
					Boring backfilled with excavated soils. No groundwater encountered.			
25								
30								

DRAFT

LEGEND

Sample type: —Ring —SPT —Small Bulk —Large Bulk —No Recovery —Water Table

Lab testing: AL = Atterberg Limits; EI = Expansion Index; SA = Sieve Analysis; RV = R-Value Test; SR = Sulfate/Resistivity Test; SH = Shear Test; HC= Consolidation; MD = Maximum Density

GeoTek, Inc.

LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-6

Depth (ft)	Sample Type	Blows/ 6 in	Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Dry Density (pcf)	Others
0					**Alluvium:**			
		34 50-3"		SM	Silty f SAND, light brown, dry, very dense			
5		45 50-5"			SAME			
10		8 8 11		ML	F sandy SILT, light gray, slightly moist, stiff			
		10 12 15			SAME			
15								
		12 22 25		SM	Silty f SAND, gray, slightly moist, dense			
20								
		22 29 40		ML	F sandy SILT, light gray, slightly moist, very stiff			
25								
		37 50-4"		SM-ML	Silty f SAND/sandy SILT, light brown, slightly moist, very stiff/very dense			
30					**Boring Terminated at 29.5 feet** Boring backfilled with excavated soils. No groundwater encountered.			

DRAFT

LEGEND

Sample type: ---Ring; ---SPT; ---Small Bulk; ---Large Bulk; ---No Recovery; ---Water Table

Lab testing: AL = Atterberg Limits; SR = Sulfate/Resistivity Test; EI = Expansion Index; SH = Shear Test; SA = Sieve Analysis; HC= Consolidation; RV = R-Value Test; MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit HoldingS, LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-7

Depth (ft)	SAMPLES: Sample Type	SAMPLES: Blows/ 6 in	SAMPLES: Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:**			
		14 20 23		SP	F-m SAND, reddish light brown, dry, medium dense			
		19 32 48			F-c SAND, reddish light brown, slightly moist, very dense, with caliche and roots			
5								
		41 50-5"		ML	F sandy SILT, light brown, light gray, slightly moist, very stiff			
		20 38 50-5"			SAME			
10								
		22 20 17			F sandy SILT, light gray, slightly moist, stiff			
15								
		17 33 50-5"			SAME			
20					**Boring Terminated at 20 feet**			
					Boring backfilled with excavated soils. No groundwater encountered.			
25								
30								

DRAFT

LEGEND

Sample type: ---Ring ---SPT ---Small Bulk ---Large Bulk ---No Recovery ---Water Table

Lab testing:

AL = Atterberg Limits	EI = Expansion Index	SA = Sieve Analysis	RV = R-Value Test
SR = Sulfate/Resistivity Test	SH = Shear Test	HC= Consolidation	MD = Maximum Density

GeoTek, Inc.
LOG OF EXPLORATORY BORING

CLIENT:	Credit Holdings LLC	**DRILLER:**	2R Drilling	**LOGGED BY:**	R. Hankes
PROJECT NAME:	Adelanto	**DRILL METHOD:**	Hollow Stem	**OPERATOR:**	Jerry/Santiago
PROJECT NO.:	1569-CR	**HAMMER:**	140#/30"	**RIG TYPE:**	CME 75
LOCATION:	Muskrat Avenue/Yucca Road			**DATE:**	10/11/2016

Boring No.: B-8

Depth (ft)	Sample Type	Blows/ 6 in	Sample Number	USCS Symbol	MATERIAL DESCRIPTION AND COMMENTS	Laboratory Testing: Water Content (%)	Laboratory Testing: Dry Density (pcf)	Laboratory Testing: Others
0					**Alluvium:** Silty f SAND, light brown, dry, loose to medium dense			
		23 39 50-5"		SM-ML	Silty f SAND/sandy SILT, light brown and white, slightly moist, very stiff/very dense			
5		17 31 48		SP	F-m SAND, light brown, slightly moist, very dense			
		23 50-4"		ML	F sandy SILT, light brown and white, slightly moist, very stiff			
10								
		14 17 14		SM-ML	Silty SAND/sandy SILT, gray, slightly moist, dense/stiff			
15								
		14 24 24		ML	F sandy SILT, gray, slightly moist, stiff			
20								
		45 50-5"		SM	Silty f SAND, brownish gray, slightly moist, very dense			
25								
		18 26 24		ML	F sandy SILT, light brownish gray, slightly moist, stiff			
30					**Boring Terminated at 30 feet** Boring backfilled with excavated soils. No groundwater encountered.			

DRAFT

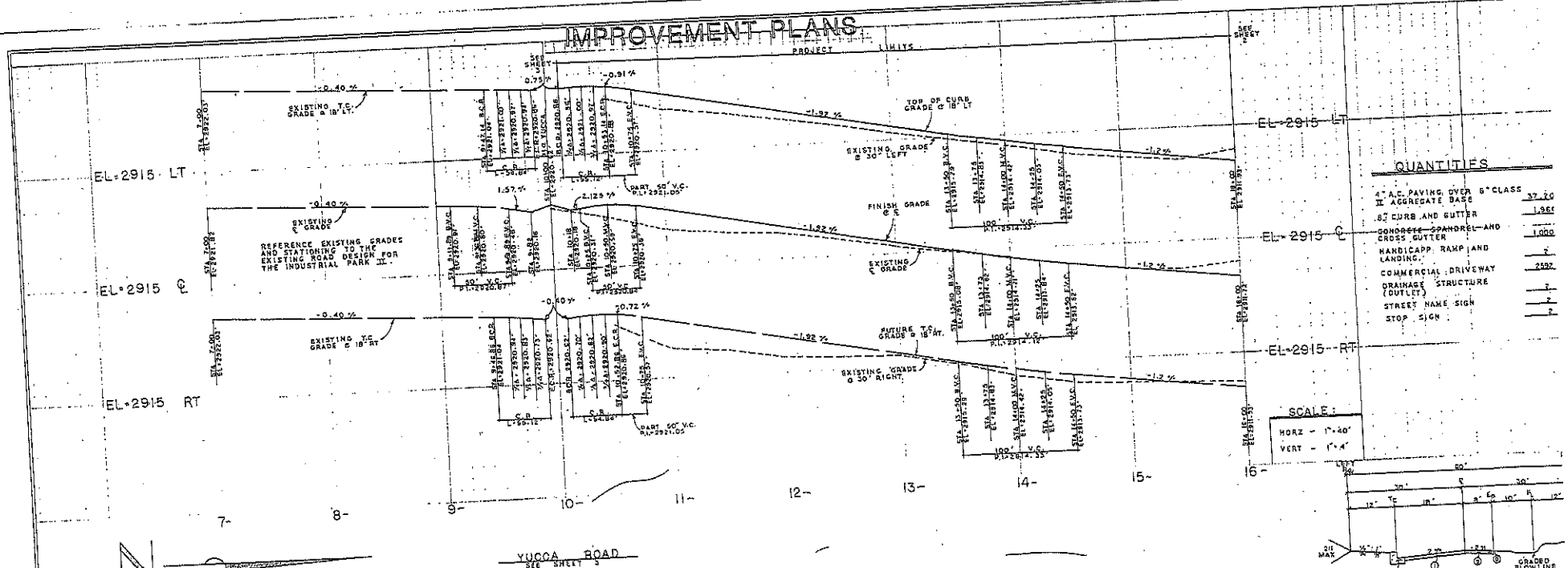
LEGEND

Sample type: ---Ring; ---SPT; ---Small Bulk; ---Large Bulk; ---No Recovery; ---Water Table

Lab testing: AL = Atterberg Limits; SR = Sulfate/Resistivity Test; EI = Expansion Index; SH = Shear Test; SA = Sieve Analysis; HC= Consolidation; RV = R-Value Test; MD = Maximum Density

APPENDIX F:
PAVING PLAN REFERENCE

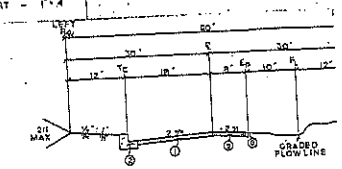
IMPROVEMENT PLANS



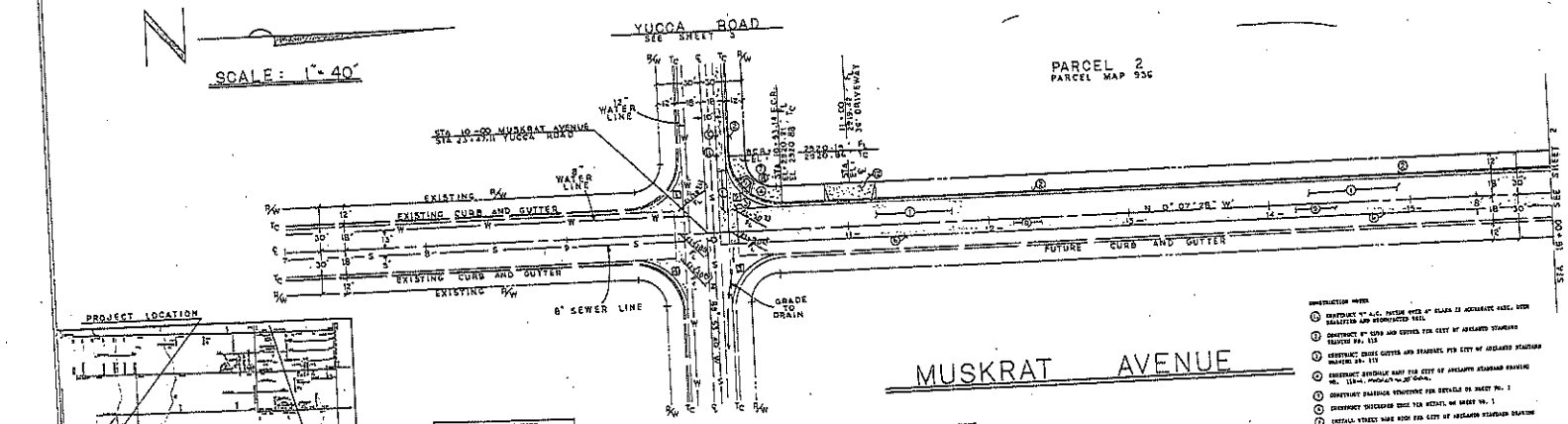
QUANTITIES

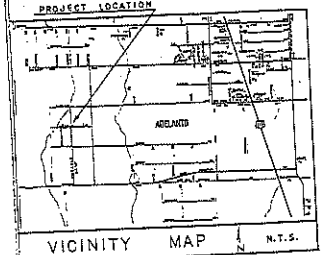
4" A.C. PAVING OVER 6" CLASS II AGGREGATE BASE	37,200
6" CURB AND GUTTER	1,960
CONCRETE COMBREL AND CROSS GUTTER	1,000
HANDICAPP. RAMP AND LANDING.	2
COMMERCIAL DRIVEWAY	2592
DRAINAGE STRUCTURE (OUTLET)	1
STREET NAME SIGN	2
STOP SIGN	2

SCALE:
HORZ - 1"=40'
VERT - 1"=4'



TYPICAL SECTION
MUSKRAT AVENUE





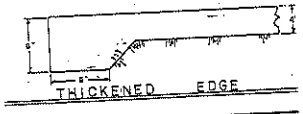
VICINITY MAP N N.T.S.

PLANS APPROVED
DATE: 11-16-92
BY: Edward H. Wimmer
CITY OF ADELANTO
TO CHANGES MAY BE MADE IN THESE PLANS WITHOUT APPROVAL OF THE CITY ENGINEER

NOTE:
INSTALL DECORATIVE LIGHT STANDARD AT MUSKRAT ROAD AND JOSHUA AVENUE WITH THE EXACT LOCATION TO BE DETERMINED WITH SITE APPROVAL

CONSTRUCTION NOTES

1. CONSTRUCT 4" A.C. PAVING OVER 6" CLASS II AGGREGATE BASE, WITH DEGRADING AND STORMWATER TEST.
2. CONSTRUCT 6" CURB AND GUTTER PER CITY OF ADELANTO STANDARD DRAWING NO. 115
3. CONSTRUCT CROSS GUTTER AND STANDARD PER CITY OF ADELANTO STANDARD DRAWING NO. 115
4. CONSTRUCT DRIVEWAY APPROACH PER CITY OF ADELANTO STANDARD DRAWING NO. 110-1, APPROACH "A" 30' CURB.
5. CONSTRUCT DRAINAGE STRUCTURE PER DETAILS ON SHEET NO. 3
6. CONSTRUCT CONCRETE EDGE PER DETAIL ON SHEET NO. 3
7. INSTALL STREET NAME SIGN PER CITY OF ADELANTO STANDARD DRAWING NO. 180 & 182A
8. INSTALL STOP SIGN (TYPE R-1) PER THE STATE OF CALIFORNIA TRAFFIC MANUAL, SECTION 2-03.3, 30" OCTAGON.
9. CONSTRUCT A.C. PAVEMENT 6" THICK CL. 2 OVER SUBGRADE ROAD TO FACILITATE TRAFFIC FLOW
10. SAWCUT 12' TO PROVIDE GOOD JOINT
11. TRANSITION & REMOVAL OF 3" OVER EXISTING PAVEMENT
12. CONSTRUCT 24" WIDE COMMERCIAL DRIVEWAY PER CITY OF ADELANTO STANDARD DRAWING NO. 110A



CURVE DATA:

NO	Δ	R	T	L
(1)	85° 46' 10"	33.00'	34.84'	34.84'
(2)	90° 13' 48"	33.00'	33.16'	33.17'
(3)	90° 13' 48"	33.00'	34.84'	34.84'
(4)	90° 13' 48"	33.00'	33.16'	33.17'

BENCH MARK

1 MILE NORTH AND 2.55 MILES WEST OF THE ADELANTO COMMUNITY SERVICE CENTER, NEAR THE INTERSECTION OF CRIPPEN AVE. AND RACCOON AVE. III CONC. MARK FOR THE NE LEG OF SCE HIGH VOLTAGE TRANSMISSION LINE TOWER NO. 8-1-3 (FIRST TOWER SOUTH OF CRIPPEN.)

ELEV. 2,857.8250

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

S & J ENGINEERING
14240 ST. ANDREWS DR. SUITE 101
VICTORVILLE, CA. 92392
(619) 241-7019
PREPARED BY: [signature] OCT-16-92
RCE 20020 BYRON WAYNE ANDERSON DATE

City of Adelanto
11600 AIRBASE ROAD
(P.O.BOX 10)
ADELANTO, CALIFORNIA
92301 (619) 246-8506

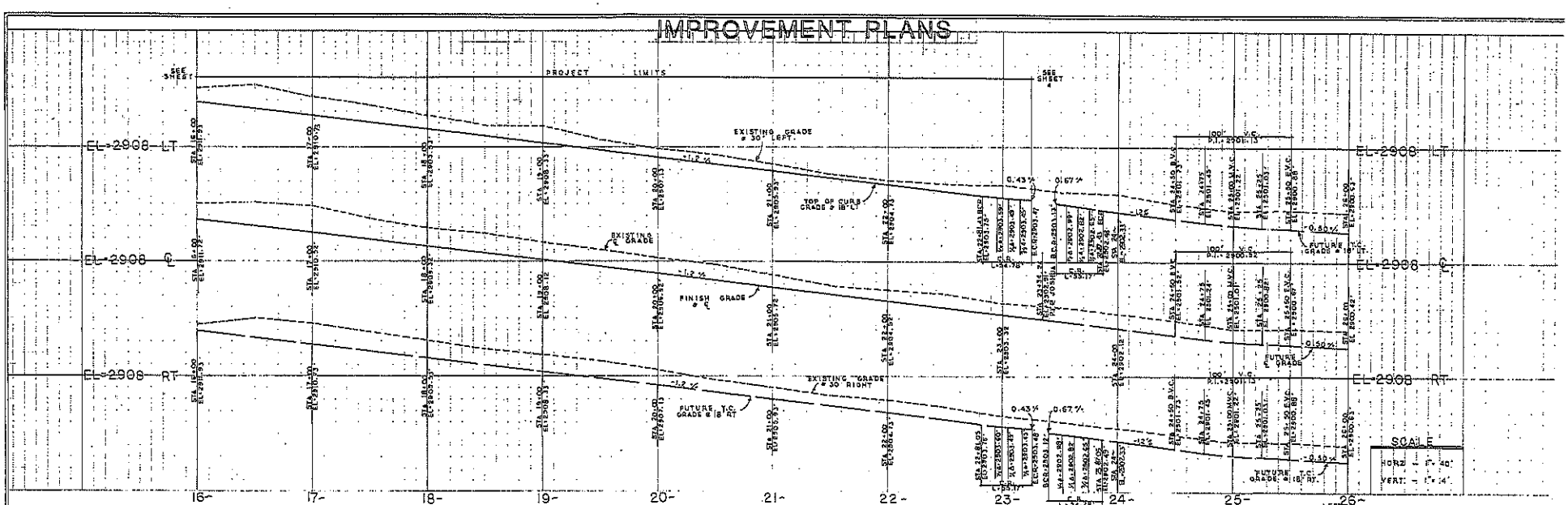
REVISIONS

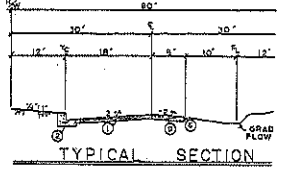
IMPROVEMENT PLAN
MUSKRAT AVENUE
PARCEL 2
PARCEL MAP 936

DATE: 8-15
DRN. BY:
DES. BY:
W.O. #:
SHEET 1 OF

25-08

IMPROVEMENT PLANS

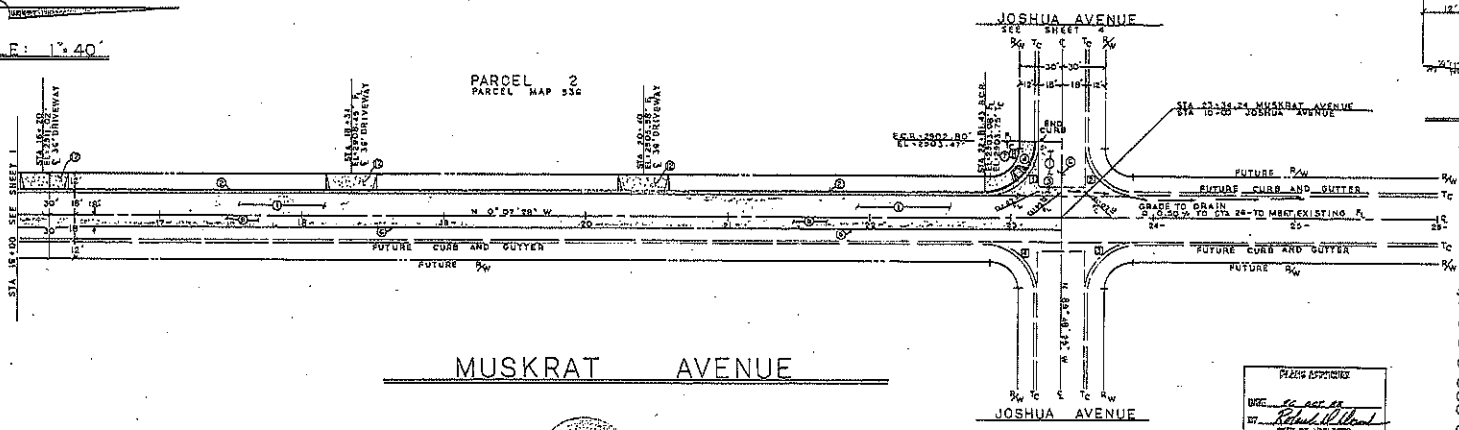




TYPICAL SECTION

MUSKRAT AVENUE

SCALE: 1" = 40'



MUSKRAT AVENUE

PLANS APPROVED
DATE 11-007-02
BY Richard M. Wood
CITY OF ADELANTO
NO CHANGES MAY BE MADE IN THESE PLANS WITHOUT APPROVAL OF THE CITY ENGINEER

CONSTRUCTION NOTES:
1. CONSTRUCT 4" A.C. PAVING OVER 6" CLASS II AGGREGATE BASE, PER SPECIFICATIONS AND RECOMMENDATIONS.
2. CONSTRUCT 8" CURB AND GUTTER PER CITY OF ADELANTO STANDARD DRAWING NO. 115
3. CONSTRUCT CROSS GUTTER AND SPANDREL PER CITY OF ADELANTO STANDARD DRAWING NO. 117
4. CONSTRUCT RESIDENTIAL RAMP PER CITY OF ADELANTO STANDARD DRAWING NO. 128-A, MODIFIED PER DETAIL
5. CONSTRUCT DRAINAGE STRUCTURE PER DETAILS ON SHEET NO. 3
6. CONSTRUCT UNDERDRAIN SYSTEM PER DETAIL ON SHEET NO. 1
7. INSTALL STREET NAME SIGN PER CITY OF ADELANTO STANDARD DRAWING NO. 361 & 362A
8. INSTALL STOP SIGN (CA6-1a+1) PER STATE OF CALIFORNIA TRAFFIC MANUAL SECTION 2-02.1, 24" OCTAGON.
9. CONSTRUCT A.C. PAVEMENT 8" EAST CL. OF MUSKRAT ROAD TO FACILITY TOILETS, PLAN
10. MATCH EX. PAVEMENT @ CONSTRUCT CROSS GUTTER
11. FEATHER A MINIMUM OF 3" OVER EXISTING PAVEMENT
12. CONSTRUCT 36" WIDE HANDICAPPED DRIVEWAY PER CITY OF ADELANTO STANDARD DRAWING NO. 129A

CURVE DATA:				
NO	Δ	R	T	L
(1)	88°40' 42"	35.00'	34.81'	54.19'
(2)	90°13' 03"	35.00'	35.18'	55.17'
(3)	89°40' 57"	35.00'	34.81'	54.78'
(4)	90° 14' 03"	35.00'	35.18'	55.17'

BENCH MARK:
1 MILE NORTH AND 2.55 MILES WEST OF THE ADELANTO COMMUNITY SERVICE CENTER, NEAR THE INTERSECTION OF CRIPPEN AVE. AND RACCOON AVE. IN CONC. BASE FOR THE NE LEG OF SCE HIGH TENSION TRANSMISSION LINE TOWER NO. 0-1-3 (FIRST TOWER SOUTH OF CRIPPEN.)
ELEV. = 2,857.4250

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORK HOURS, AND FURTHER, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

S & J ENGINEERING
14245 ST. ANDREWS DR. SUITE 101
VICTORVILLE, CA. 92392
(619) 241-7013
PREPARED BY: _____
RCE 26620 BYRON WAYNE ANDERSON DATE

City of Adelanto
11600 AIRBASE ROAD
(P.O.BOX 10)
ADELANTO, CALIFORNIA
92301 (619) 246-8806

REVISIONS

IMPROVEMENT PLAN
MUSKRAT AVENUE
PARCEL 2
PARCEL MAP 936

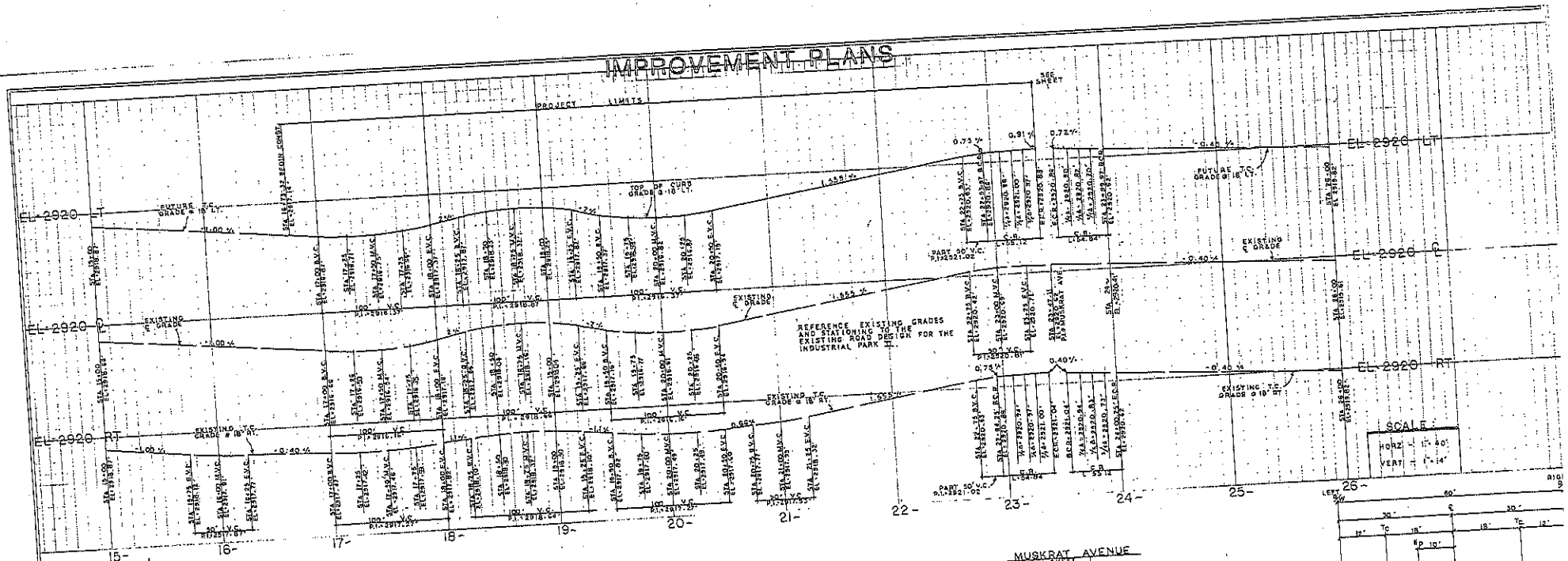
DATE 6-19
DRN BY:
DES BY:
W.O. #:
SHEET: 2 OF

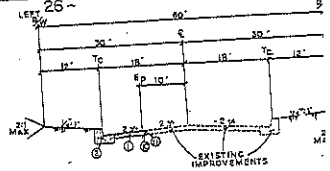
SEE SHEET 1 FOR GENERAL NOTES VICINITY MAP AND QUANTITIES

LS-001

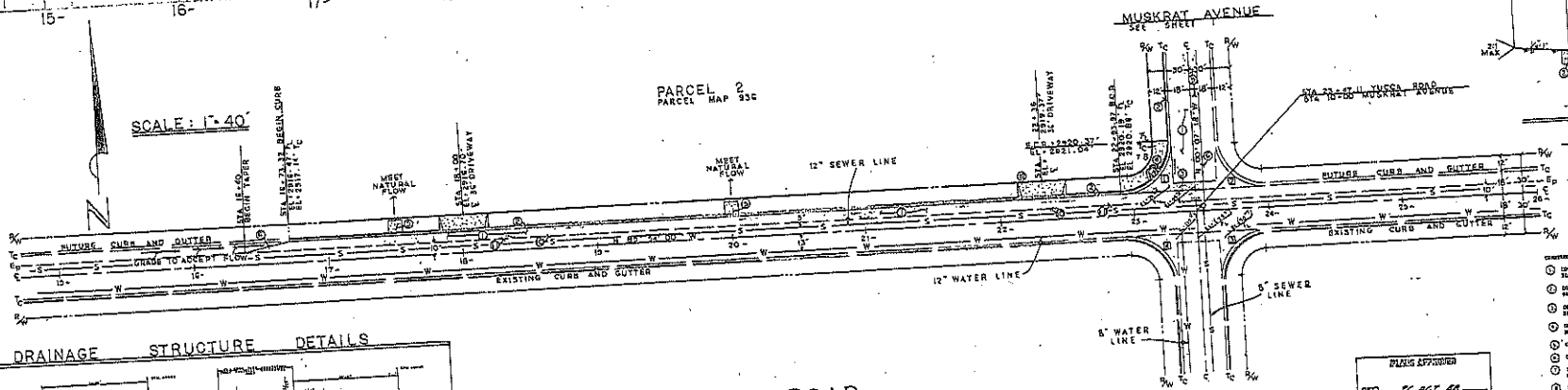
LS-001

IMPROVEMENT PLANS

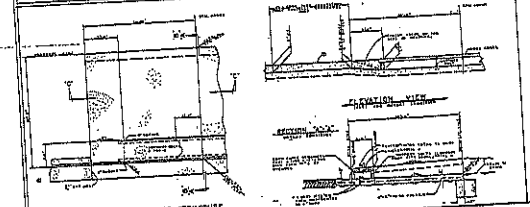




TYPICAL SECTION
YUCCA ROAD



DRAINAGE STRUCTURE DETAILS



YUCCA ROAD

BASIS OF BEARING - ℄ OF YUCCA ROAD PER EXISTING ROAD PLAN FOR THE INDUSTRIAL PARK II. BEARING BEING S89° 54' 00"-NORTHWEST.

PLANS APPROVED
CITY OF ADELANTO
NO CHANGES CAN BE MADE TO THESE PLANS WITHOUT APPROVAL OF THE CITY ENGINEER

CONSTRUCTION NOTES
1. CONSTRUCT 4" A.C. PAVING OVER 6" CLASS II AGGREGATE BASE, WITH TRACKLESS AND HYDROMASTER MIX.
2. CONSTRUCT 6" CURB AND GUTTER PER CITY OF ADELANTO STANDARD DRAWING NO. 115
3. CONSTRUCT ROLLED CURB AND STANDARD PER CITY OF ADELANTO STANDARD DRAWING NO. 115
4. CONSTRUCT DRIVEWAY APPROACH PER CITY OF ADELANTO STANDARD DRAWING NO. 110
5. CONSTRUCT DRAINAGE STRUCTURE PER DETAILS ON SHEET NO. 2
6. CONSTRUCT TRANSITION CURB PER DETAIL ON SHEET NO. 1
7. INSTALL STREET NAME SIGN PER CITY OF ADELANTO STANDARD DRAWING NO. 190 & 191
8. INSTALL STOP SIGN (STOP BAR) PER STATE OF CALIFORNIA TRAFFIC MANUAL, SECTION 2-07.2, 24" OUTSIDE.
9. CONSTRUCT A.C. PAVEMENT 8" THAT CL 98 MATERIAL SHALL BE USED TO FACILITATE TRAFFIC FLOW
10. DRAWN UP TO TRAFFIC CURB JOINT
11. FEATHER A MINIMUM OF 2" OVER EXISTING PAVEMENT
12. CONSTRUCT 24' WIDE COMMERCIAL DRIVEWAY PER CITY OF ADELANTO STANDARD DRAWING NO. 120A.

CURVE DATA:				
NO	Δ	R	T	L
(1)	50° 13' 18"	35.00'	16.74'	30.11'
(2)	89° 46' 42"	35.00'	34.96'	54.84'
(3)	50° 13' 18"	35.00'	16.74'	30.11'
(4)	89° 46' 42"	35.00'	34.96'	54.84'

BENCH MARK
1 MILE NORTH AND 2.55 MILES WEST OF THE ADELANTO COMMUNITY SERVICE CENTER, NEAR THE INTERSECTION OF CRIPPEN AVE. AND RACCOON AVE. IN CRIPPEN AVE. BASE FOR THE NE LEG OF SCE CONC. HIGH TENSION TRANSMISSION LINE TOWER NO. 5-1-3 (FIRST TOWER SOUTH OF CRIPPEN.)
M.S.L. 2,857.8260

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORK HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO INDEMNIFY, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS THEREOF, INDEMNITY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

S & J ENGINEERING
14240 ST. ANDREWS DR. SUITE 101
VICTORVILLE, CA. 92392
(619) 241-7010
PREPARED BY: _____ DATE 12-18-03
RCE 20620 BYRON WAYNE ANDERSON

City of Adelanto
11809 AIRBASE ROAD
PO BOX 10
ADELANTO, CA 92301
(619) 246-8000

REVISIONS

SEE SHEET 1 FOR GENERAL NOTES, VICINITY MAP, AND QUANTITIES

IMPROVEMENT PLAN
YUCCA ROAD
PARCEL 2
PARCEL MAP 936

DATE: 8-19-
DRN BY:
CHK'D BY:
W.O. #:
SHEET 3 OF

L5-00

THE CITY OF ADELANTO

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION (MND) IN COMPLIANCE WITH SECTIONS 21092 OF CEQA AND 15072 OF THE CEQA GUIDELINES

Case Number: Conditional Use Permit (CUP) No. 16-37 and Location and Development Plan (LDP) No. 16-23 **Applicant:** Industrial Integrity Solutions, LLC **Project Location:** Generally on the north side of Yucca Road, between Muskrat Avenue and Raccoon Avenue, Adelanto, CA, APN: 0459-432-29 and 50; **Project:** Adopt a Mitigated Negative Declaration (MND) and a Mitigation Monitoring and Reporting Program to establish a medical cannabis cultivation, manufacturing, distribution, transportation, and testing facility consisting of six (6) buildings totaling 628,425 square feet on 30.97 acres as shown on the plans on file with the City.

MND PUBLIC REVIEW PERIOD	November 30, 2016 – December 19, 2016
PLANNING COMMISSION PUBLIC HEARING	The Planning Commission will hold a public hearing to consider and take action on (1) the proposed MND and (2) applications for the Project at a future date to be determined. A separate public notice for the hearing(s) will be published.
DOCUMENTS FOR PUBLIC REVIEW ARE AVAILABLE AT:	City of Adelanto Planning Department 11600 Air Expressway Adelanto, CA 92301
PRESENCE ON THE SITE OF HAZARDOUS WASTE OR SUBSTANCES:	None

The City of Adelanto has prepared and intends to adopt a Mitigated Negative Declaration for the Project. The proposed Mitigated Negative Declaration is supported by an Initial Study that evaluated potential effects with respect to Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, and Utilities and Service Systems. The proposed Mitigated Negative Declaration determines that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because mitigation measures have been required and have been agreed to by the Applicant. The City's decision to prepare a Mitigated Negative Declaration should not be construed as a recommendation of either approval or denial of this Project.

The City will receive written comments on the proposed MND beginning November 30, 2016 through December 19, 2016. Copies of the proposed MND and supporting documents incorporated by reference in the proposed MND are available for public review and inspection during the City's normal working hours *at* the Planning Department located in the Adelanto City Hall at 11600 Air Expressway, Adelanto, California 92301. The draft Mitigated Negative Declaration and supporting documents incorporated by reference in the draft Mitigated Negative Declaration are available in electronic format on the City's website at http://www.ci.adelanto.ca.us/

The Planning Commission will hold a public hearing to consider, comment on and take action regarding (1) the proposed Mitigated Negative Declaration and a Mitigation Monitoring and Reporting Program; and (2) the applications for the Project on a future date to be determined. Please submit all written comments on the proposed MND to City Hall at the address or email below no later than 5:00 p.m. on December 19, 2016.

Mailing address:
City of Adelanto
Planning Department
Attn: Reuben Arceo, Project Manager
11600 Air Expressway
Adelanto, CA 92301

Email address/Phone:
swilliams@ci.adelanto.ca.us
(760) 246—2300 Ext. 1182

If you challenge this Project in court, you may be limited to raising only those issues you or someone else raised during the public review period on the proposed Mitigated Negative Declaration or at the any future public hearings.

Publish Date: November 30, 2016

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS – OCTOBER 2016

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	1	16	2	19	2	3	0	5	0	1	1	2	27
07:15 AM	0	0	0	0	1	9	2	12	0	0	0	0	0	4	0	4	16
07:30 AM	0	0	0	0	0	7	4	11	3	1	1	5	0	1	1	2	18
07:45 AM	1	1	0	2	1	17	4	22	1	4	0	5	0	2	4	6	35
Total	1	2	0	3	3	49	12	64	6	8	1	15	0	8	6	14	96
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	1	2	5
08:15 AM	0	0	0	0	0	5	0	5	1	1	0	2	0	2	2	4	11
08:30 AM	1	1	0	2	0	1	1	2	1	1	1	3	0	0	3	3	10
08:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	0	2	1	3	7
Total	1	1	0	2	0	12	1	13	3	2	1	6	0	5	7	12	33
Grand Total	2	3	0	5	3	61	13	77	9	10	2	21	0	13	13	26	129
Apprch %	40	60	0		3.9	79.2	16.9		42.9	47.6	9.5		0	50	50		
Total %	1.6	2.3	0	3.9	2.3	47.3	10.1	59.7	7	7.8	1.6	16.3	0	10.1	10.1	20.2	
Passenger Vehicles	1	3	0	4	2	58	12	72	8	10	2	20	0	11	11	22	118
% Passenger Vehicles	50	100	0	80	66.7	95.1	92.3	93.5	88.9	100	100	95.2	0	84.6	84.6	84.6	91.5
Large 2 Axle Vehicles	0	0	0	0	0	1	0	1	1	0	0	1	0	0	2	2	4
% Large 2 Axle Vehicles	0	0	0	0	0	1.6	0	1.3	11.1	0	0	4.8	0	0	15.4	7.7	3.1
3 Axle Vehicles	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
% 3 Axle Vehicles	0	0	0	0	33.3	3.3	0	3.9	0	0	0	0	0	0	0	0	2.3
4+ Axle Trucks	1	0	0	1	0	0	1	1	0	0	0	0	0	2	0	2	4
% 4+ Axle Trucks	50	0	0	20	0	0	7.7	1.3	0	0	0	0	0	15.4	0	7.7	3.1

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	0	1	1	16	2	19	2	3	0	5	0	1	1	2	27
07:15 AM	0	0	0	0	1	9	2	12	0	0	0	0	0	4	0	4	16
07:30 AM	0	0	0	0	0	7	4	11	3	1	1	5	0	1	1	2	18
07:45 AM	1	1	0	2	1	17	4	22	1	4	0	5	0	2	4	6	35
Total Volume	1	2	0	3	3	49	12	64	6	8	1	15	0	8	6	14	96
% App. Total	33.3	66.7	0		4.7	76.6	18.8		40	53.3	6.7		0	57.1	42.9		
PHF	.250	.500	.000	.375	.750	.721	.750	.727	.500	.500	.250	.750	.000	.500	.375	.583	.686

Counts Unlimited, Inc.
PO Box 1178
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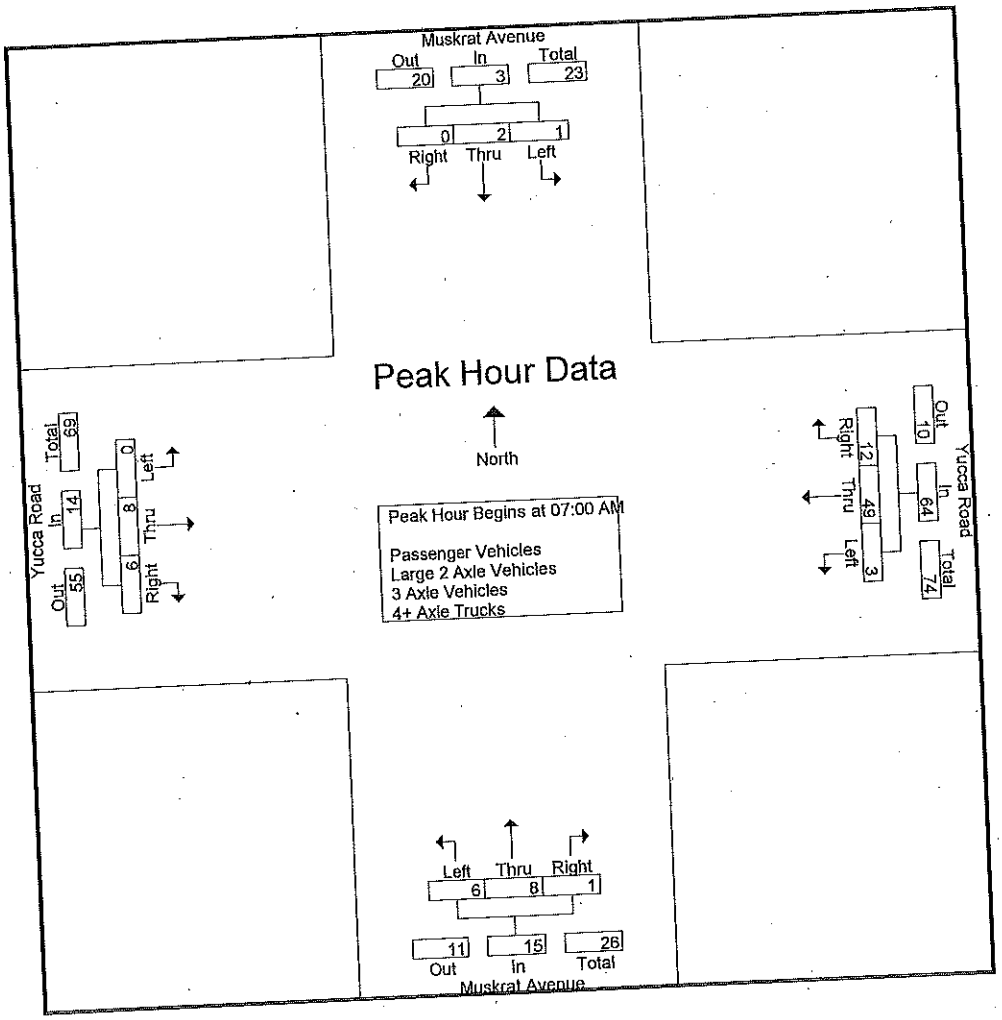
(951) 268-6268

File Name : ADLMUYUAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 2

City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:00 AM				07:00 AM				07:45 AM			
+0 mins.	**1**	**1**	0	**2**	**1**	16	2	19	2	3	0	**5**	0	**2**	**4**	**6**
+15 mins.	0	0	0	0	1	9	2	12	0	0	0	0	0	1	1	2
+30 mins.	0	0	0	0	0	7	**4**	11	**3**	1	**1**	5	0	2	2	4
+45 mins.	1	1	0	2	1	**17**	4	**22**	1	**4**	0	5	0	0	3	3
Total Volume	2	2	0	4	3	49	12	64	6	8	1	15	0	5	10	15
% App. Total	50	50	0		4.7	76.6	18.8		40	53.3	6.7		0	33.3	66.7	
PHF	.500	.500	.000	.500	.750	.721	.750	.727	.500	.500	.250	.750	.000	.625	.625	.625

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City of Adelanto
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File Name : ADLMUYUAM
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Start Date : 10/27/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	1	15	2	18	2	3	0	5	0	1	1	2	26
07:15 AM	0	0	0	0	0	8	2	10	0	0	0	0	0	4	0	4	14
07:30 AM	0	0	0	0	0	7	3	10	2	1	1	4	0	1	1	2	16
07:45 AM	0	1	0	1	1	16	4	21	1	4	0	5	0	2	4	6	33
Total	0	2	0	2	2	46	11	59	5	8	1	14	0	8	6	14	89
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	5	0	5	1	1	0	2	0	2	2	4	11
08:30 AM	1	1	0	2	0	1	1	2	1	1	1	3	0	0	2	2	9
08:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	0	1	1	2	6
Total	1	1	0	2	0	12	1	13	3	2	1	6	0	3	5	8	29
Grand Total	1	3	0	4	2	58	12	72	8	10	2	20	0	11	11	22	118
Apprch %	25	75	0		2.8	80.6	16.7		40	50	10		0	50	50		
Total %	0.8	2.5	0	3.4	1.7	49.2	10.2	61	6.8	8.5	1.7	16.9	0	9.3	9.3	18.6	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	0	1	1	15	2	18	2	3	0	5	0	1	1	2	26
07:15 AM	0	0	0	0	0	8	2	10	0	0	0	0	0	4	0	4	14
07:30 AM	0	0	0	0	0	7	3	10	2	1	1	4	0	1	1	2	16
07:45 AM	0	1	0	1	1	16	4	21	1	4	0	5	0	2	4	6	33
Total Volume	0	2	0	2	2	46	11	59	5	8	1	14	0	8	6	14	89
% App. Total	0	100	0		3.4	78	18.6		35.7	57.1	7.1		0	57.1	42.9		
PHF	.000	.500	.000	.500	.500	.719	.688	.702	.625	.500	.250	.700	.000	.500	.375	.583	.674

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City of Adelanto
N/S: Muskrat Avenue
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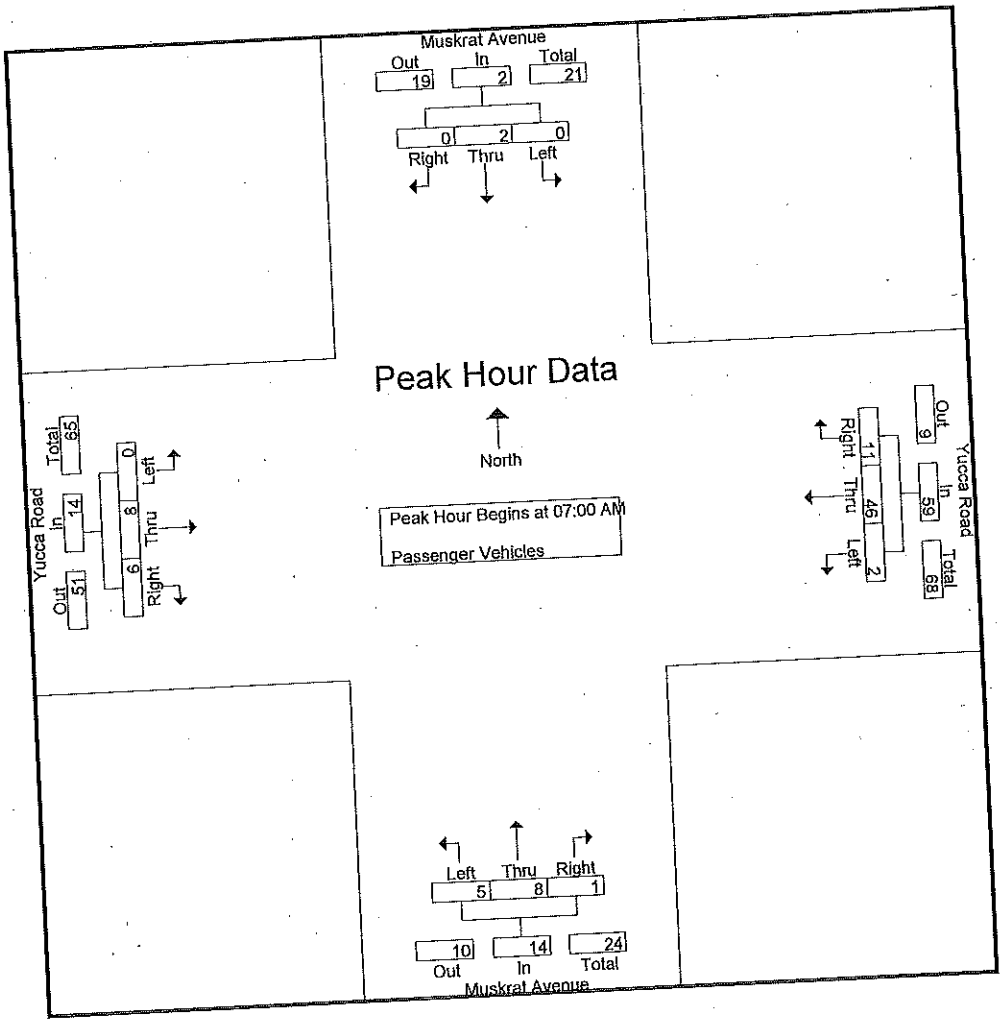
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	1	0	1	1	15	2	18	2	3	0	5	0	1	1	2
+15 mins.	0	0	0	0	0	8	2	10	0	0	0	0	0	4	0	4
+30 mins.	0	0	0	0	0	7	3	10	2	1	1	4	0	1	1	2
+45 mins.	0	1	0	1	1	**16**	**4**	**21**	1	**4**	0	5	0	2	**4**	**6**
Total Volume	0	2	0	2	2	46	11	59	5	8	1	14	0	8	6	14
% App. Total	0	100	0		3.4	78	18.6		35.7	57.1	7.1		0	57.1	42.9	
PHF	.000	.500	.000	.500	.500	.719	.688	.702	.625	.500	.250	.700	.000	.500	.375	.583

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City of Adelanto
N/S: Muskrat Avenue
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File Name : ADLMUYUAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Grand Total	0	0	0	0	0	1	0	1	1	0	0	1	0	0	2	2	4
Apprch %	0	0	0		0	100	0		100	0	0		0	0	100		
Total %	0	0	0	0	0	25	0	25	25	0	0	25	0	0	50	50	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
% App. Total	0	0	0		0	100	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.500

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City of Adelanto
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File Name : ADLMUYUAM
Site Code : 05116575
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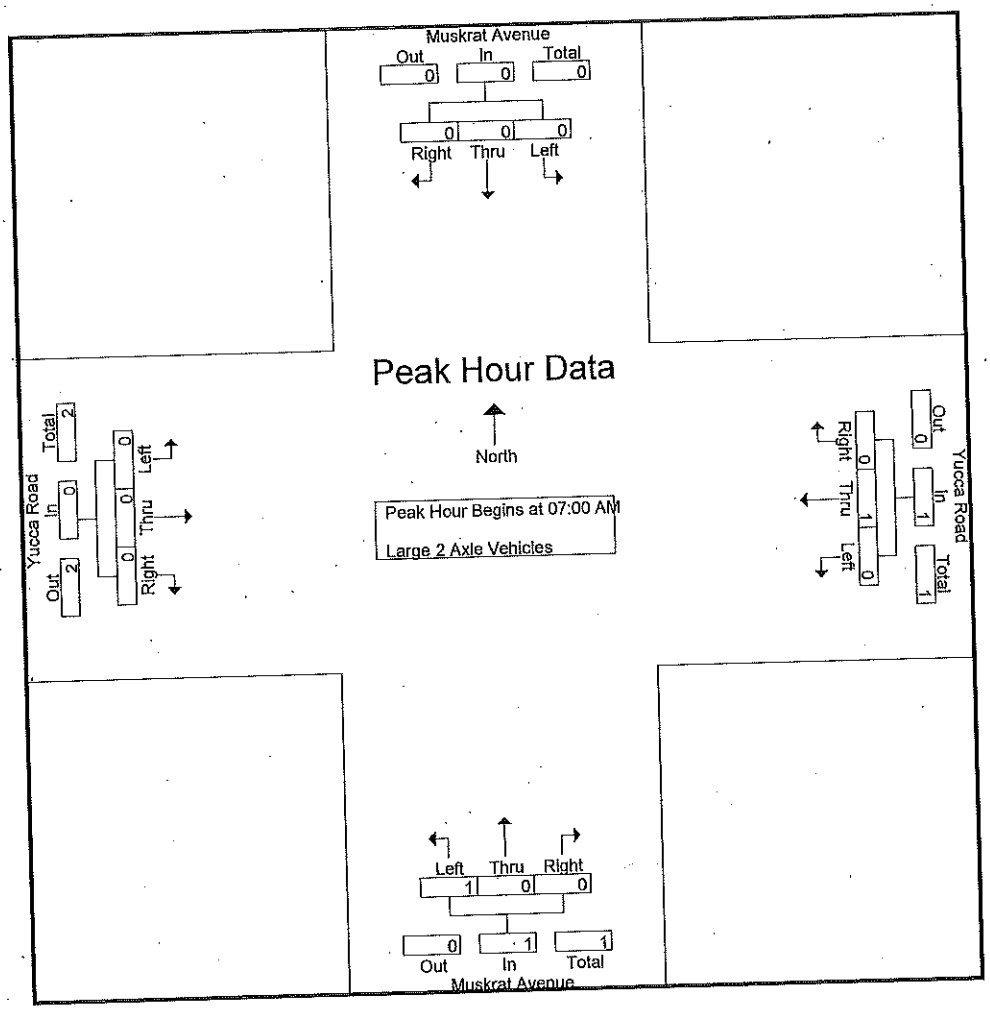
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0
% App. Total	0	0	0		0	100	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000

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City of Adelanto
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File Name : ADLMUYUAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
Apprch %	0	0	0		33.3	66.7	0		0	0	0		0	0	0		
Total %	0	0	0	0	33.3	66.7	0	100	0	0	0	0	0	0	0	0	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		33.3	66.7	0		0	0	0		0	0	0		3
PHF	.000	.000	.000	.000	.250	.500	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000	.375

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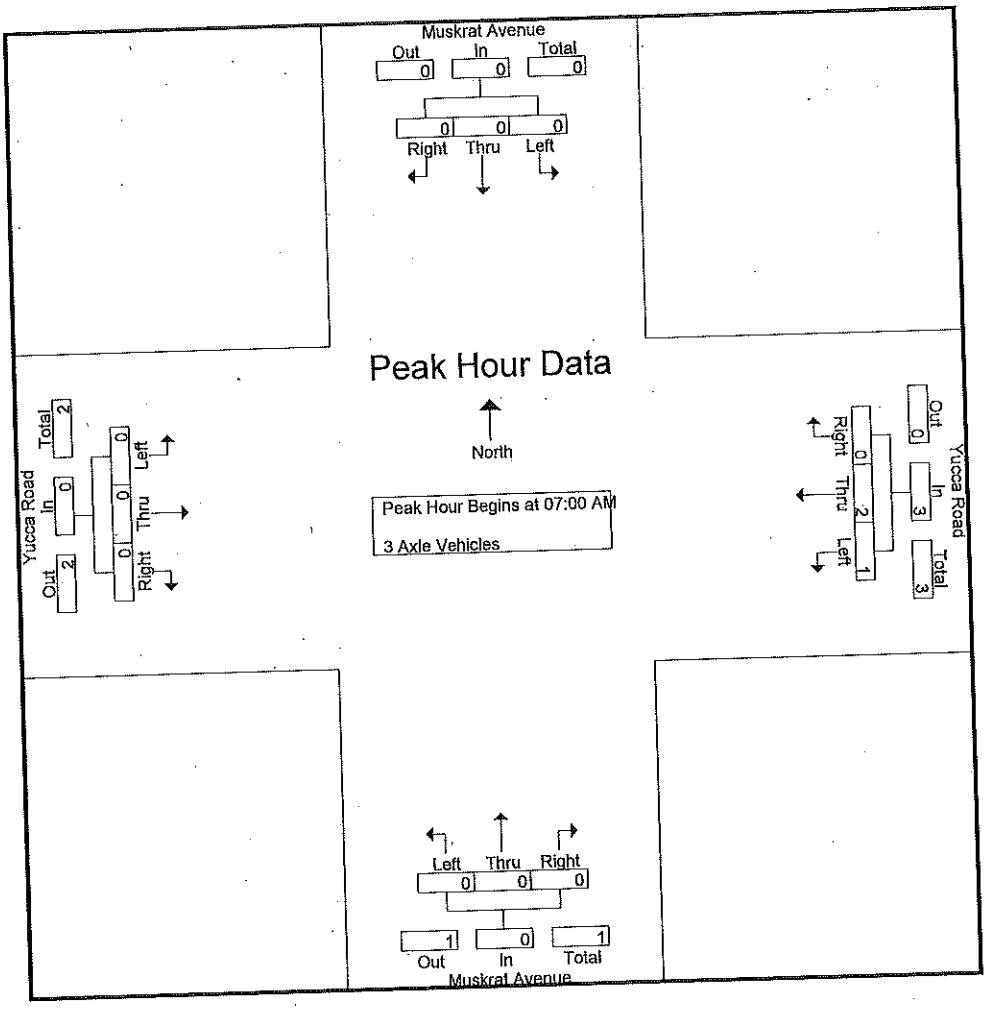

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	
% App. Total	0	0	0		33.3	66.7	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.250	.500	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
07:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Grand Total	1	0	0	1	0	0	1	1	0	0	0	0	0	2	0	2	4
Apprch %	100	0	0		0	0	100		0	0	0		0	100	0		
Total %	25	0	0	25	0	0	25	25	0	0	0	0	0	50	0	50	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
07:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
% App. Total	100	0	0		0	0	100		0	0	0		0	0	0		
PHF	.250	.000	.000	.250	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.500

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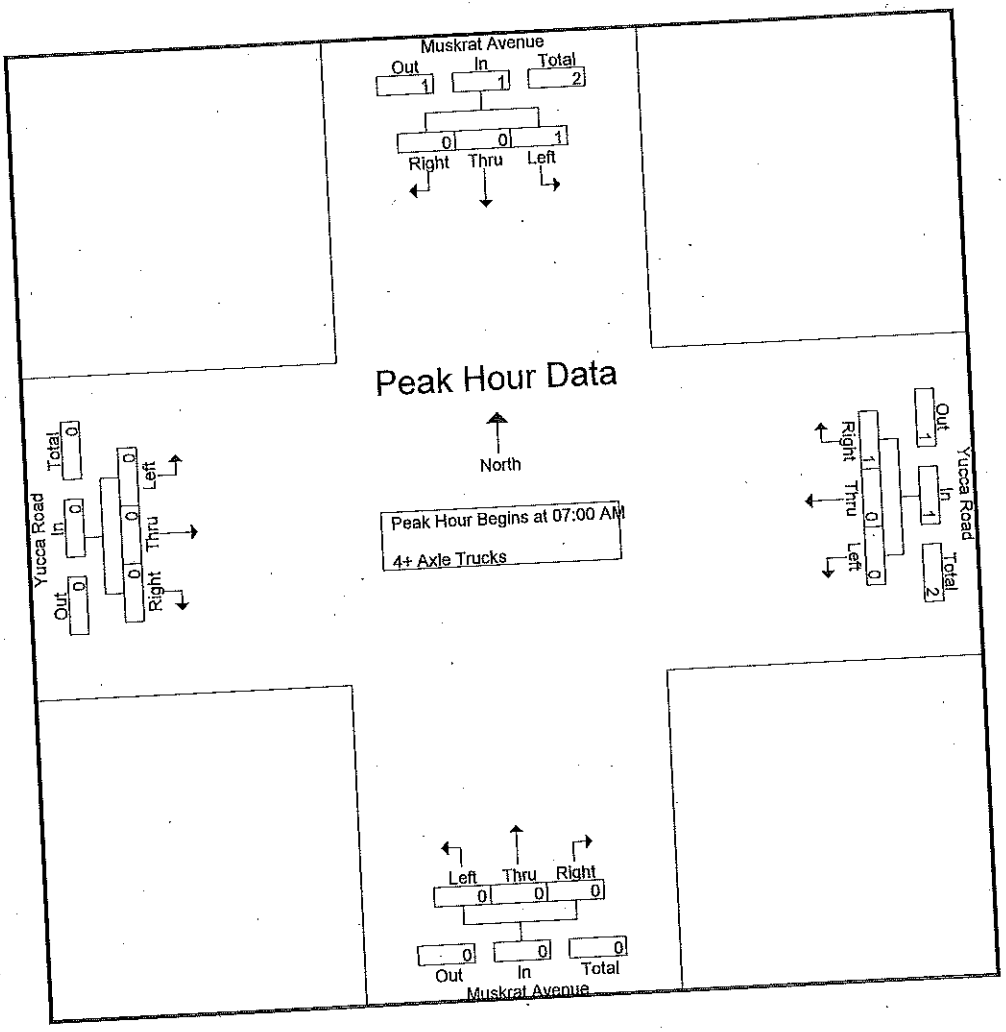
City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
+45 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0
% App. Total	100	0	0		0	0	100		0	0	0		0	0	0	
PHF	.250	.000	.000	.250	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000

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City of Adelanto
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	1	1	0	2	4	0	0	4	1	6	5	12	20
04:15 PM	0	2	0	2	0	1	0	1	0	1	1	2	0	8	3	11	16
04:30 PM	2	3	4	9	1	0	1	2	6	1	0	7	1	9	2	12	30
04:45 PM	1	4	0	5	0	1	1	2	0	1	0	1	1	7	1	9	17
Total	4	10	4	18	2	3	2	7	10	3	1	14	3	30	11	44	83
05:00 PM	5	8	2	15	0	2	0	2	0	1	2	3	1	5	1	7	27
05:15 PM	0	1	0	1	0	0	0	0	2	1	1	4	0	9	3	12	17
05:30 PM	1	1	0	2	0	2	0	2	0	0	0	0	0	8	1	9	13
05:45 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	3	0	3	6
Total	6	12	2	20	0	5	0	5	2	2	3	7	1	25	5	31	63
Grand Total	10	22	6	38	2	8	2	12	12	5	4	21	4	55	16	75	146
Apprch %	26.3	57.9	15.8		16.7	66.7	16.7		57.1	23.8	19		5.3	73.3	21.3		
Total %	6.8	15.1	4.1	26	1.4	5.5	1.4	8.2	8.2	3.4	2.7	14.4	2.7	37.7	11	51.4	
Passenger Vehicles	9	20	6	35	2	8	2	12	12	4	4	20	2	54	16	72	139
% Passenger Vehicles	90	90.9	100	92.1	100	100	100	100	100	80	100	95.2	50	98.2	100	96	95.2
Large 2 Axle Vehicles	1	2	0	3	0	0	0	0	0	1	0	1	1	0	0	1	5
% Large 2 Axle Vehicles	10	9.1	0	7.9	0	0	0	0	0	20	0	4.8	25	0	0	1.3	3.4
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	25	1.8	0	2.7	1.4
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	3	4	9	1	0	1	2	6	1	0	7	1	9	2	12	30
04:45 PM	1	4	0	5	0	1	1	2	0	1	0	1	1	7	1	9	17
05:00 PM	5	8	2	15	0	2	0	2	0	1	2	3	1	5	1	7	27
05:15 PM	0	1	0	1	0	0	0	0	2	1	1	4	0	9	3	12	17
Total Volume	8	16	6	30	1	3	2	6	8	4	3	15	3	30	7	40	91
% App. Total	26.7	53.3	20		16.7	50	33.3		53.3	26.7	20		7.5	75	17.5		
PHF	.400	.500	.375	.500	.250	.375	.500	.750	.333	1.00	.375	.536	.750	.833	.583	.833	.758

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City of Adelanto
N/S: Muskrat Avenue
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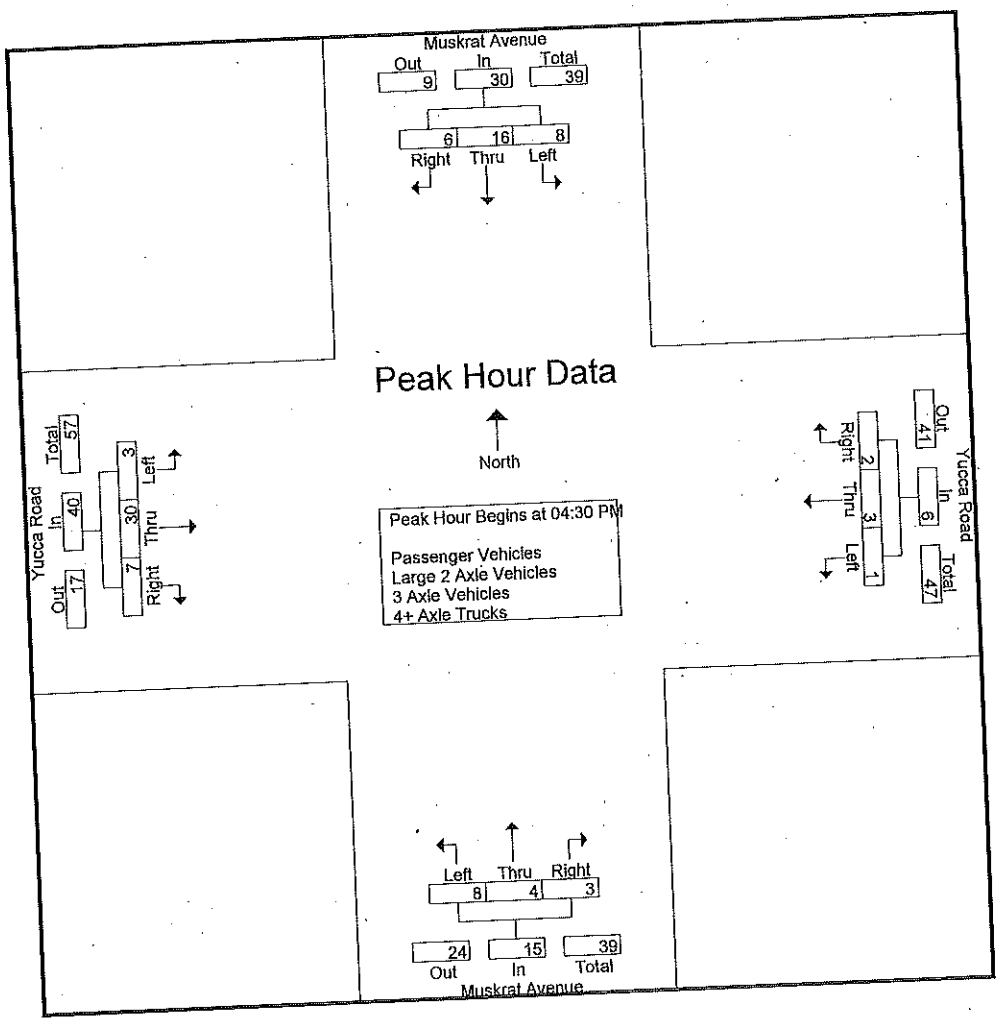
Weather: Clear



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:30 PM				04:00 PM			
+0 mins.	0	2	0	2	1	1	0	2	6	1	0	7	1	6	5	12
+15 mins.	2	3	4	9	0	1	0	1	0	1	0	1	0	8	3	11
+30 mins.	1	4	0	5	1	0	1	2	0	1	2	3	1	9	2	12
+45 mins.	5	8	2	15	0	1	1	2	2	1	1	4	1	7	1	9
Total Volume	8	17	6	31	2	3	2	7	8	4	3	15	3	30	11	44
% App. Total	25.8	54.8	19.4		28.6	42.9	28.6		53.3	26.7	20		6.8	68.2	25	
PHF	.400	.531	.375	.517	.500	.750	.500	.875	.333	1.000	.375	.536	.750	.833	.550	.917

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Groups Printed- Passenger Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	1	1	0	2	4	0	0	4	1	5	5	11	19
04:15 PM	0	1	0	1	0	1	0	1	0	0	1	1	0	8	3	11	14
04:30 PM	2	3	4	9	1	0	1	2	6	1	0	7	0	9	2	11	29
04:45 PM	0	3	0	3	0	1	1	2	0	1	0	1	0	7	1	8	14
Total	3	8	4	15	2	3	2	7	10	2	1	13	1	29	11	41	76
05:00 PM	5	8	2	15	0	2	0	2	0	1	2	3	1	5	1	7	27
05:15 PM	0	1	0	1	0	0	0	0	2	1	1	4	0	9	3	12	17
05:30 PM	1	1	0	2	0	2	0	2	0	0	0	0	0	8	1	9	13
05:45 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	3	0	3	6
Total	6	12	2	20	0	5	0	5	2	2	3	7	1	25	5	31	63
Grand Total	9	20	6	35	2	8	2	12	12	4	4	20	2	54	16	72	139
Apprch %	25.7	57.1	17.1		16.7	66.7	16.7		60	20	20		2.8	75	22.2		
Total %	6.5	14.4	4.3	25.2	1.4	5.8	1.4	8.6	8.6	2.9	2.9	14.4	1.4	38.8	11.5	51.8	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	3	4	9	1	0	1	2	6	1	0	7	0	9	2	11	29
04:45 PM	0	3	0	3	0	1	1	2	0	1	0	1	0	7	1	8	14
05:00 PM	5	8	2	15	0	2	0	2	0	1	2	3	1	5	1	7	27
05:15 PM	0	1	0	1	0	0	0	0	2	1	1	4	0	9	3	12	17
Total Volume	7	15	6	28	1	3	2	6	8	4	3	15	1	30	7	38	87
% App. Total	25	53.6	21.4		16.7	50	33.3		53.3	26.7	20		2.6	78.9	18.4		
PHF	.350	.469	.375	.467	.250	.375	.500	.750	.333	1.00	.375	.536	.250	.833	.583	.792	.750

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File Name : ADLMUYUPM
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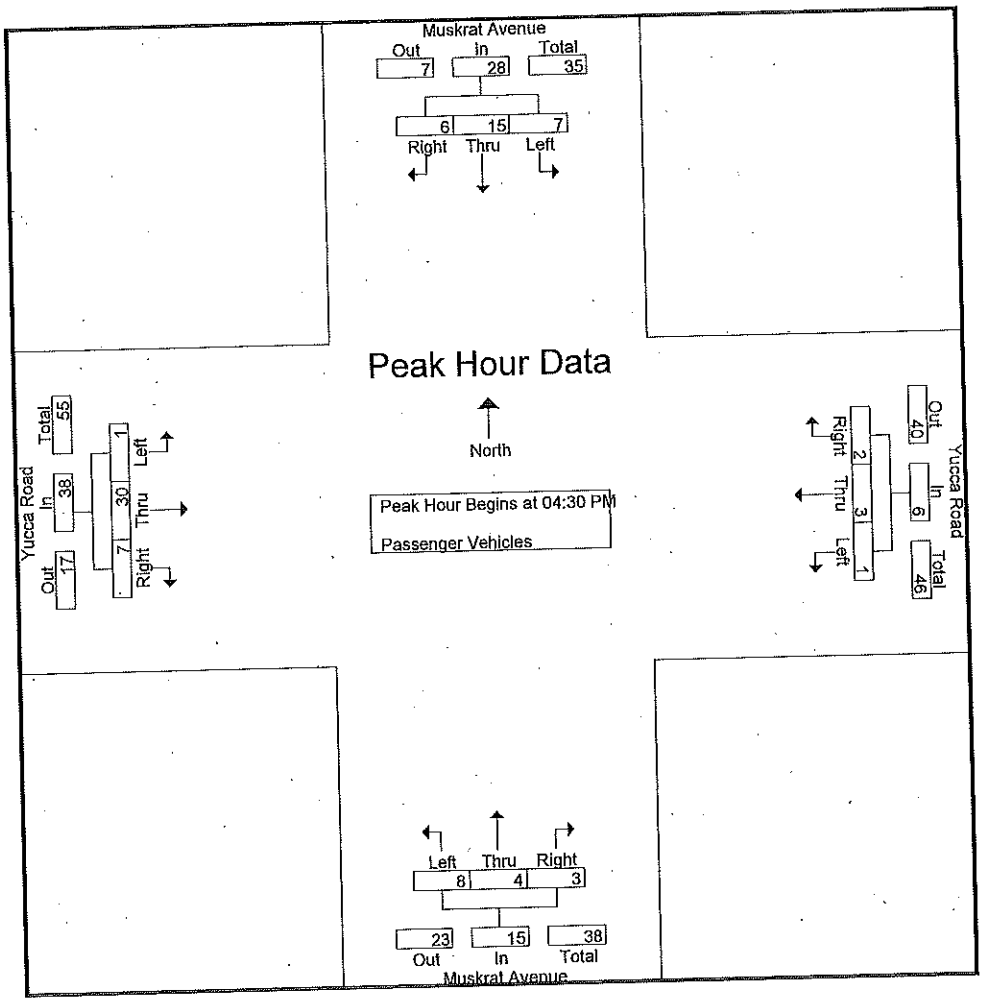

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	2	3	**4**	9	**1**	0	**1**	**2**	**6**	**1**	0	**7**	0	**9**	2	11
+15 mins.	0	3	0	3	0	1	1	2	0	1	0	1	0	7	1	8
+30 mins.	**5**	**8**	2	**15**	0	**2**	0	2	0	1	**2**	3	**1**	5	1	7
+45 mins.	0	1	0	1	0	0	0	0	2	1	1	4	0	9	**3**	**12**
Total Volume	7	15	6	28	1	3	2	6	8	4	3	15	1	30	7	38
% App. Total	25	53.6	21.4		16.7	50	33.3		53.3	26.7	20		2.6	78.9	18.4	
PHF	.350	.469	.375	.467	.250	.375	.500	.750	.333	1.000	.375	.536	.250	.833	.583	.792

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Groups Printed- Large 2 Axle Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Total	1	2	0	3	0	0	0	0	0	1	0	1	1	0	0	1	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	2	0	3	0	0	0	0	0	1	0	1	1	0	0	1	5
Apprch %	33.3	66.7	0		0	0	0		0	100	0		100	0	0		
Total %	20	40	0	60	0	0	0	0	0	20	0	20	20	0	0	20	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
% App. Total	50	50	0		0	0	0		0	0	0		100	0	0		
PHF	.250	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

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City of Adelanto
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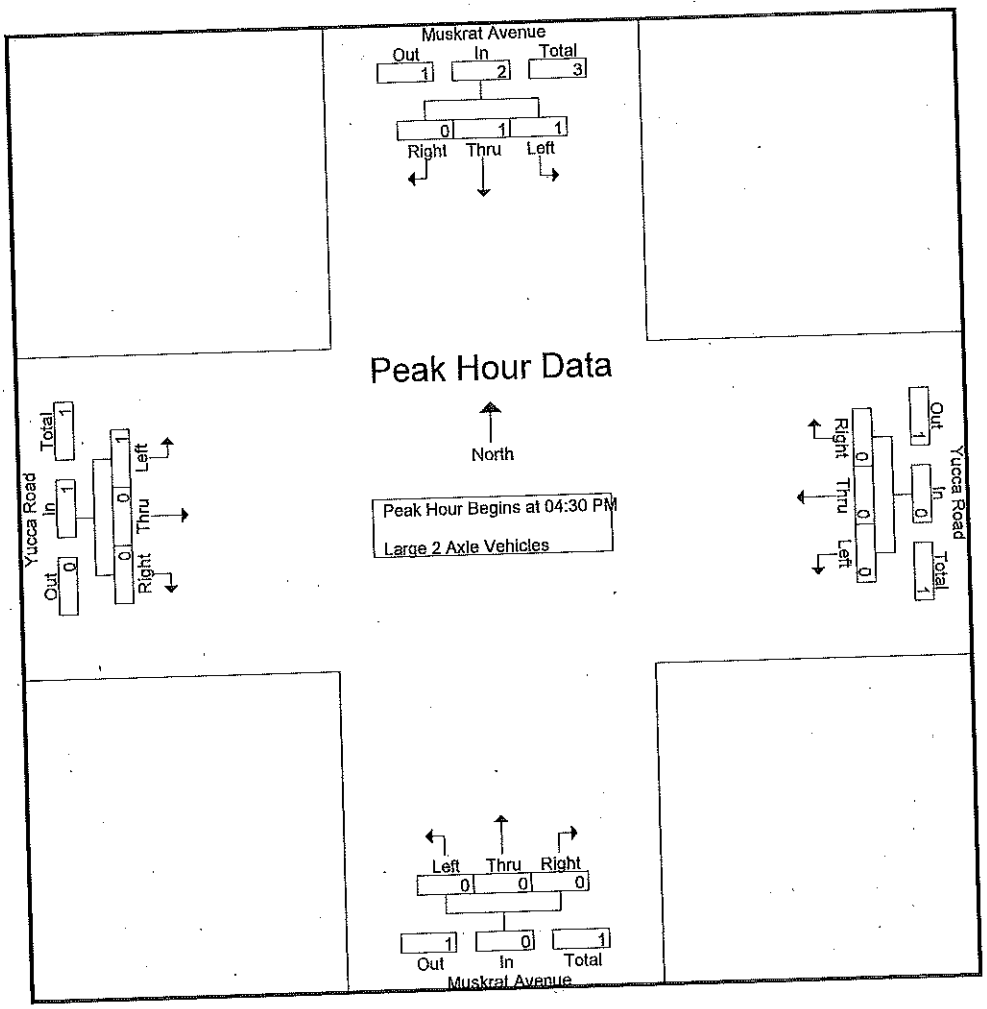

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	50	50	0		0	0	0		0	0	0		100	0	0	
PHF	.250	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

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Groups Printed- 3 Axle Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
Apprch %	0	0	0		0	0	0		0	0	0		50	50	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	100	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

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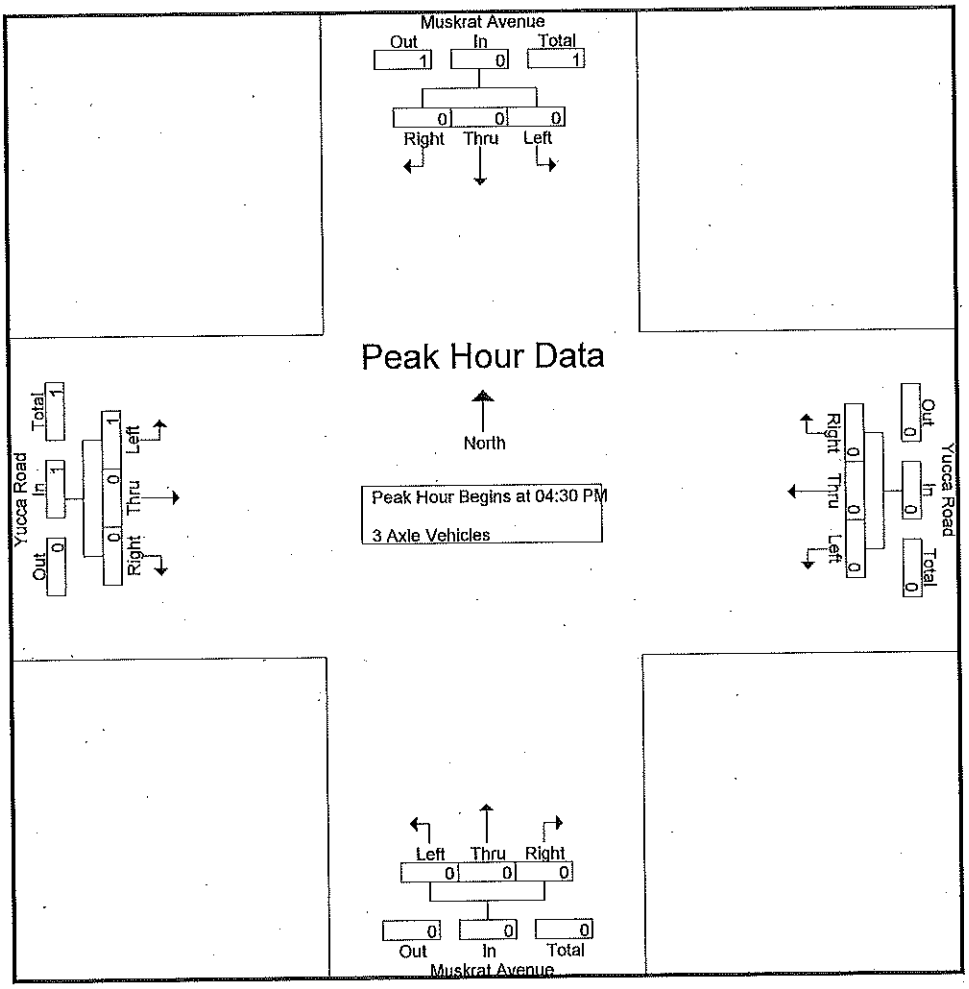
City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUPM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUPM
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Groups Printed- 4+ Axle Trucks

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Site Code : 05116575
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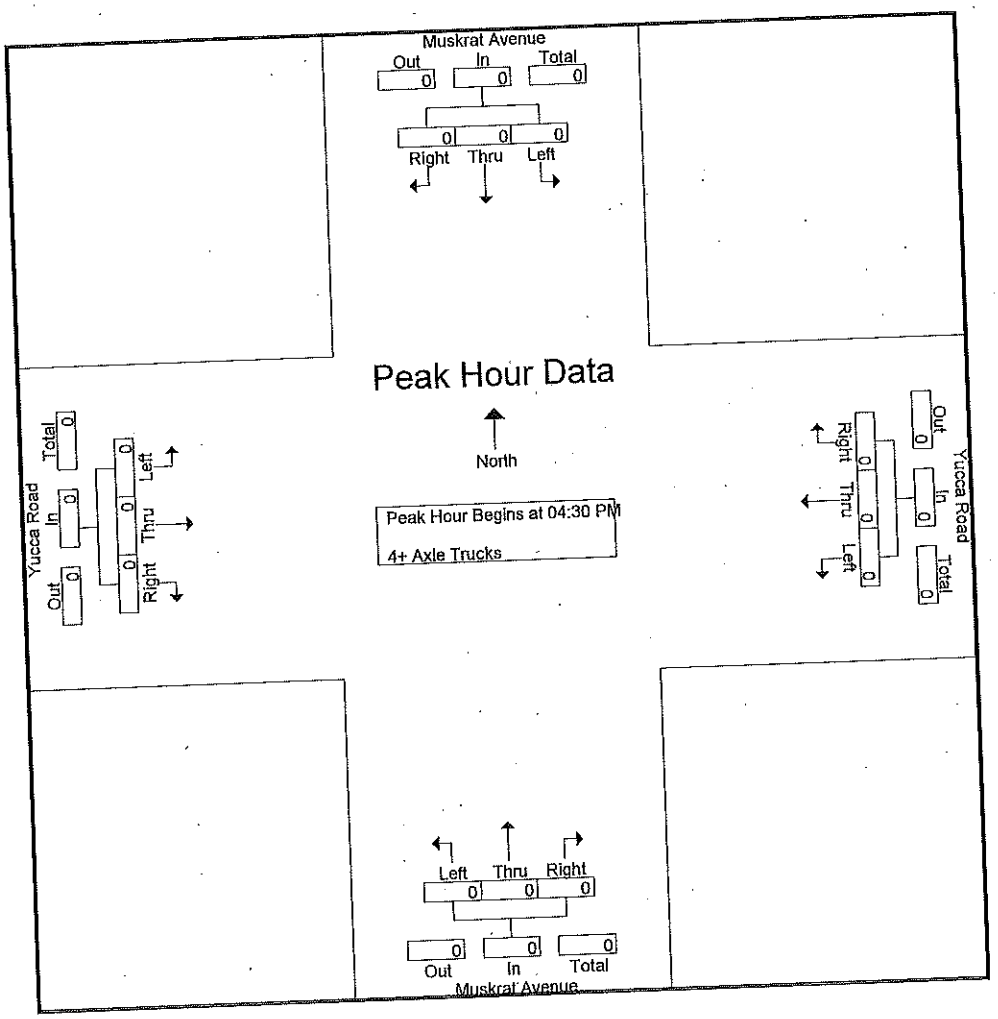
City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Adelanto
N/S: Muskrat Avenue
E/W: Yucca Avenue

Date: 10/27/2016
Day: Thursday

PEDESTRIANS

	North Leg Muskrat Avenue	East Leg Yucca Avenue	South Leg Muskrat Avenue	West Leg Yucca Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	1	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

	North Leg Muskrat Avenue	East Leg Yucca Avenue	South Leg Muskrat Avenue	West Leg Yucca Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Adelanto
N/S: Muskrat Avenue
E/W: Yucca Avenue

Date: 10/27/2016
Day: Thursday

BICYCLES

	North Leg Muskrat Avenue	East Leg Yucca Avenue	South Leg Muskrat Avenue	West Leg Yucca Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Muskrat Avenue	East Leg Yucca Avenue	South Leg Muskrat Avenue	West Leg Yucca Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	5	0	5	53	15	68	1	28	29	102
07:15 AM	1	0	1	32	1	33	0	17	17	51
07:30 AM	2	3	5	22	6	28	2	19	21	54
07:45 AM	0	1	1	33	6	39	1	21	22	62
Total	8	4	12	140	28	168	4	85	89	269
08:00 AM	2	3	5	30	5	35	1	32	33	73
08:15 AM	1	3	4	27	6	33	0	33	33	70
08:30 AM	6	0	6	23	3	26	2	26	28	60
08:45 AM	2	1	3	22	5	27	1	16	17	47
Total	11	7	18	102	19	121	4	107	111	250
Grand Total	19	11	30	242	47	289	8	192	200	519
Apprch %	63.3	36.7		83.7	16.3		4	96		
Total %	3.7	2.1	5.8	46.6	9.1	55.7	1.5	37	38.5	
Passenger Vehicles	15	8	23	219	47	266	6	151	157	446
% Passenger Vehicles	78.9	72.7	76.7	90.5	100	92	75	78.6	78.5	85.9
Large 2 Axle Vehicles	3	2	5	11	0	11	2	19	21	37
% Large 2 Axle Vehicles	15.8	18.2	16.7	4.5	0	3.8	25	9.9	10.5	7.1
3 Axle Vehicles	0	1	1	1	0	1	0	3	3	5
% 3 Axle Vehicles	0	9.1	3.3	0.4	0	0.3	0	1.6	1.5	1
4+ Axle Trucks	1	0	1	11	0	11	0	19	19	31
% 4+ Axle Trucks	5.3	0	3.3	4.5	0	3.8	0	9.9	9.5	6

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	5	0	5	53	15	68	1	28	29	102
07:15 AM	1	0	1	32	1	33	0	17	17	51
07:30 AM	2	3	5	22	6	28	2	19	21	54
07:45 AM	0	1	1	33	6	39	1	21	22	62
Total Volume	8	4	12	140	28	168	4	85	89	269
% App. Total	66.7	33.3		83.3	16.7		4.5	95.5		
PHF	.400	.333	.600	.660	.467	.618	.500	.759	.767	.659

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNAM
Site Code : 05116575
Start Date : 10/27/2016
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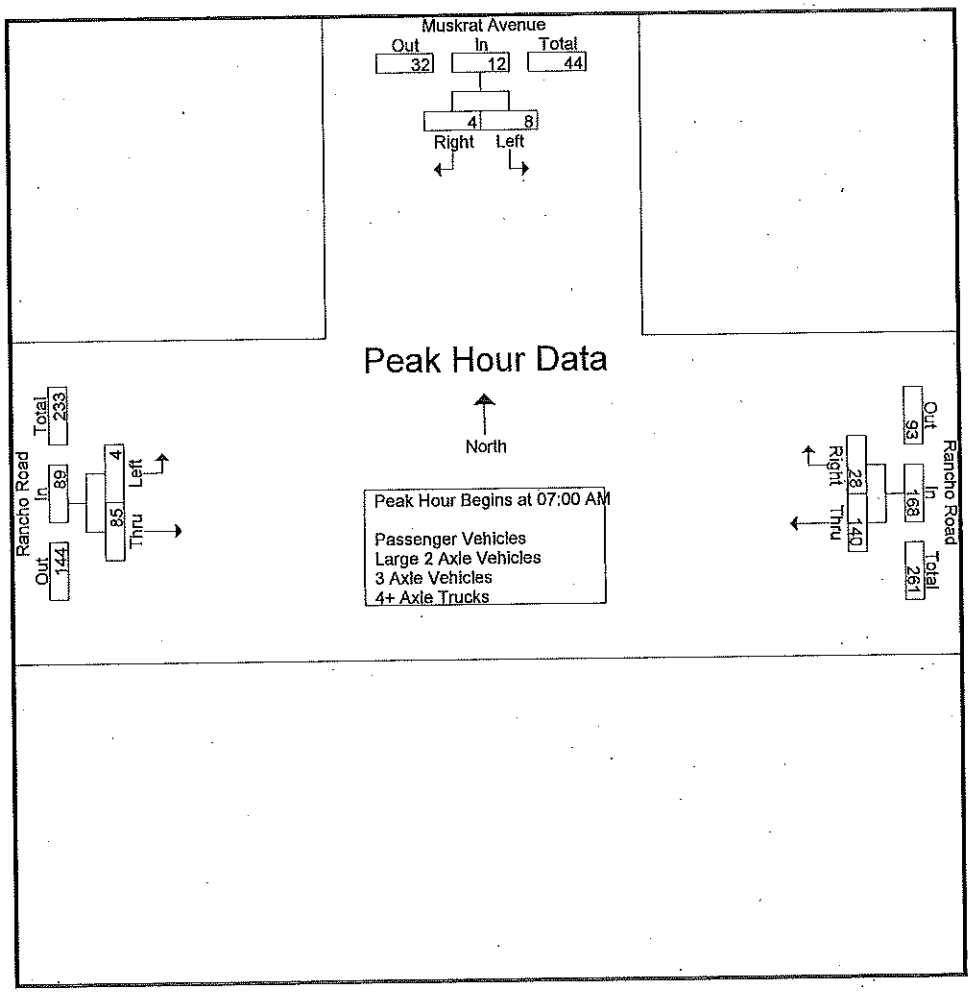

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM			07:00 AM			07:45 AM		
+0 mins.	2	**3**	5	**53**	**15**	**68**	1	21	22
+15 mins.	1	3	4	32	1	33	1	32	**33**
+30 mins.	**6**	0	**6**	22	6	28	0	**33**	33
+45 mins.	2	1	3	33	6	39	**2**	26	28
Total Volume	11	7	18	140	28	168	4	112	116
% App. Total	61.1	38.9		83.3	16.7		3.4	96.6	
PHF	.458	.583	.750	.660	.467	.618	.500	.848	.879

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Site Code : 05116575
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Page No : 1

City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	4	0	4	51	15	66	1	23	24	94
07:15 AM	1	0	1	28	1	29	0	15	15	45
07:30 AM	2	2	4	19	6	25	1	16	17	46
07:45 AM	0	1	1	31	6	37	1	17	18	56
Total	7	3	10	129	28	157	3	71	74	241
08:00 AM	2	3	5	26	5	31	0	27	27	63
08:15 AM	0	1	1	25	6	31	0	22	22	54
08:30 AM	4	0	4	19	3	22	2	21	23	49
08:45 AM	2	1	3	20	5	25	1	10	11	39
Total	8	5	13	90	19	109	3	80	83	205
Grand Total	15	8	23	219	47	266	6	151	157	446
Apprch %	65.2	34.8		82.3	17.7		3.8	96.2		
Total %	3.4	1.8	5.2	49.1	10.5	59.6	1.3	33.9	35.2	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**4**	0	**4**	**51**	**15**	**66**	**1**	**23**	**24**	**94**
07:15 AM	1	0	1	28	1	29	0	15	15	45
07:30 AM	2	**2**	4	19	6	25	1	16	17	46
07:45 AM	0	1	1	31	6	37	1	17	18	56
Total Volume	7	3	10	129	28	157	3	71	74	241
% App. Total	70	30		82.2	17.8		4.1	95.9		
PHF	.438	.375	.625	.632	.467	.595	.750	.772	.771	.641

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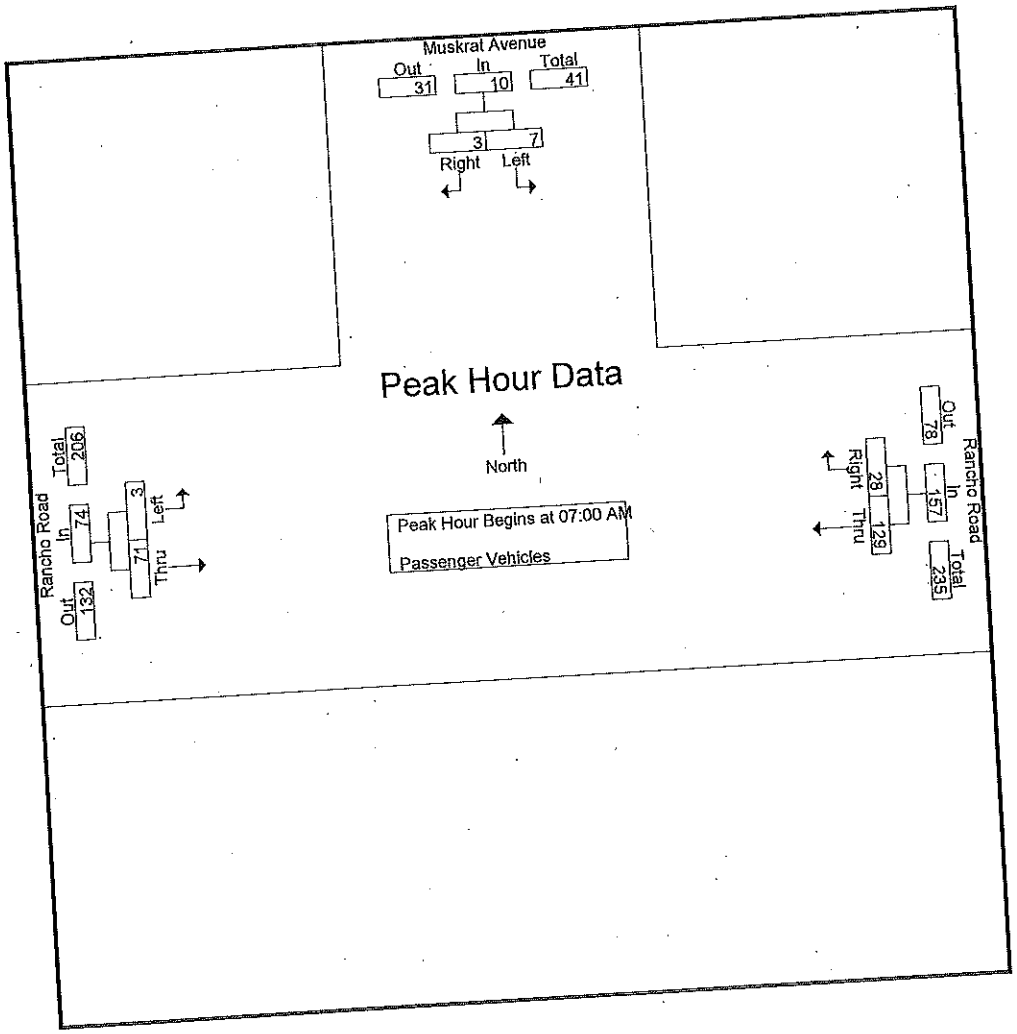
City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	4	0	4	**51**	**15**	**66**	**1**	**23**	**24**
+15 mins.	1	0	1	28	1	29	0	15	15
+30 mins.	2	**2**	4	19	6	25	1	16	17
+45 mins.	0	1	1	31	6	37	1	17	18
Total Volume	7	3	10	129	28	157	3	71	74
% App. Total	70	30		82.2	17.8		4.1	95.9	
PHF	.438	.375	.625	.632	.467	.595	.750	.772	.771

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City of Adelanto
N/S: Muskrat Avenue
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Weather: Clear

File Name : ADLMURNAM
Site Code : 05116575
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Groups Printed- Large 2 Axle Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	1	0	1	0	0	0	0	2	2	3
07:15 AM	0	0	0	1	0	1	0	2	2	3
07:30 AM	0	0	0	2	0	2	1	3	4	6
07:45 AM	0	0	0	2	0	2	0	3	3	5
Total	1	0	1	5	0	5	1	10	11	17
08:00 AM	0	0	0	2	0	2	1	0	1	3
08:15 AM	1	2	3	2	0	2	0	6	6	11
08:30 AM	1	0	1	1	0	1	0	1	1	3
08:45 AM	0	0	0	1	0	1	0	2	2	3
Total	2	2	4	6	0	6	1	9	10	20
Grand Total	3	2	5	11	0	11	2	19	21	37
Apprch %	60	40		100	0		9.5	90.5		
Total %	8.1	5.4	13.5	29.7	0	29.7	5.4	51.4	56.8	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**1**	0	**1**	0	0	0	0	2	2	3
07:15 AM	0	0	0	1	0	1	0	2	2	3
07:30 AM	0	0	0	**2**	0	**2**	**1**	**3**	**4**	**6**
07:45 AM	0	0	0	2	0	2	0	3	3	5
Total Volume	1	0	1	5	0	5	1	10	11	17
% App. Total	100	0		100	0		9.1	90.9		
PHF	.250	.000	.250	.625	.000	.625	.250	.833	.688	.708

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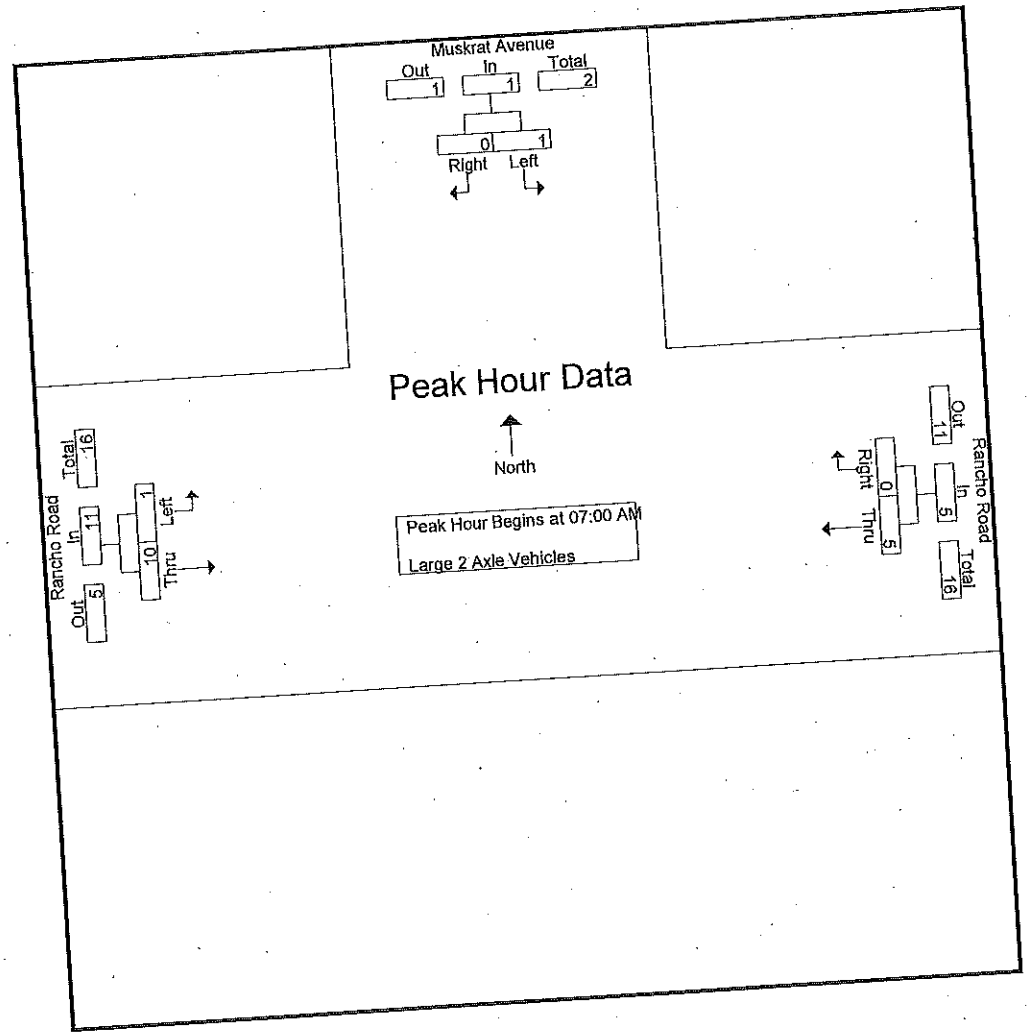
City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	1	0	1	0	0	0	0	2	2
+15 mins.	0	0	0	1	0	1	0	2	2
+30 mins.	0	0	0	2	0	2	1	3	4
+45 mins.	0	0	0	2	0	2	0	3	3
Total Volume	1	0	1	5	0	5	1	10	11
% App. Total	100	0		100	0		9.1	90.9	
PHF	.250	.000	.250	.625	.000	.625	.250	.833	.688

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNAM
Site Code : 05116575
Start Date : 10/27/2016
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Groups Printed- 3 Axle Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	1	1	1
08:15 AM	0	0	0	0	0	0	0	1	1	1
08:30 AM	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	1	0	1	0	3	3	4
Grand Total	0	1	1	1	0	1	0	3	3	5
Apprch %	0	100		100	0		0	100		
Total %	0	20	20	20	0	20	0	60	60	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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File Name : ADLMURNAM
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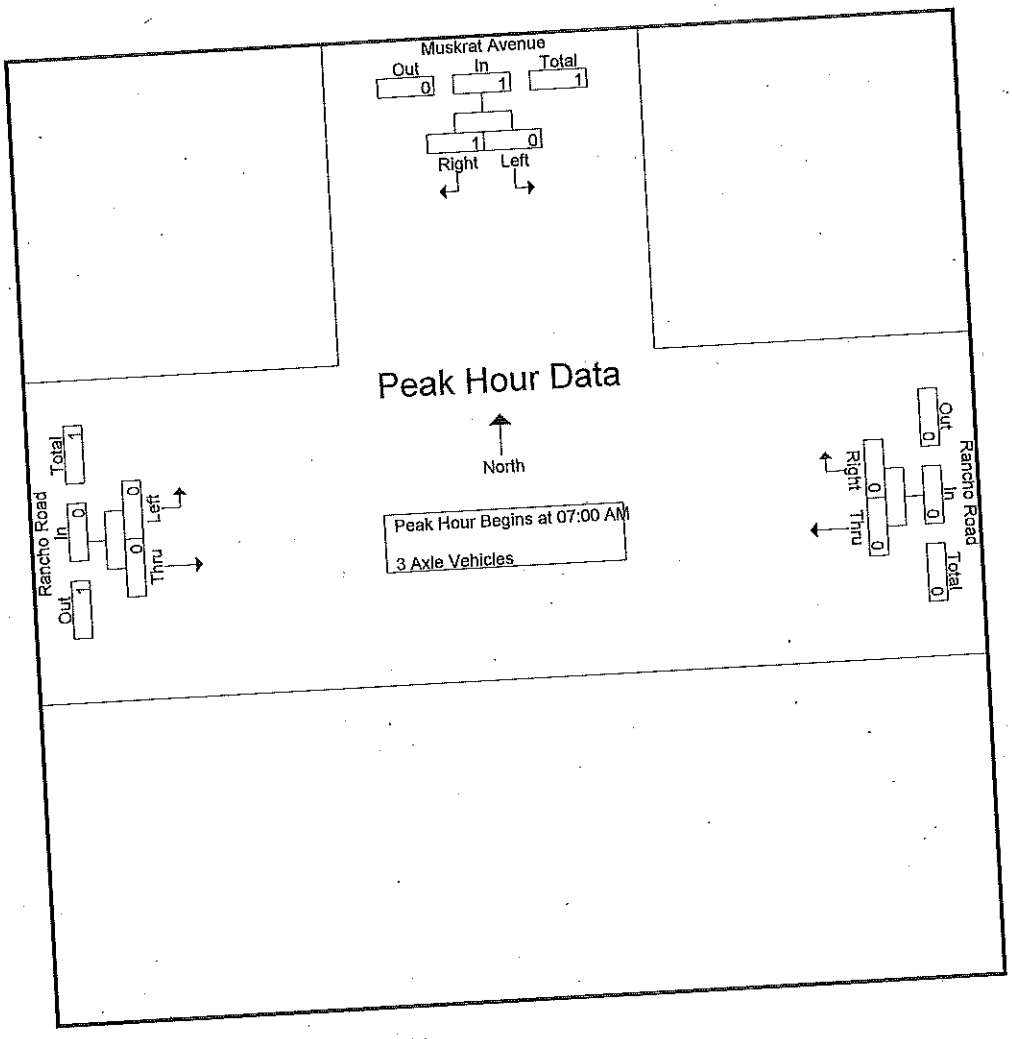
City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0
% App. Total	0	100		.000	.000	.000	.000	.000	.000
PHF	.000	.250	.250						

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Groups Printed- 4+ Axle Trucks

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	2	0	2	0	3	3	5
07:15 AM	0	0	0	3	0	3	0	0	0	3
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	6	0	6	0	4	4	10
08:00 AM	0	0	0	2	0	2	0	4	4	6
08:15 AM	0	0	0	0	0	0	0	4	4	4
08:30 AM	1	0	1	3	0	3	0	3	3	7
08:45 AM	0	0	0	0	0	0	0	4	4	4
Total	1	0	1	5	0	5	0	15	15	21
Grand Total	1	0	1	11	0	11	0	19	19	31
Apprch %	100	0		100	0		0	100		
Total %	3.2	0	3.2	35.5	0	35.5	0	61.3	61.3	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	2	0	2	0	**3**	**3**	**5**
07:15 AM	0	0	0	**3**	0	**3**	0	0	0	3
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	6	0	6	0	4	4	10
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.500	.000	.500	.000	.333	.333	.500

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City of Adelanto
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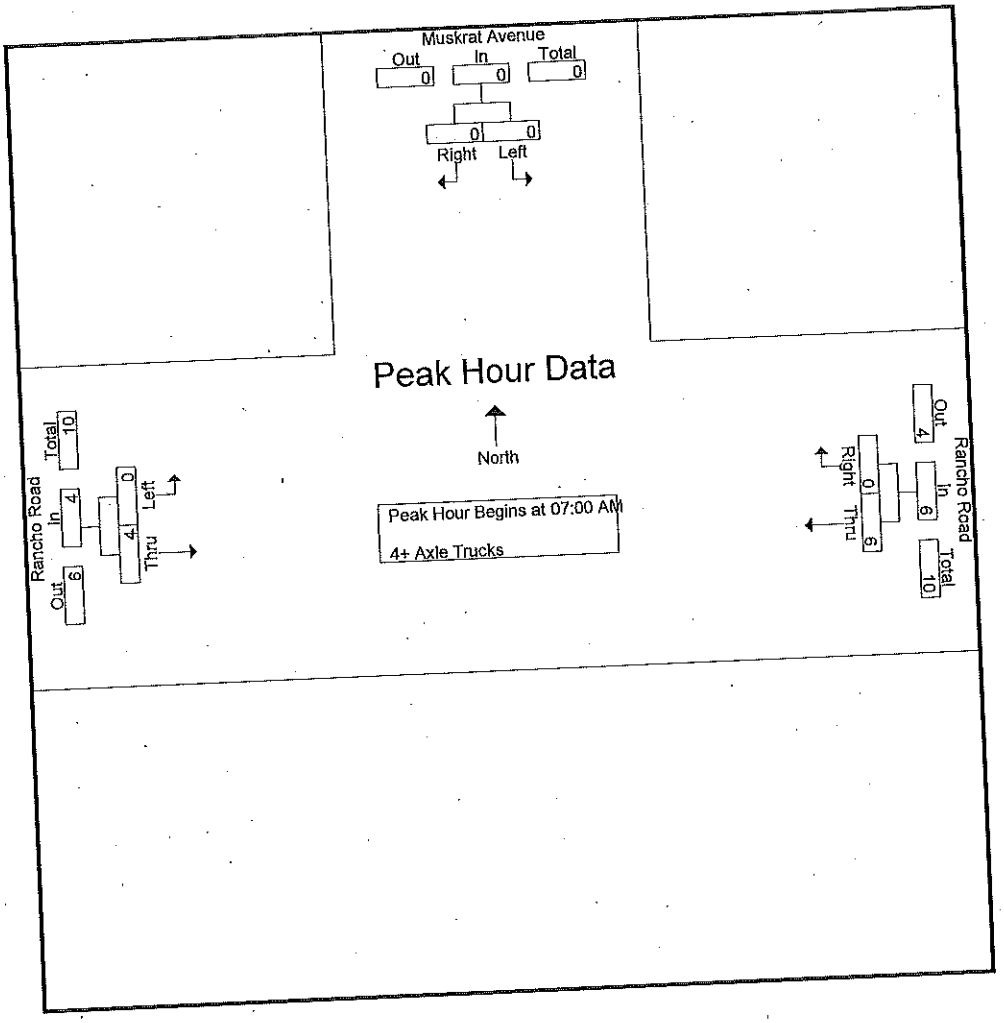
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	2	0	2	0	3	3
+15 mins.	0	0	0	3	0	3	0	0	0
+30 mins.	0	0	0	1	0	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	6	0	6	0	4	4
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.500	.000	.500	.000	.333	.333

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File Name : ADLMURNPM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	14	1	15	24	1	25	1	61	62	102
04:15 PM	10	2	12	33	1	34	0	46	46	92
04:30 PM	9	1	10	20	3	23	0	44	44	77
04:45 PM	6	1	7	23	2	25	0	57	57	89
Total	39	5	44	100	7	107	1	208	209	360
05:00 PM	18	1	19	26	3	29	0	29	29	77
05:15 PM	9	0	9	22	1	23	2	36	38	70
05:30 PM	10	1	11	8	0	8	1	41	42	61
05:45 PM	7	0	7	20	1	21	0	21	21	49
Total	44	2	46	76	5	81	3	127	130	257
Grand Total	83	7	90	176	12	188	4	335	339	617
Apprch %	92.2	7.8		93.6	6.4		1.2	98.8		
Total %	13.5	1.1	14.6	28.5	1.9	30.5	0.6	54.3	54.9	
Passenger Vehicles	80	6	86	159	11	170	3	316	319	575
% Passenger Vehicles	96.4	85.7	95.6	90.3	91.7	90.4	75	94.3	94.1	93.2
Large 2 Axle Vehicles	2	1	3	4	1	5	1	7	8	16
% Large 2 Axle Vehicles	2.4	14.3	3.3	2.3	8.3	2.7	25	2.1	2.4	2.6
3 Axle Vehicles	1	0	1	2	0	2	0	2	2	5
% 3 Axle Vehicles	1.2	0	1.1	1.1	0	1.1	0	0.6	0.6	0.8
4+ Axle Trucks	0	0	0	11	0	11	0	10	10	21
% 4+ Axle Trucks	0	0	0	6.2	0	5.9	0	3	2.9	3.4

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	14	1	15	24	1	25	1	61	62	102
04:15 PM	10	2	12	33	1	34	0	46	46	92
04:30 PM	9	1	10	20	3	23	0	44	44	77
04:45 PM	6	1	7	23	2	25	0	57	57	89
Total Volume	39	5	44	100	7	107	1	208	209	360
% App. Total	88.6	11.4		93.5	6.5		0.5	99.5		
PHF	.696	.625	.733	.758	.583	.787	.250	.852	.843	.882

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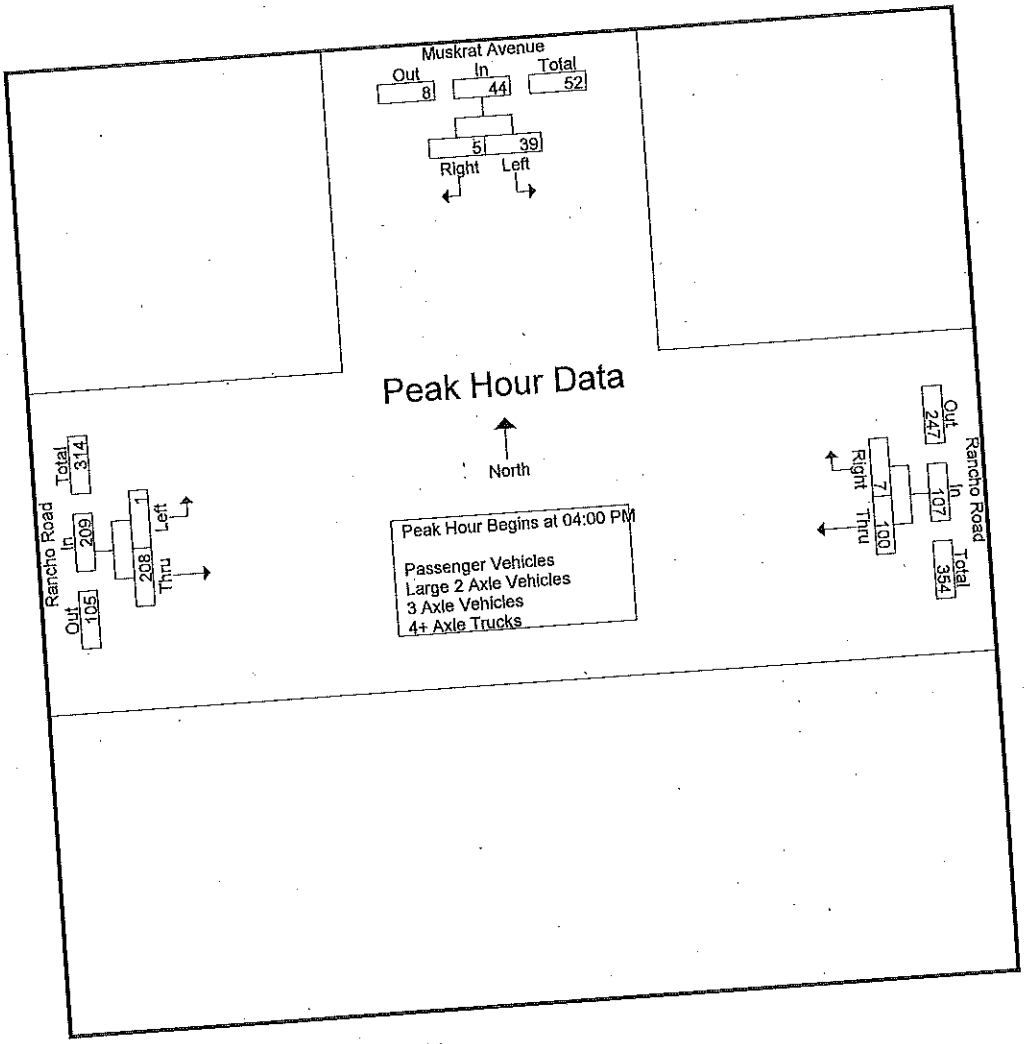
City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:00 PM		
+0 mins.	10	2	12	33	1	34	1	61	62
+15 mins.	9	1	10	20	3	23	0	46	46
+30 mins.	6	1	7	23	2	25	0	44	44
+45 mins.	18	1	19	26	3	29	0	57	57
Total Volume	43	5	48	102	9	111	1	208	209
% App. Total	89.6	10.4		91.9	8.1		0.5	99.5	
PHF	.597	.625	.632	.773	.750	.816	.250	.852	.843

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Groups Printed- Passenger Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	14	1	15	24	1	25	0	58	58	98
04:15 PM	8	2	10	31	1	32	0	41	41	83
04:30 PM	9	1	10	17	3	20	0	43	43	73
04:45 PM	5	1	6	19	2	21	0	52	52	79
Total	36	5	41	91	7	98	0	194	194	333
05:00 PM	18	0	18	24	2	26	0	29	29	73
05:15 PM	9	0	9	19	1	20	2	36	38	67
05:30 PM	10	1	11	7	0	7	1	37	38	56
05:45 PM	7	0	7	18	1	19	0	20	20	46
Total	44	1	45	68	4	72	3	122	125	242
Grand Total	80	6	86	159	11	170	3	316	319	575
Apprch %	93	7		93.5	6.5		0.9	99.1		
Total %	13.9	1	15	27.7	1.9	29.6	0.5	55	55.5	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**14**	1	**15**	24	1	25	0	**58**	**58**	**98**
04:15 PM	8	**2**	10	**31**	1	**32**	0	41	41	83
04:30 PM	9	1	10	17	**3**	20	0	43	43	73
04:45 PM	5	1	6	19	2	21	0	52	52	79
Total Volume	36	5	41	91	7	98	0	194	194	333
% App. Total	87.8	12.2		92.9	7.1		0	100		
PHF	.643	.625	.683	.734	.583	.766	.000	.836	.836	.849

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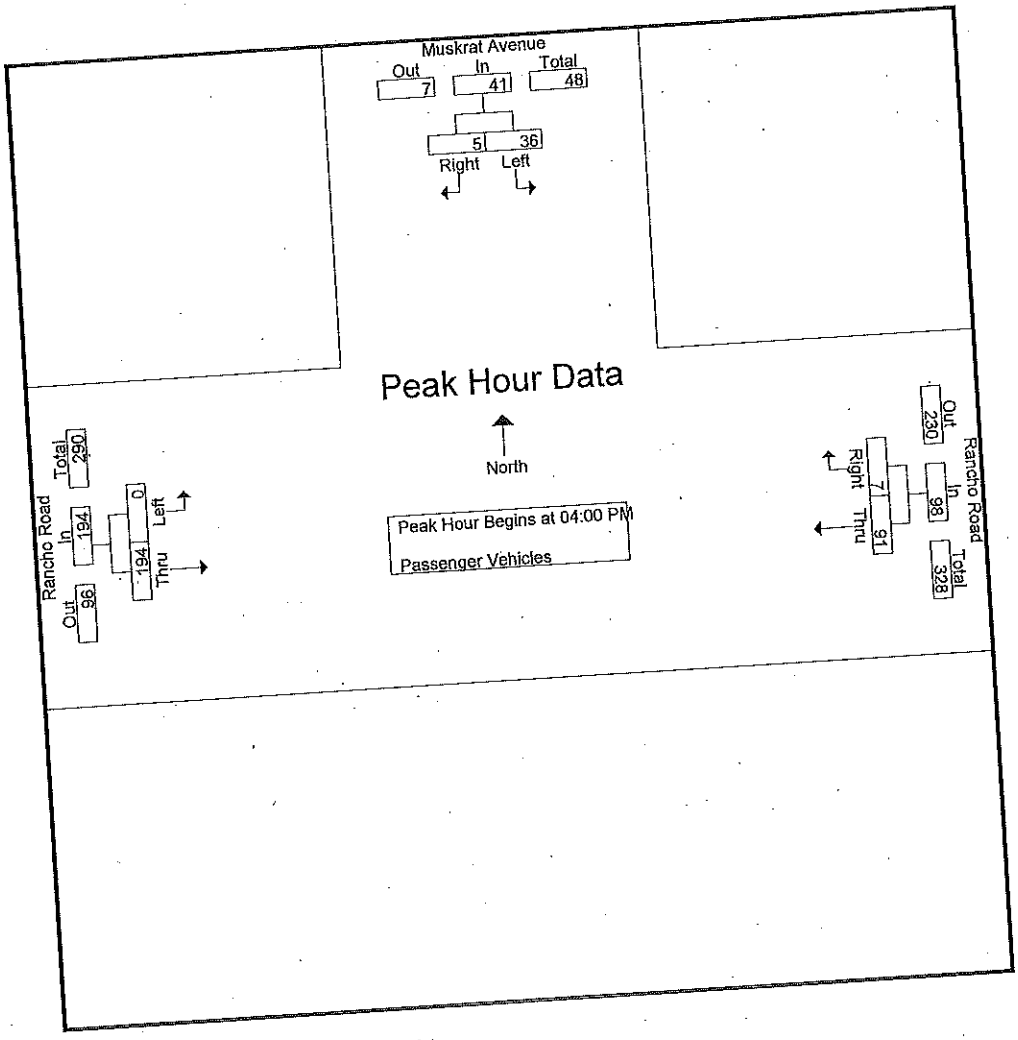
City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	14	1	15	24	1	25	0	58	58
+15 mins.	8	2	10	31	1	32	0	41	41
+30 mins.	9	1	10	17	3	20	0	43	43
+45 mins.	5	1	6	19	2	21	0	52	52
Total Volume	36	5	41	91	7	98	0	194	194
% App. Total	87.8	12.2		92.9	7.1		0	100	
PHF	.643	.625	.683	.734	.583	.766	.000	.836	.836

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E/W: Rancho Road
Weather: Clear

File Name : ADLMURNPM
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Groups Printed- Large 2 Axle Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	1	2	2
04:15 PM	2	0	2	0	0	0	0	1	1	3
04:30 PM	0	0	0	1	0	1	0	1	1	2
04:45 PM	0	0	0	1	0	1	0	2	2	3
Total	2	0	2	2	0	2	1	5	6	10
05:00 PM	0	1	1	1	1	2	0	0	0	3
05:15 PM	0	0	0	1	0	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	2	1	3	0	2	2	6
Grand Total	2	1	3	4	1	5	1	7	8	16
Apprch %	66.7	33.3		80	20		12.5	87.5		
Total %	12.5	6.2	18.8	25	6.2	31.2	6.2	43.8	50	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	**1**	1	**2**	2
04:15 PM	**2**	0	**2**	0	0	0	0	1	1	**3**
04:30 PM	0	0	0	**1**	0	**1**	0	1	1	2
04:45 PM	0	0	0	1	0	1	0	**2**	2	3
Total Volume	2	0	2	2	0	2	1	5	6	10
% App. Total	100	0		100	0		16.7	83.3		
PHF	.250	.000	.250	.500	.000	.500	.250	.625	.750	.833

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City of Adelanto
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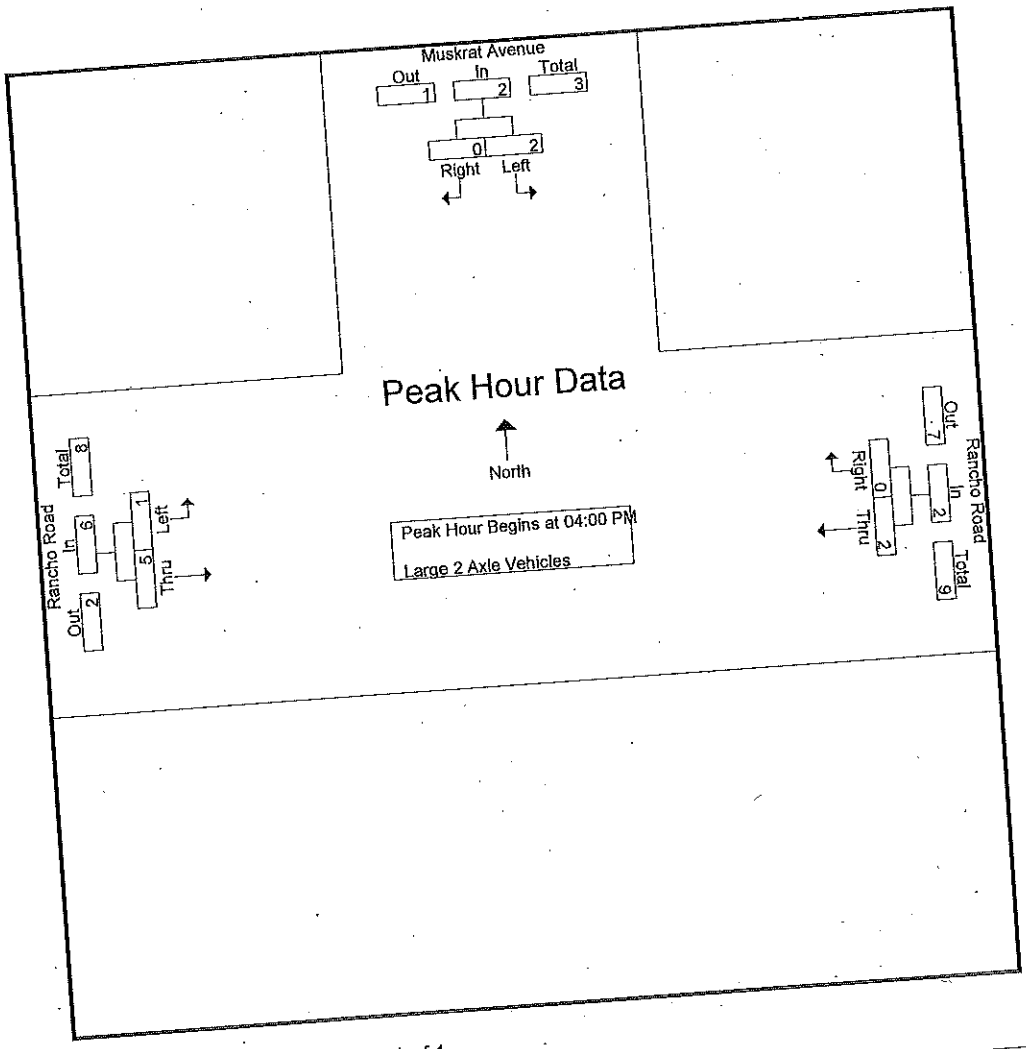

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM					
+0 mins.	0	0	0	0	0	0	1	1	2			
+15 mins.	2	0	2	0	0	0	0	1	1			
+30 mins.	0	0	0	1	0	1	0	1	1			
+45 mins.	0	0	0	1	0	1	0	2	2			
Total Volume	2	0	2	2	0	2	1	5	6			
% App. Total	100	0		100	0		16.7	83.3				
PHF	.250	.000	.250	.500	.000	.500	.250	.625	.750			

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Groups Printed- 3 Axle Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	2	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	1	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	2	2	3
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	2	0	2	0	0	0	2
Grand Total	1	0	1	2	0	2	0	2	2	5
Apprch %	100	0		100	0		0	100		
Total %	20	0	20	40	0	40	0	40	40	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	**2**	**2**	**2**
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	**1**	0	**1**	0	0	0	0	0	0	1
Total Volume	1	0	1	0	0	0	0	2	2	3
% App. Total	100	0		0	0		0	100		
PHF	.250	.000	.250	.000	.000	.000	.000	.250	.250	.375

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City of Adelanto
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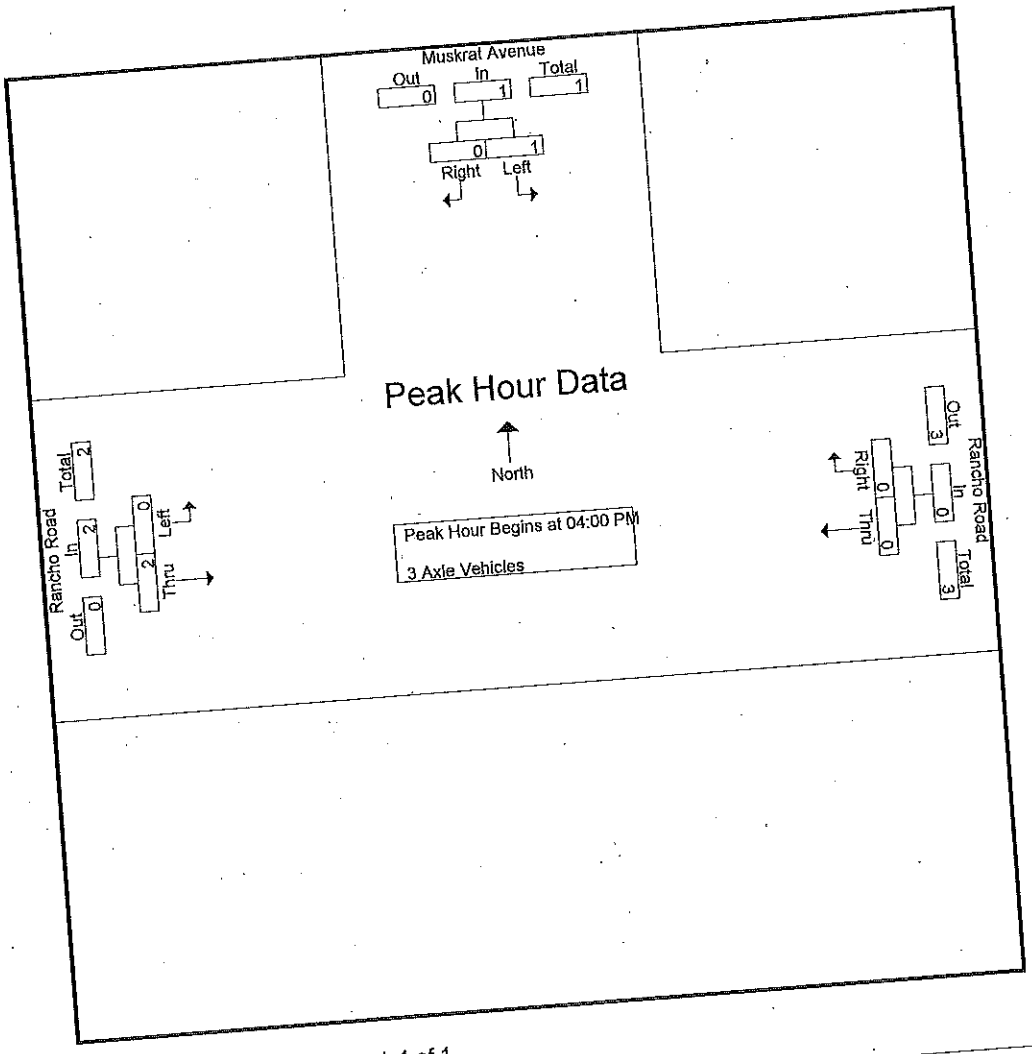
Weather: Clear



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	2	2
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	1	0	1	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	2	2
% App. Total	100	0	.250	.000	.000	.000	0	100	
PHF	.250	.000	.250	.000	.000	.000	.000	.250	.250

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Groups Printed- 4+ Axle Trucks

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	2	2	2
04:15 PM	0	0	0	2	0	2	0	2	2	4
04:30 PM	0	0	0	2	0	2	0	0	0	2
04:45 PM	0	0	0	3	0	3	0	3	3	6
Total	0	0	0	7	0	7	0	7	7	14
05:00 PM	0	0	0	1	0	1	0	0	0	1
05:15 PM	0	0	0	2	0	2	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	0	0	0	1	0	1	0	1	1	2
Total	0	0	0	4	0	4	0	3	3	7
Grand Total	0	0	0	11	0	11	0	10	10	21
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	52.4	0	52.4	0	47.6	47.6	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	2	2	2
04:15 PM	0	0	0	2	0	2	0	2	2	4
04:30 PM	0	0	0	2	0	2	0	0	0	2
04:45 PM	0	0	0	**3**	0	**3**	0	**3**	**3**	**6**
Total Volume	0	0	0	7	0	7	0	7	7	14
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.583	.000	.583	.000	.583	.583	.583

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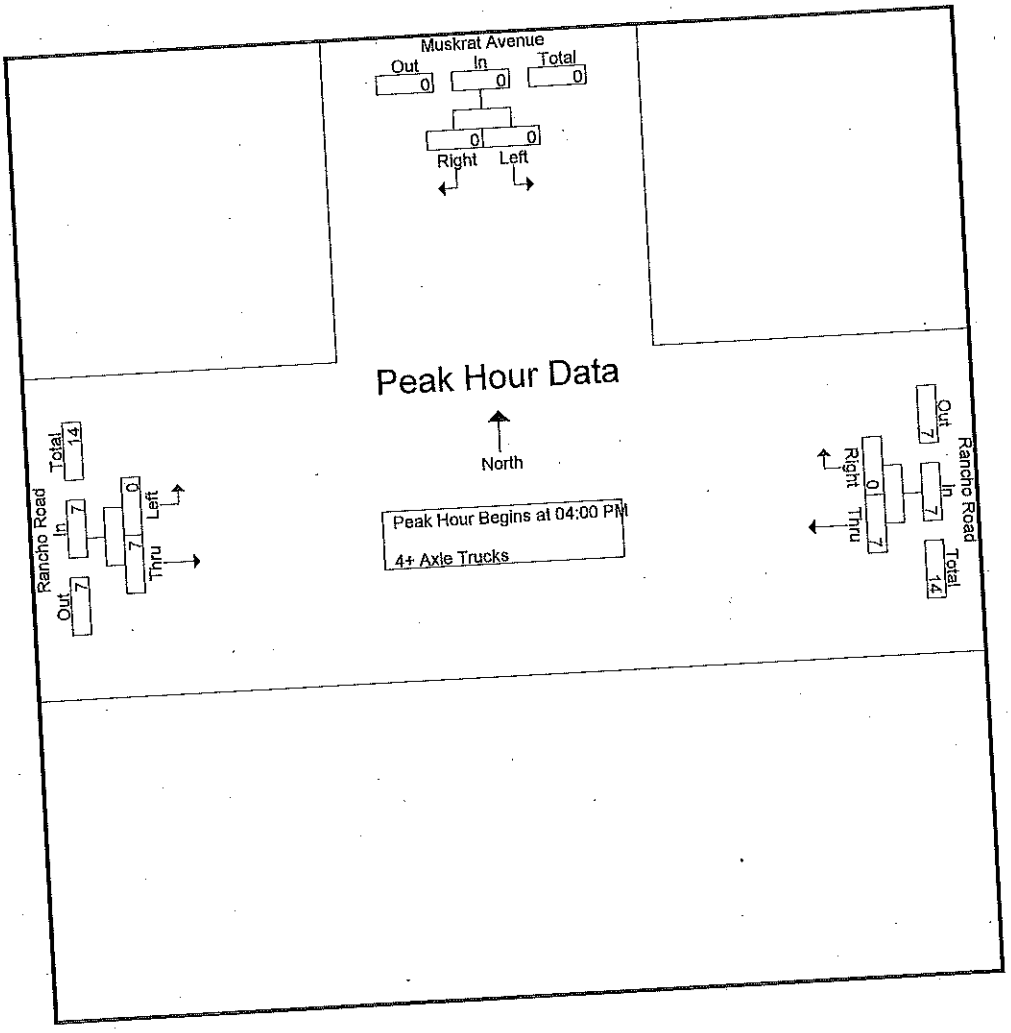
City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM				
+0 mins.	0	0	0	0	0	0	0	2	2		
+15 mins.	0	0	0	2	0	2	0	2	2		
+30 mins.	0	0	0	2	0	2	0	0	0		
+45 mins.	0	0	0	3	0	3	0	3	3		
Total Volume	0	0	0	7	0	7	0	7	7		
% App. Total	0	0		100	0		0	100			
PHF	.000	.000	.000	.583	.000	.583	.000	.583	.583		

Location: Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road

Date: 10/27/2016
Day: Thursday

PEDESTRIANS

	North Leg Muskrat Avenue	East Leg Rancho Road	South Leg Muskrat Avenue	West Leg Rancho Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

	North Leg Muskrat Avenue	East Leg Rancho Road	South Leg Muskrat Avenue	West Leg Rancho Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road

Date: 10/27/2016
Day: Thursday

BICYCLES

	North Leg Muskrat Avenue	East Leg Rancho Road	South Leg Muskrat Avenue	West Leg Rancho Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Muskrat Avenue	East Leg Rancho Road	South Leg Muskrat Avenue	West Leg Rancho Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	2	2	18	2	20	0	0	0	22
07:15 AM	0	3	3	13	1	14	0	5	5	22
07:30 AM	6	0	6	10	0	10	0	1	1	17
07:45 AM	3	1	4	15	4	19	0	0	0	23
Total	9	6	15	56	7	63	0	6	6	84
08:00 AM	0	0	0	8	1	9	0	1	1	10
08:15 AM	3	0	3	7	0	7	0	1	1	11
08:30 AM	0	1	1	1	0	1	1	1	2	4
08:45 AM	0	0	0	3	2	5	0	1	1	6
Total	3	1	4	19	3	22	1	4	5	31
Grand Total	12	7	19	75	10	85	1	10	11	115
Apprch %	63.2	36.8		88.2	11.8		9.1	90.9		
Total %	10.4	6.1	16.5	65.2	8.7	73.9	0.9	8.7	9.6	
Passenger Vehicles	12	6	18	69	10	79	1	6	7	104
% Passenger Vehicles	100	85.7	94.7	92	100	92.9	100	60	63.6	90.4
Large 2 Axle Vehicles	0	0	0	3	0	3	0	1	1	4
% Large 2 Axle Vehicles	0	0	0	4	0	3.5	0	10	9.1	3.5
3 Axle Vehicles	0	1	1	2	0	2	0	0	0	3
% 3 Axle Vehicles	0	14.3	5.3	2.7	0	2.4	0	0	0	2.6
4+ Axle Trucks	0	0	0	1	0	1	0	3	3	4
% 4+ Axle Trucks	0	0	0	1.3	0	1.2	0	30	27.3	3.5

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	2	2	18	2	20	0	0	0	22
07:15 AM	0	3	3	13	1	14	0	5	5	22
07:30 AM	6	0	6	10	0	10	0	1	1	17
07:45 AM	3	1	4	15	4	19	0	0	0	23
Total Volume	9	6	15	56	7	63	0	6	6	84
% App. Total	60	40		88.9	11.1		0	100		
PHF	.375	.500	.625	.778	.438	.788	.000	.300	.300	.913

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File Name : ADLRAYUAM
Site Code : 05116575
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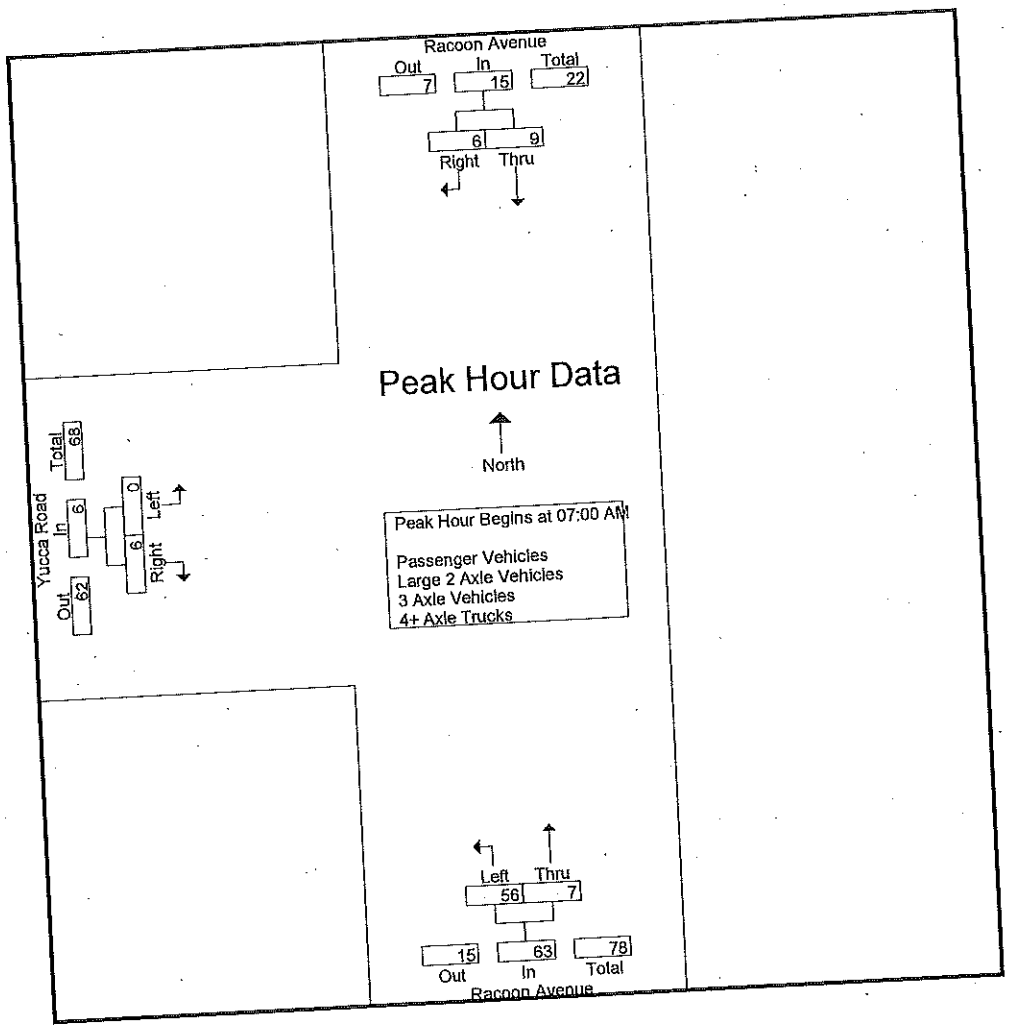
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:15 AM		
+0 mins.	0	2	2	**18**	2	**20**	0	**5**	**5**
+15 mins.	0	**3**	3	13	1	14	0	1	1
+30 mins.	**6**	0	**6**	10	0	10	0	0	0
+45 mins.	3	1	4	15	**4**	19	0	1	1
Total Volume	9	6	15	56	7	63	0	7	7
% App. Total	60	40		88.9	11.1		0	100	
PHF	.375	.500	.625	.778	.438	.788	.000	.350	.350

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUAM
Site Code : 05116575
Start Date : 10/27/2016
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Groups Printed- Passenger Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	2	2	17	2	19	0	0	0	21
07:15 AM	0	2	2	11	1	12	0	5	5	19
07:30 AM	6	0	6	8	0	8	0	0	0	14
07:45 AM	3	1	4	14	4	18	0	0	0	22
Total	9	5	14	50	7	57	0	5	5	76
08:00 AM	0	0	0	8	1	9	0	0	0	9
08:15 AM	3	0	3	7	0	7	0	0	0	10
08:30 AM	0	1	1	1	0	1	1	1	2	4
08:45 AM	0	0	0	3	2	5	0	0	0	5
Total	3	1	4	19	3	22	1	1	2	28
Grand Total	12	6	18	69	10	79	1	6	7	104
Apprch %	66.7	33.3		87.3	12.7		14.3	85.7		
Total %	11.5	5.8	17.3	66.3	9.6	76	1	5.8	6.7	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	**2**	2	**17**	2	**19**	0	0	0	21
07:15 AM	0	2	2	11	1	12	0	**5**	**5**	19
07:30 AM	**6**	0	**6**	8	0	8	0	0	0	14
07:45 AM	3	1	4	14	**4**	18	0	0	0	**22**
Total Volume	9	5	14	50	7	57	0	5	5	76
% App. Total	64.3	35.7		87.7	12.3		0	100		
PHF	.375	.625	.583	.735	.438	.750	.000	.250	.250	.864

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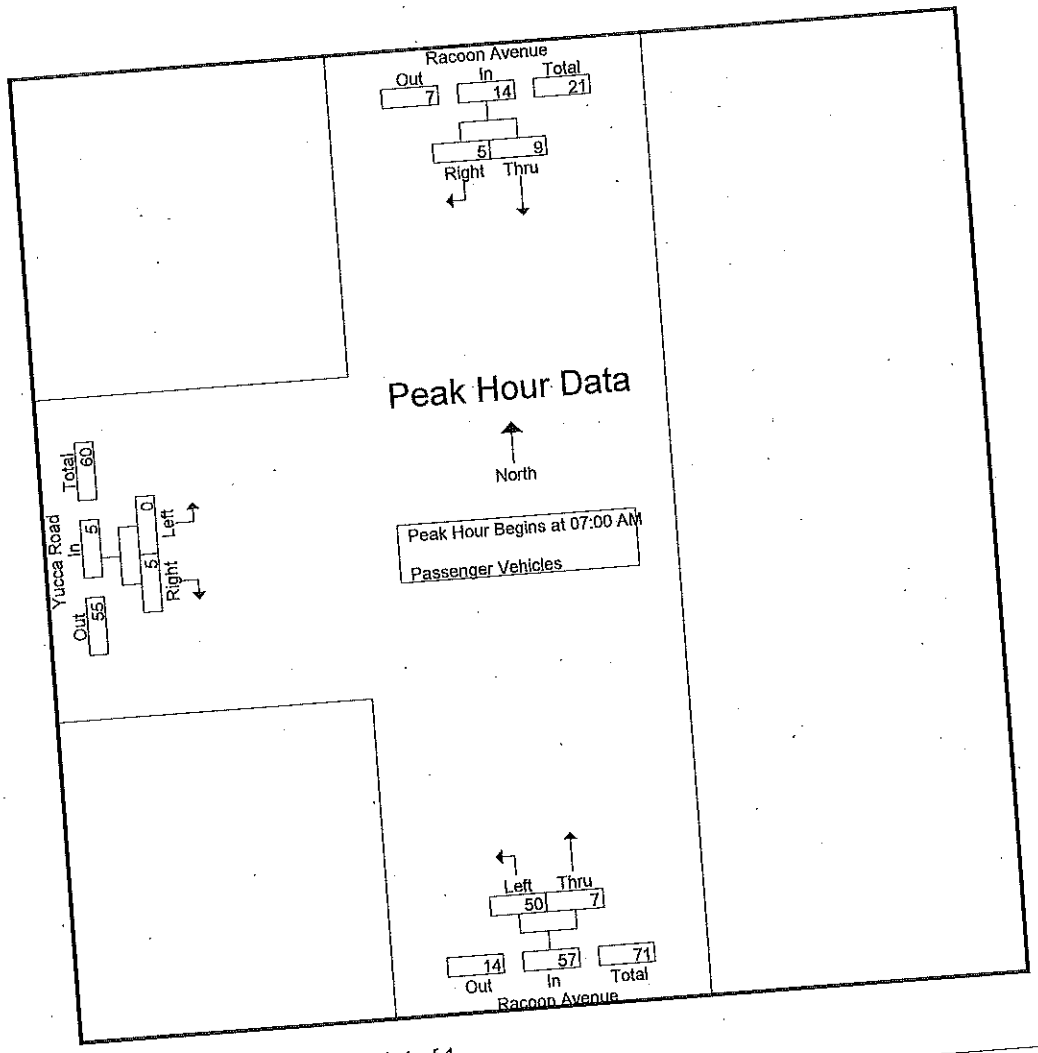
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	2	2	17	2	19	0	0	0
+15 mins.	0	2	2	11	1	12	0	5	5
+30 mins.	6	0	6	8	0	8	0	0	0
+45 mins.	3	1	4	14	4	18	0	0	0
Total Volume	9	5	14	50	7	57	0	5	5
% App. Total	64.3	35.7		87.7	12.3		0	100	
PHF	.375	.625	.583	.735	.438	.750	.000	.250	.250

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUAM
Site Code : 05116575
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	3	0	3	0	1	1	4
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	3	0	3	0	1	1	4
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	75	0	75	0	25	25	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	3	0	3	0	1	1	4
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.750	.000	.750	.000	.250	.250	.500

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File Name : ADLRAYUAM
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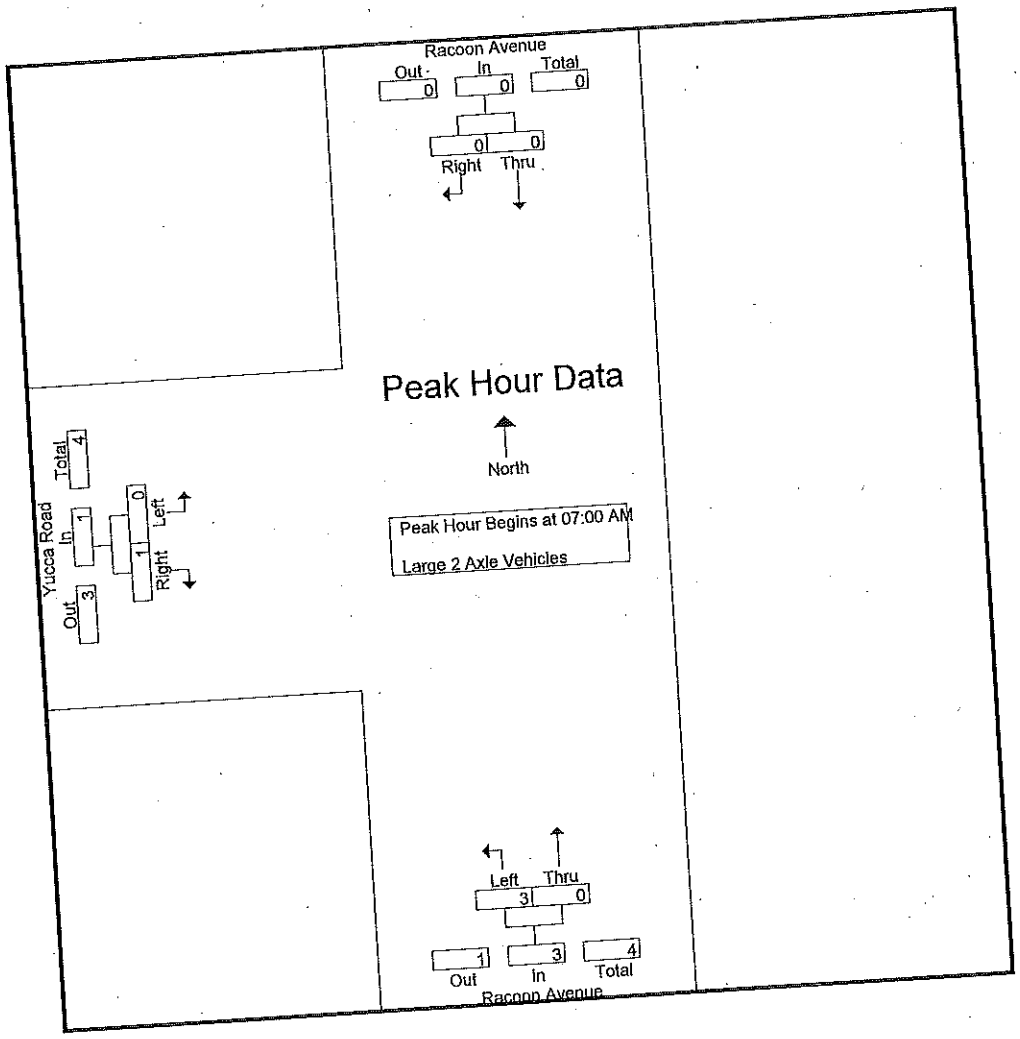
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	1	0	1	0	0	0
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	0	0	0	1	0	1	0	0	0
Total Volume	0	0	0	3	0	3	0	1	1
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.750	.000	.750	.000	.250	.250

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUAM
Site Code : 05116575
Start Date : 10/27/2016
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Groups Printed- 3 Axle Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	1	0	1	0	0	0	1
07:15 AM	0	1	1	1	0	1	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	2	0	2	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	1	2	0	2	0	0	0	3
Apprch %	0	100		100	0		0	0		
Total %	0	33.3	33.3	66.7	0	66.7	0	0	0	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	1	0	1	0	0	0	1
07:15 AM	0	1	1	1	0	1	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	2	0	0	0	3
% App. Total	0	100		100	0		0	0		
PHF	.000	.250	.250	.500	.000	.500	.000	.000	.000	.375

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File Name : ADLRAYUAM
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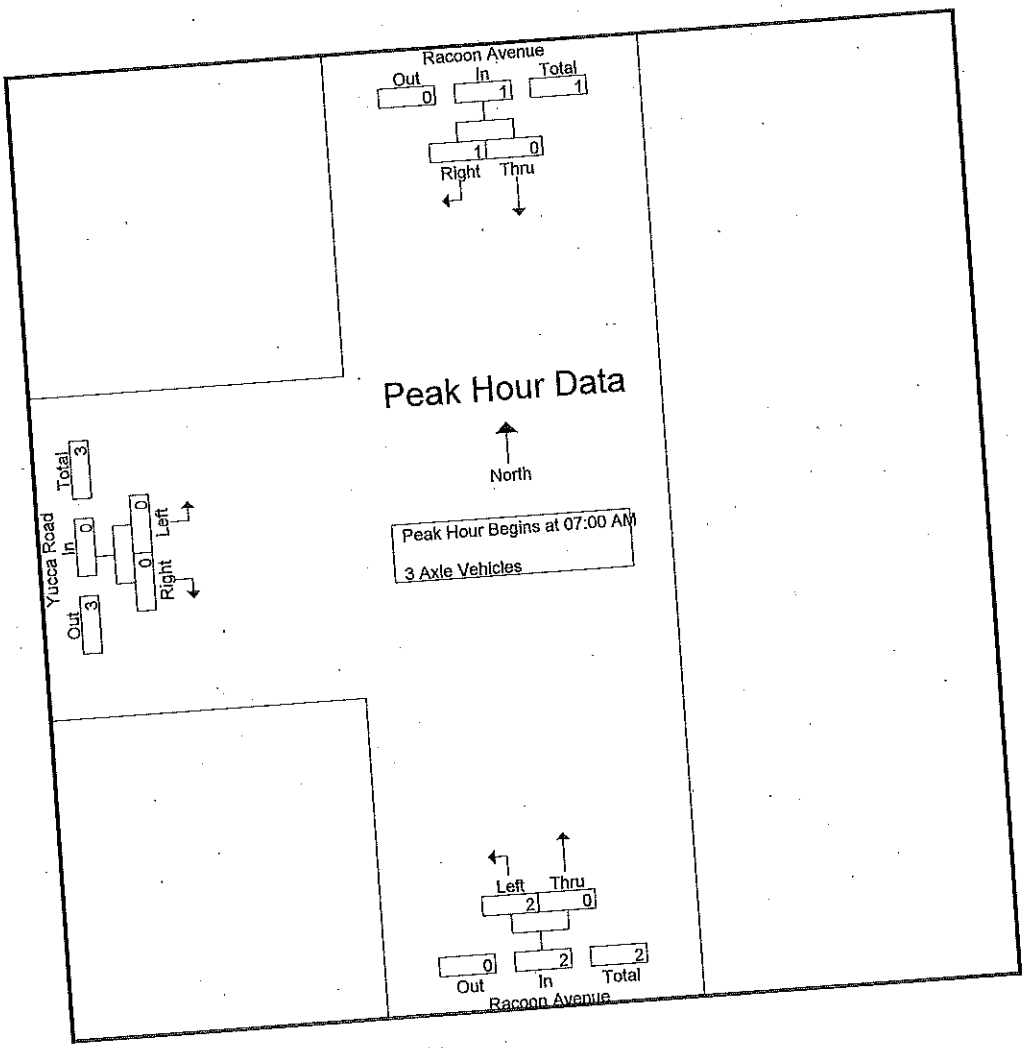
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	1	0	1	0	0	0
+15 mins.	0	1	1	1	0	1	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	2	0	0	0
% App. Total	0	100		100	0		0	0	
PHF	.000	.250	.250	.500	.000	.500	.000	.000	.000

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUAM
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Groups Printed- 4+ Axle Trucks

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	1	1	1
08:15 AM	0	0	0	0	0	0	0	1	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	3	3	3
Grand Total	0	0	0	1	0	1	0	3	3	4
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	25	0	25	0	75	75	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	0	0	1
% App. Total	0	0		100	0		0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000	.250

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File Name : ADLRAYUAM
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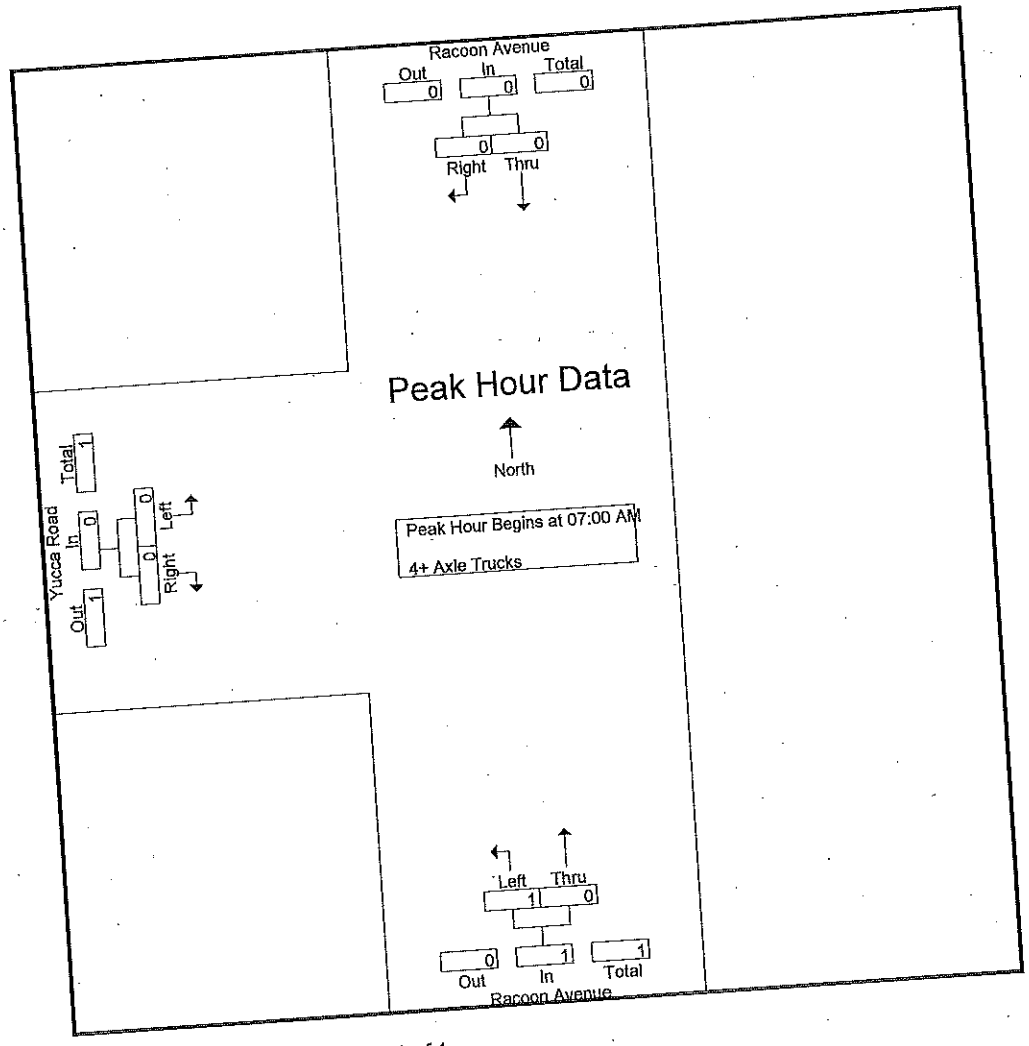
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	1	0	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	0	
% App. Total	0	0		100	0		0	0	
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUPM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	1	4	5	0	10	10	15
04:15 PM	2	0	2	0	2	2	2	11	13	17
04:30 PM	0	0	0	1	3	4	0	14	14	18
04:45 PM	0	1	1	2	0	2	2	7	9	12
Total	2	1	3	4	9	13	4	42	46	62
05:00 PM	2	0	2	1	2	3	1	11	12	17
05:15 PM	1	0	1	1	0	1	4	6	10	12
05:30 PM	0	0	0	2	1	3	1	6	7	10
05:45 PM	1	0	1	0	1	1	2	2	4	6
Total	4	0	4	4	4	8	8	25	33	45
Grand Total	6	1	7	8	13	21	12	67	79	107
Apprch %	85.7	14.3		38.1	61.9		15.2	84.8		
Total %	5.6	0.9	6.5	7.5	12.1	19.6	11.2	62.6	73.8	
Passenger Vehicles	5	1	6	7	13	20	12	64	76	102
% Passenger Vehicles	83.3	100	85.7	87.5	100	95.2	100	95.5	96.2	95.3
Large 2 Axle Vehicles	1	0	1	1	0	1	0	1	1	3
% Large 2 Axle Vehicles	16.7	0	14.3	12.5	0	4.8	0	1.5	1.3	2.8
3 Axle Vehicles	0	0	0	0	0	0	0	1	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	1.5	1.3	0.9
4+ Axle Trucks	0	0	0	0	0	0	0	1	1	1
% 4+ Axle Trucks	0	0	0	0	0	0	0	1.5	1.3	0.9

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	2	0	2	0	2	2	2	11	13	17
04:30 PM	0	0	0	1	3	4	0	14	14	18
04:45 PM	0	1	1	2	0	2	2	7	9	12
05:00 PM	2	0	2	1	2	3	1	11	12	17
Total Volume	4	1	5	4	7	11	5	43	48	64
% App. Total	80	20		36.4	63.6		10.4	89.6		
PHF	.500	.250	.625	.500	.583	.688	.625	.768	.857	.889

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File Name : ADLRAYUPM
Site Code : 05116575
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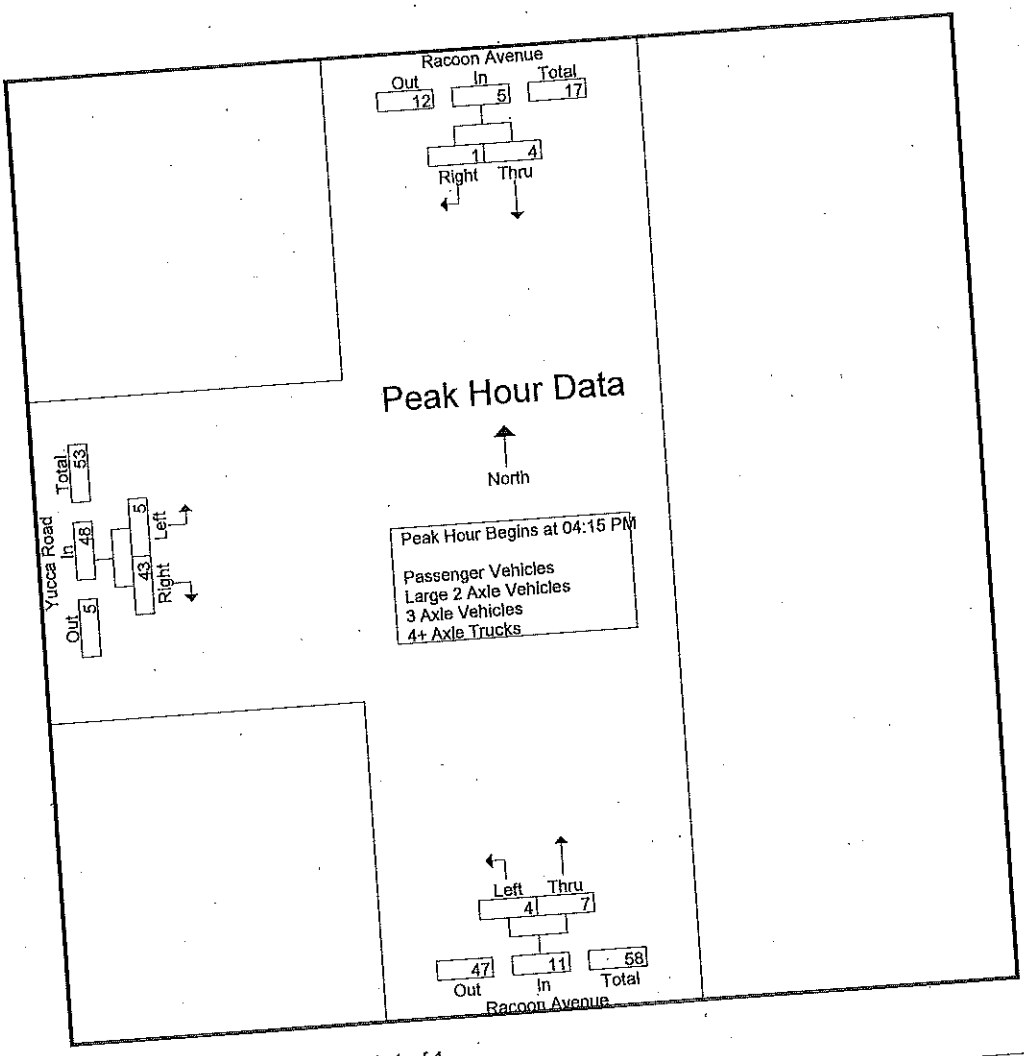
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			04:15 PM		
+0 mins.	2	0	2	1	4	5	2	11	13
+15 mins.	0	0	0	0	2	2	0	14	14
+30 mins.	0	1	1	1	3	4	2	7	9
+45 mins.	2	0	2	2	0	2	1	11	12
Total Volume	4	1	5	4	9	13	5	43	48
% App. Total	80	20		30.8	69.2		10.4	89.6	
PHF	.500	.250	.625	.500	.563	.650	.625	.768	.857

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
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File Name : ADLRAYUPM
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Groups Printed- Passenger Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	1	4	5	0	8	8	13
04:15 PM	2	0	2	0	2	2	2	11	13	17
04:30 PM	0	0	0	1	3	4	0	14	14	18
04:45 PM	0	1	1	1	0	1	2	6	8	10
Total	2	1	3	3	9	12	4	39	43	58
05:00 PM	2	0	2	1	2	3	1	11	12	17
05:15 PM	1	0	1	1	0	1	4	6	10	12
05:30 PM	0	0	0	2	1	3	1	6	7	10
05:45 PM	0	0	0	0	1	1	2	2	4	5
Total	3	0	3	4	4	8	8	25	33	44
Grand Total	5	1	6	7	13	20	12	64	76	102
Apprch %	83.3	16.7		35	65		15.8	84.2		
Total %	4.9	1	5.9	6.9	12.7	19.6	11.8	62.7	74.5	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	**2**	0	**2**	0	2	2	**2**	11	13	17
04:30 PM	0	0	0	**1**	**3**	**4**	0	**14**	**14**	**18**
04:45 PM	0	**1**	1	1	0	1	2	6	8	10
05:00 PM	2	0	2	1	2	3	1	11	12	17
Total Volume	4	1	5	3	7	10	5	42	47	62
% App. Total	80	20		30	70		10.6	89.4		
PHF	.500	.250	.625	.750	.583	.625	.625	.750	.839	.861

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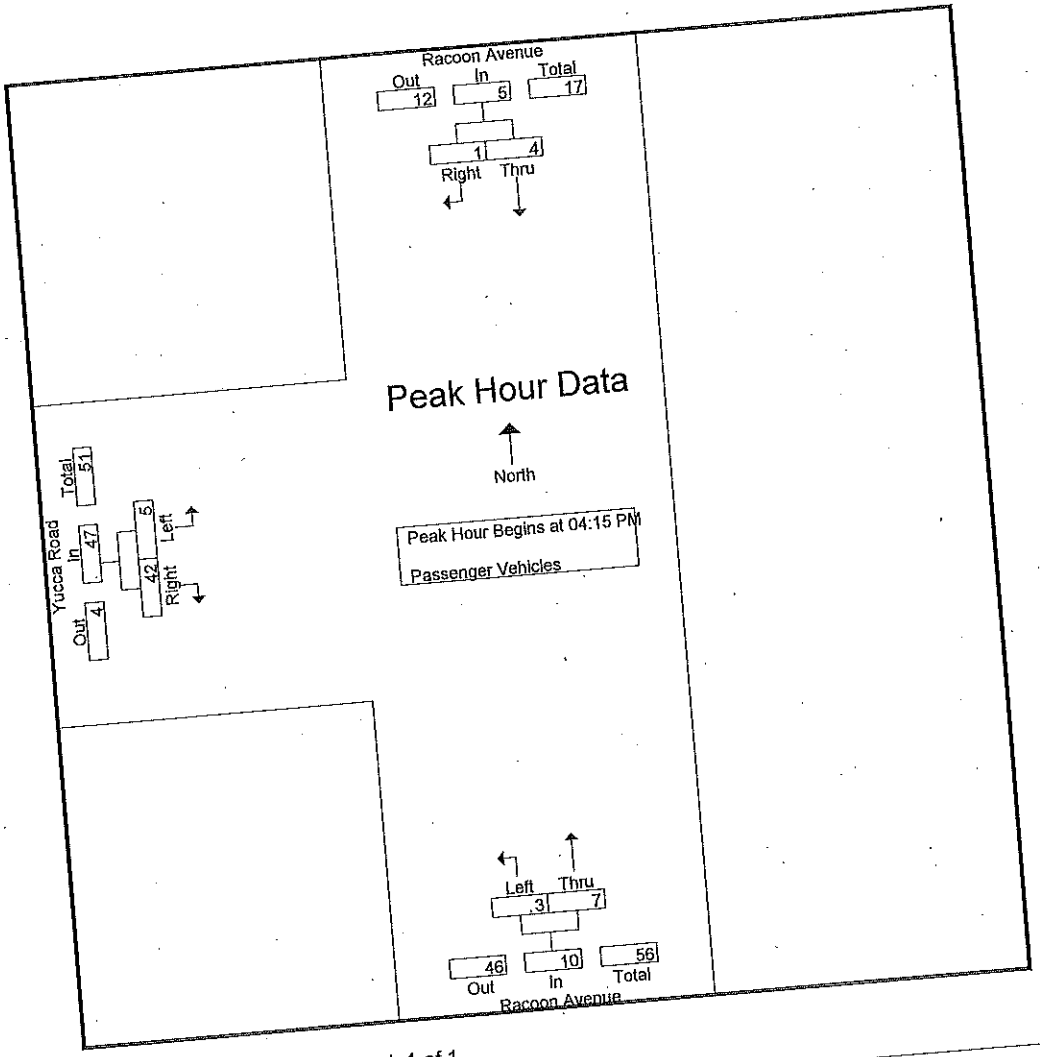
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	**2**	0	**2**	0	2	2	**2**	11	13
+15 mins.	0	0	0	**1**	**3**	**4**	0	**14**	**14**
+30 mins.	0	**1**	1	1	0	1	2	6	8
+45 mins.	2	0	2	1	2	3	1	11	12
Total Volume	4	1	5	3	7	10	5	42	47
% App. Total	80	20		30	70		10.6	89.4	
PHF	.500	.250	.625	.750	.583	.625	.625	.750	.839

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUPM
Site Code : 05116575
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Groups Printed- Large 2 Axle Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	1	0	1	0	1	1	2
Total	0	0	0	1	0	1	0	1	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	1	0	1	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	0	0	1
Grand Total	1	0	1	1	0	1	0	1	1	3
Apprch %	100	0		100	0		0	100		
Total %	33.3	0	33.3	33.3	0	33.3	0	33.3	33.3	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	1	0	1	0	1	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	1	1	2
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250	.250

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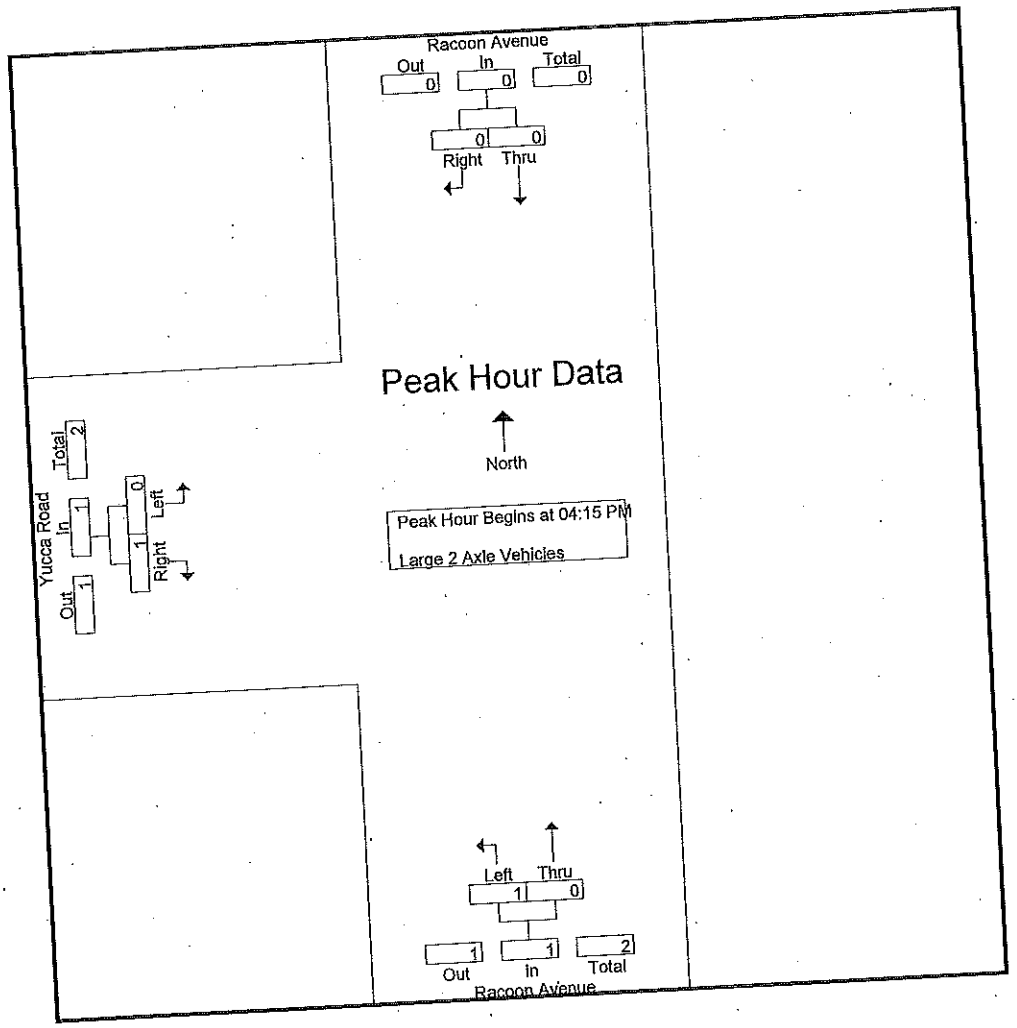
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	1	1
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUPM
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Groups Printed- 3 Axle Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	1	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	1	1	1
Apprch %	0	0		0	0		0	100		
Total %	0	0	0	0	0	0	0	100	100	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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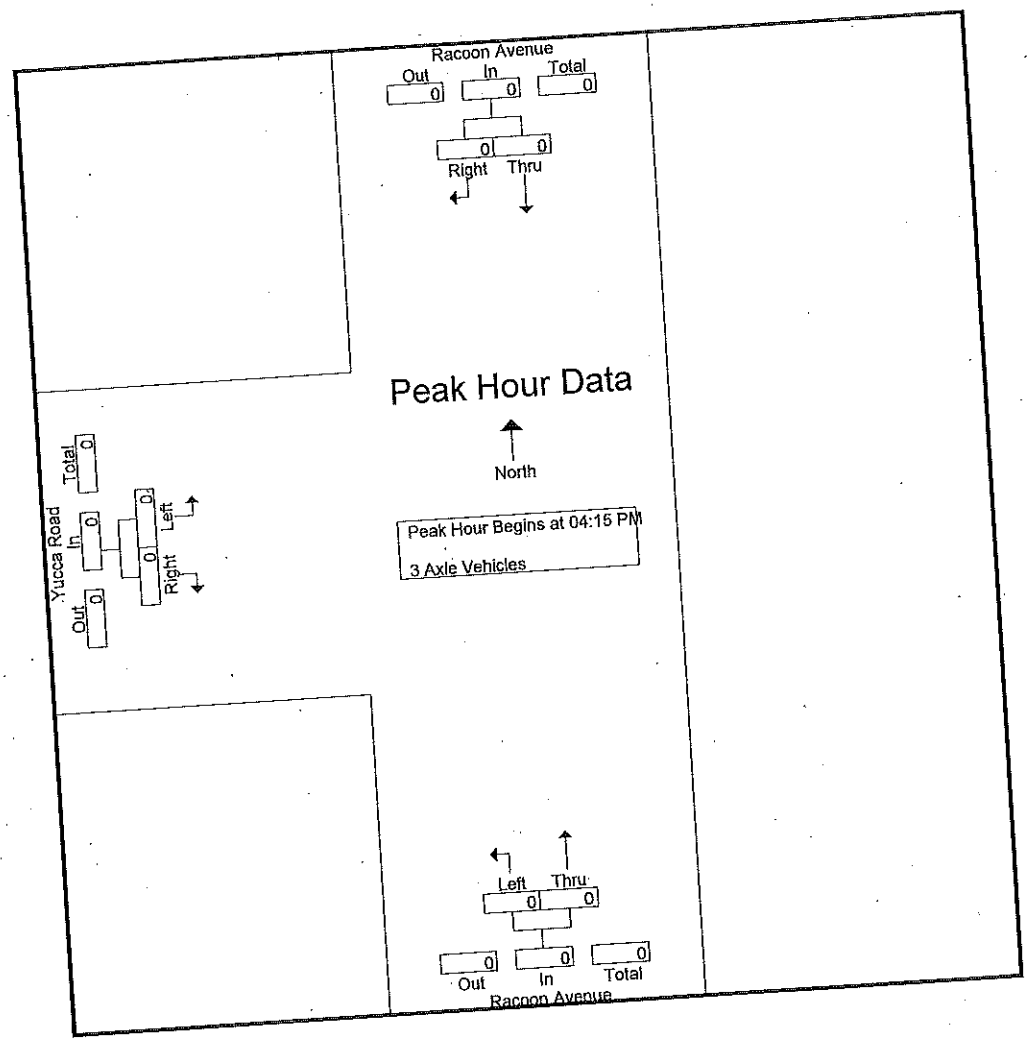
City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0				
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUPM
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Groups Printed- 4+ Axle Trucks

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	1	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	1	1	1
Apprch %	0	0		0	0		0	100		
Total %	0	0	0	0	0	0	0	100	100	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Adelanto
N/S: Racoon Avenue
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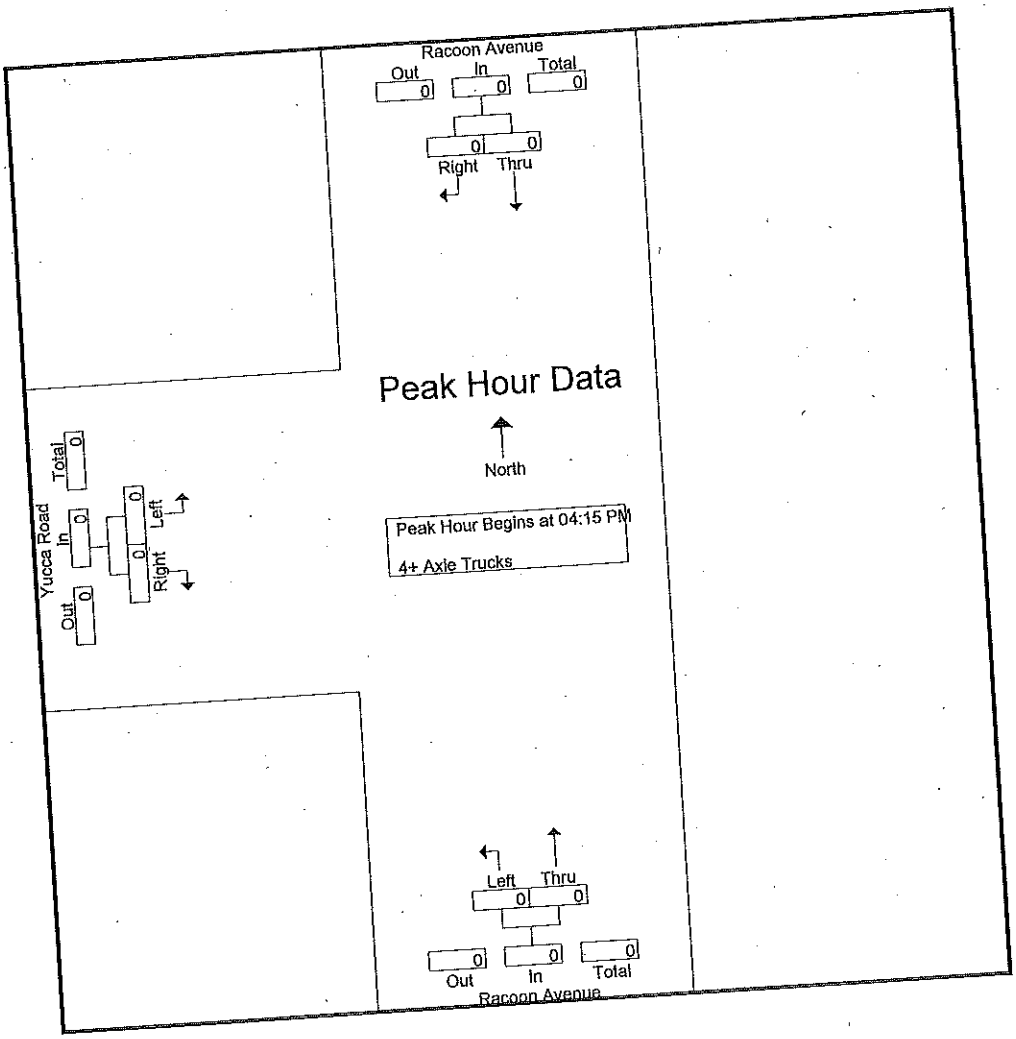
Weather: Clear



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0		0	0		0	0	
% App. Total	0	0							
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Adelanto
N/S: Raccoon Avenue
E/W: Yucca Avenue

Date: 10/27/2016
Day: Thursday

PEDESTRIANS

	North Leg Raccoon Avenue	East Leg Yucca Avenue	South Leg Raccoon Avenue	West Leg Yucca Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Raccoon Avenue	East Leg Yucca Avenue	South Leg Raccoon Avenue	West Leg Yucca Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Adelanto
N/S: Raccoon Avenue
E/W: Yucca Avenue

Date: 10/27/2016
Day: Thursday

BICYCLES

	North Leg Raccoon Avenue	East Leg Yucca Avenue	South Leg Raccoon Avenue	West Leg Yucca Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Raccoon Avenue	East Leg Yucca Avenue	South Leg Raccoon Avenue	West Leg Yucca Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNAM
Site Code : 05116575
Start Date : 10/27/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	4	0	4	74	26	100	0	34	34	138
07:15 AM	6	0	6	31	15	46	0	18	18	70
07:30 AM	6	0	6	27	13	40	0	21	21	67
07:45 AM	4	0	4	43	19	62	0	22	22	88
Total	20	0	20	175	73	248	0	95	95	363
08:00 AM	5	1	6	33	9	42	0	34	34	82
08:15 AM	5	2	7	30	8	38	0	32	32	77
08:30 AM	4	0	4	25	7	32	0	32	32	68
08:45 AM	3	1	4	27	7	34	1	18	19	57
Total	17	4	21	115	31	146	1	116	117	284
Grand Total	37	4	41	290	104	394	1	211	212	647
Apprch %	90.2	9.8		73.6	26.4		0.5	99.5		
Total %	5.7	0.6	6.3	44.8	16.1	60.9	0.2	32.6	32.8	
Passenger Vehicles	27	3	30	268	101	369	1	168	169	568
% Passenger Vehicles	73	75	73.2	92.4	97.1	93.7	100	79.6	79.7	87.8
Large 2 Axle Vehicles	6	1	7	9	0	9	0	22	22	38
% Large 2 Axle Vehicles	16.2	25	17.1	3.1	0	2.3	0	10.4	10.4	5.9
3 Axle Vehicles	0	0	0	2	2	4	0	3	3	7
% 3 Axle Vehicles	0	0	0	0.7	1.9	1	0	1.4	1.4	1.1
4+ Axle Trucks	4	0	4	11	1	12	0	18	18	34
% 4+ Axle Trucks	10.8	0	9.8	3.8	1	3	0	8.5	8.5	5.3

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	4	0	4	**74**	**26**	**100**	0	34	34	**138**
07:15 AM	**6**	0	6	31	15	46	0	18	18	70
07:30 AM	6	0	6	27	13	40	0	21	21	67
07:45 AM	4	0	4	43	19	62	0	22	22	88
Total Volume	20	0	20	175	73	248	0	95	95	363
% App. Total	100	0		70.6	29.4		0	100		
PHF	.833	.000	.833	.591	.702	.620	.000	.699	.699	.658

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File Name : ADLRARNAM
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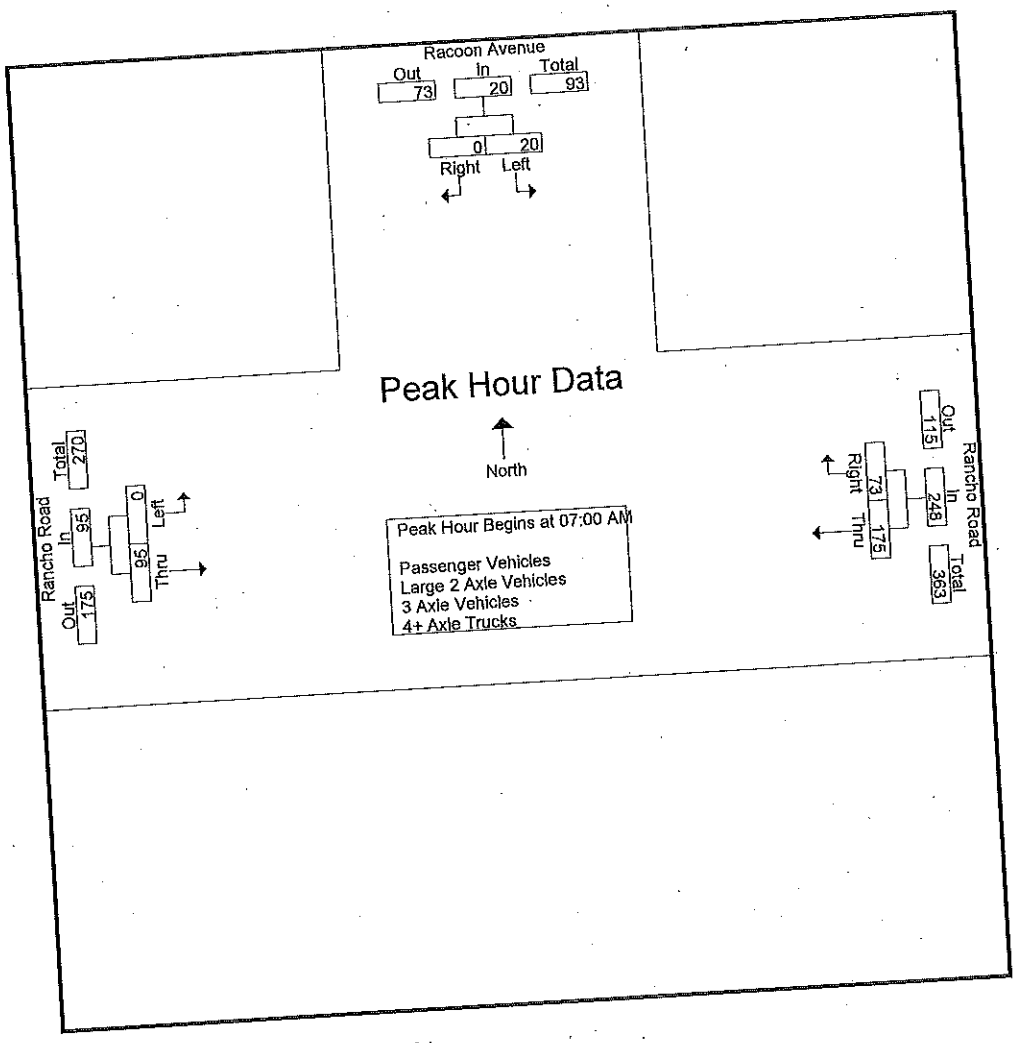
City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM			07:00 AM			07:45 AM		
+0 mins.	6	0	6	74	26	100	0	22	22
+15 mins.	4	0	4	31	15	46	0	34	34
+30 mins.	5	1	6	27	13	40	0	32	32
+45 mins.	5	2	7	43	19	62	0	32	32
Total Volume	20	3	23	175	73	248	0	120	120
% App. Total	87	13		70.6	29.4		0	100	
PHF	.833	.375	.821	.591	.702	.620	.000	.882	.882

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

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Groups Printed- Passenger Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	3	0	3	72	25	97	0	28	28	128
07:15 AM	4	0	4	27	14	41	0	16	16	61
07:30 AM	5	0	5	25	12	37	0	20	20	62
07:45 AM	3	0	3	40	19	59	0	17	17	79
Total	15	0	15	164	70	234	0	81	81	330
08:00 AM	3	0	3	30	9	39	0	28	28	70
08:15 AM	3	2	5	28	8	36	0	21	21	62
08:30 AM	4	0	4	21	7	28	0	26	26	58
08:45 AM	2	1	3	25	7	32	1	12	13	48
Total	12	3	15	104	31	135	1	87	88	238
Grand Total	27	3	30	268	101	369	1	168	169	568
Apprch %	90	10		72.6	27.4		0.6	99.4		
Total %	4.8	0.5	5.3	47.2	17.8	65	0.2	29.6	29.8	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	3	0	3	**72**	**25**	**97**	0	**28**	**28**	**128**
07:15 AM	4	0	4	27	14	41	0	16	16	61
07:30 AM	**5**	0	**5**	25	12	37	0	20	20	62
07:45 AM	3	0	3	40	19	59	0	17	17	79
Total Volume	15	0	15	164	70	234	0	81	81	330
% App. Total	100	0		70.1	29.9		0	100		
PHF	.750	.000	.750	.569	.700	.603	.000	.723	.723	.645

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City of Adelanto
N/S: Racoon Avenue
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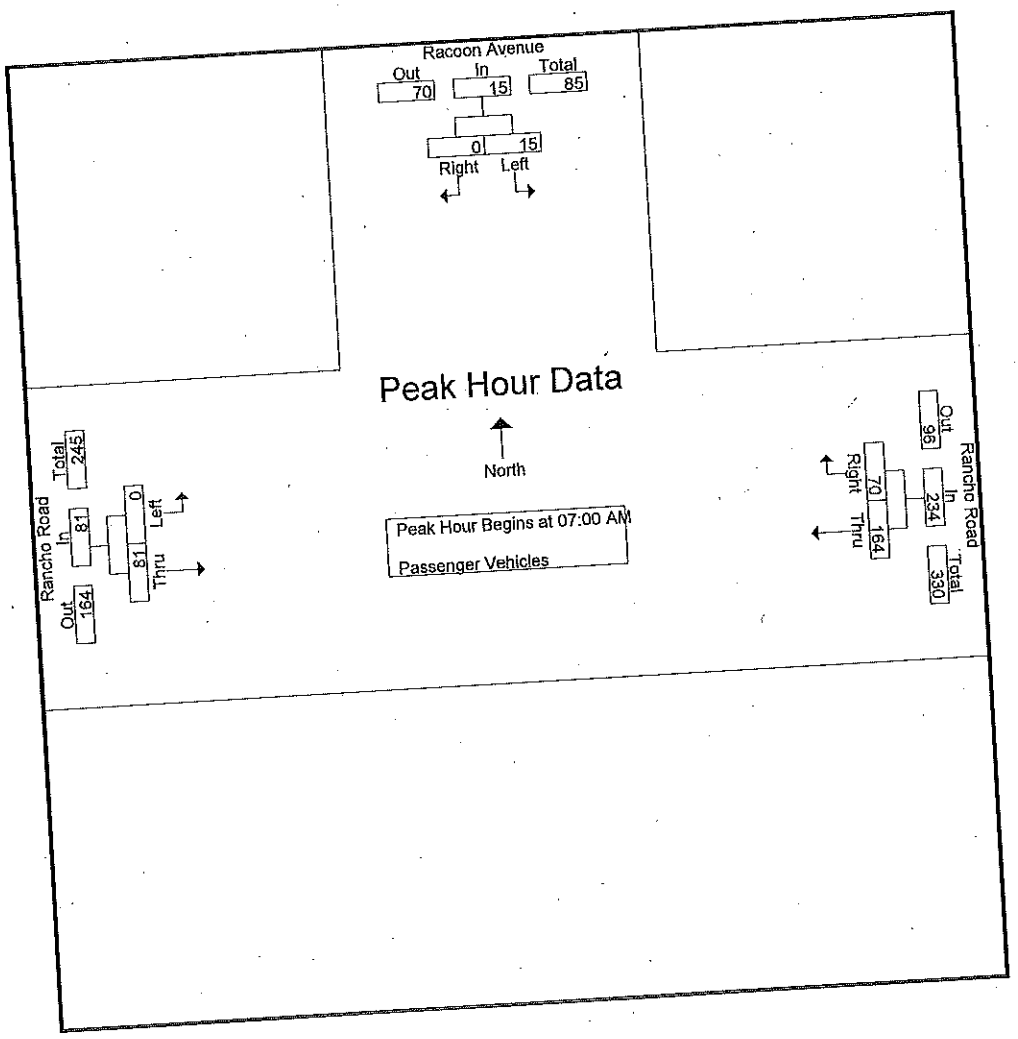
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	3	0	3	**72**	**25**	**97**	0	**28**	**28**
+15 mins.	4	0	4	27	14	41	0	16	16
+30 mins.	**5**	0	**5**	25	12	37	0	20	20
+45 mins.	3	0	3	40	19	59	0	17	17
Total Volume	15	0	15	164	70	234	0	81	81
% App. Total	100	0		70.1	29.9		0	100	
PHF	.750	.000	.750	.569	.700	.603	.000	.723	.723

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Groups Printed- Large 2 Axle Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	1	0	1	0	0	0	0	3	3	4
07:15 AM	2	0	2	1	0	1	0	2	2	5
07:30 AM	1	0	1	1	0	1	0	1	1	3
07:45 AM	1	0	1	3	0	3	0	3	3	7
Total	5	0	5	5	0	5	0	9	9	19
08:00 AM	1	1	2	1	0	1	0	2	2	5
08:15 AM	0	0	0	2	0	2	0	7	7	9
08:30 AM	0	0	0	1	0	1	0	2	2	3
08:45 AM	0	0	0	0	0	0	0	2	2	2
Total	1	1	2	4	0	4	0	13	13	19
Grand Total	6	1	7	9	0	9	0	22	22	38
Apprch %	85.7	14.3		100	0		0	100		
Total %	15.8	2.6	18.4	23.7	0	23.7	0	57.9	57.9	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	0	1	0	0	0	0	3	3	4
07:15 AM	2	0	2	1	0	1	0	2	2	5
07:30 AM	1	0	1	1	0	1	0	1	1	3
07:45 AM	1	0	1	3	0	3	0	3	3	7
Total Volume	5	0	5	5	0	5	0	9	9	19
% App. Total	100	0		100	0		0	100		
PHF	.625	.000	.625	.417	.000	.417	.000	.750	.750	.679

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City of Adelanto
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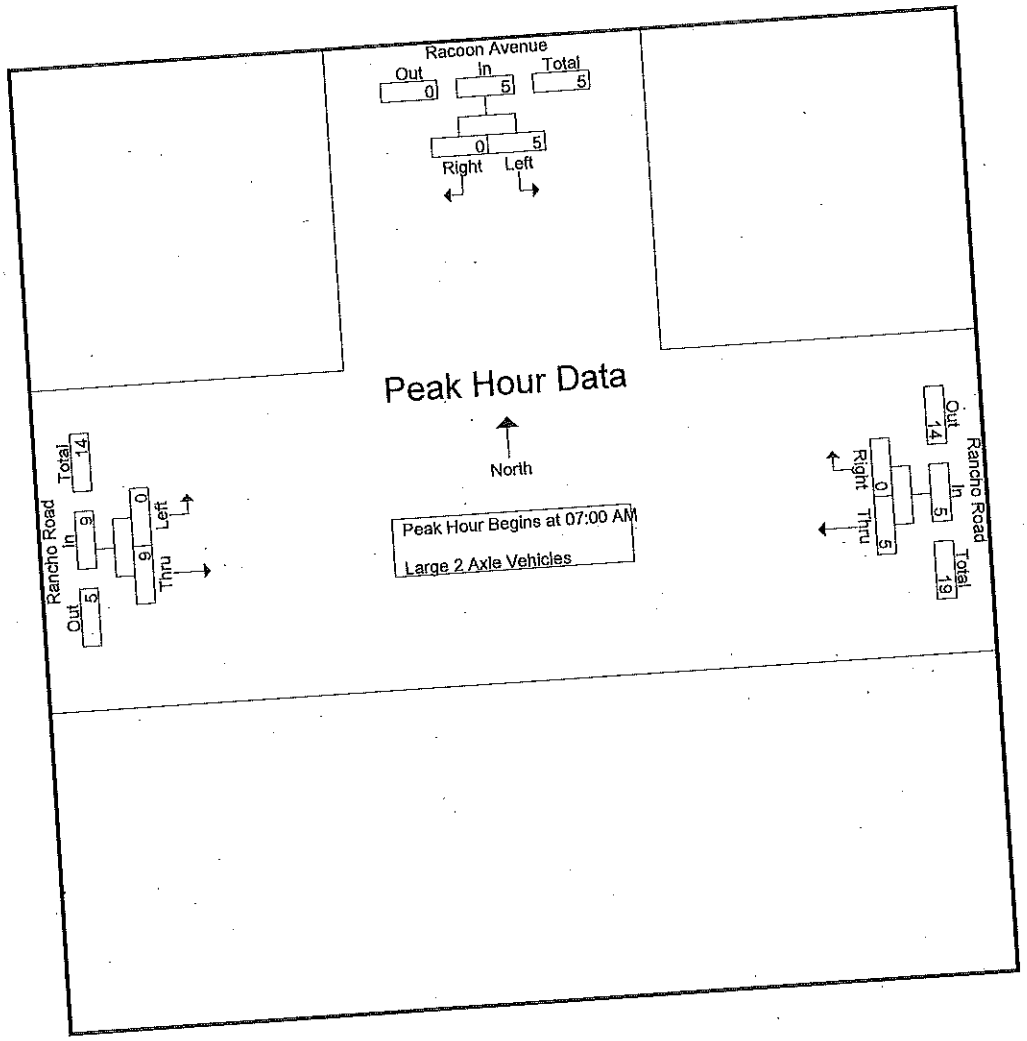
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	1	0	1	0	0	0	0	3	3
+15 mins.	2	0	2	1	0	1	0	2	2
+30 mins.	1	0	1	1	0	1	0	1	1
+45 mins.	1	0	1	3	0	3	0	3	3
Total Volume	5	0	5	5	0	5	0	9	9
% App. Total	100	0		100	0		0	100	
PHF	.625	.000	.625	.417	.000	.417	.000	.750	.750

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Groups Printed- 3 Axle Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	0	1	1	0	1	1	2
07:15 AM	0	0	0	0	1	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	1	2	3	0	2	2	5
08:00 AM	0	0	0	0	0	0	0	1	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	1	0	1	0	1	1	2
Grand Total	0	0	0	2	2	4	0	3	3	7
Apprch %	0	0		50	50		0	100		
Total %	0	0	0	28.6	28.6	57.1	0	42.9	42.9	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	1	1	0	1	1	2
07:15 AM	0	0	0	0	1	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	1	2	3	0	2	2	5
% App. Total	0	0		33.3	66.7		0	100		
PHF	.000	.000	.000	.250	.500	.750	.000	.500	.500	.625

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City of Adelanto
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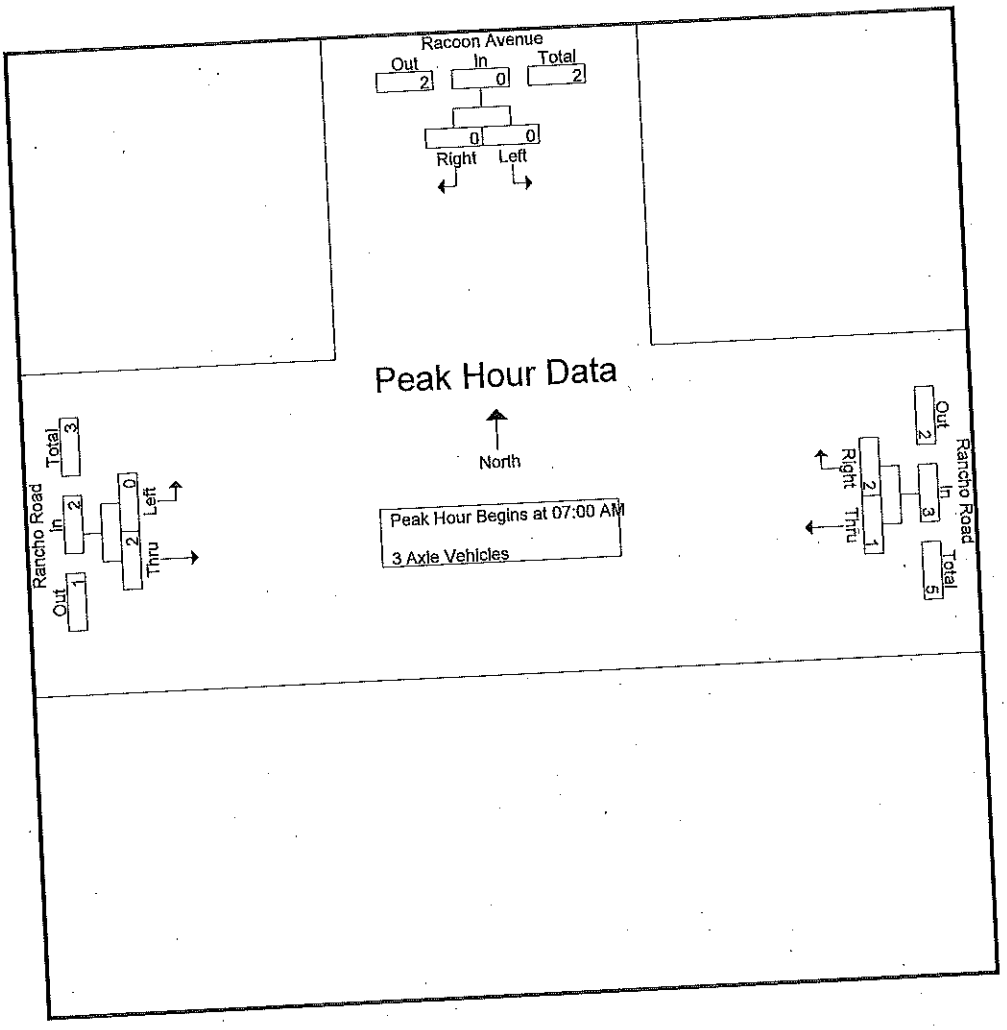
Weather: Clear



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	1	1	0	1	1
+15 mins.	0	0	0	0	1	1	0	0	0
+30 mins.	0	0	0	1	0	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	1	2	3	0	2	2
% App. Total	0	0		33.3	66.7		0	100	
PHF	.000	.000	.000	.250	.500	.750	.000	.500	.500

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Groups Printed- 4+ Axle Trucks

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	2	0	2	0	2	2	4
07:15 AM	0	0	0	3	0	3	0	0	0	3
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	5	1	6	0	3	3	9
08:00 AM	1	0	1	2	0	2	0	3	3	6
08:15 AM	2	0	2	0	0	0	0	4	4	6
08:30 AM	0	0	0	3	0	3	0	4	4	7
08:45 AM	1	0	1	1	0	1	0	4	4	6
Total	4	0	4	6	0	6	0	15	15	25
Grand Total	4	0	4	11	1	12	0	18	18	34
Apprch %	100	0		91.7	8.3		0	100		
Total %	11.8	0	11.8	32.4	2.9	35.3	0	52.9	52.9	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	2	0	2	0	2	2	4
07:15 AM	0	0	0	3	0	3	0	0	0	3
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	5	1	6	0	3	3	9
% App. Total	0	0		83.3	16.7		0	100		
PHF	.000	.000	.000	.417	.250	.500	.000	.375	.375	.563

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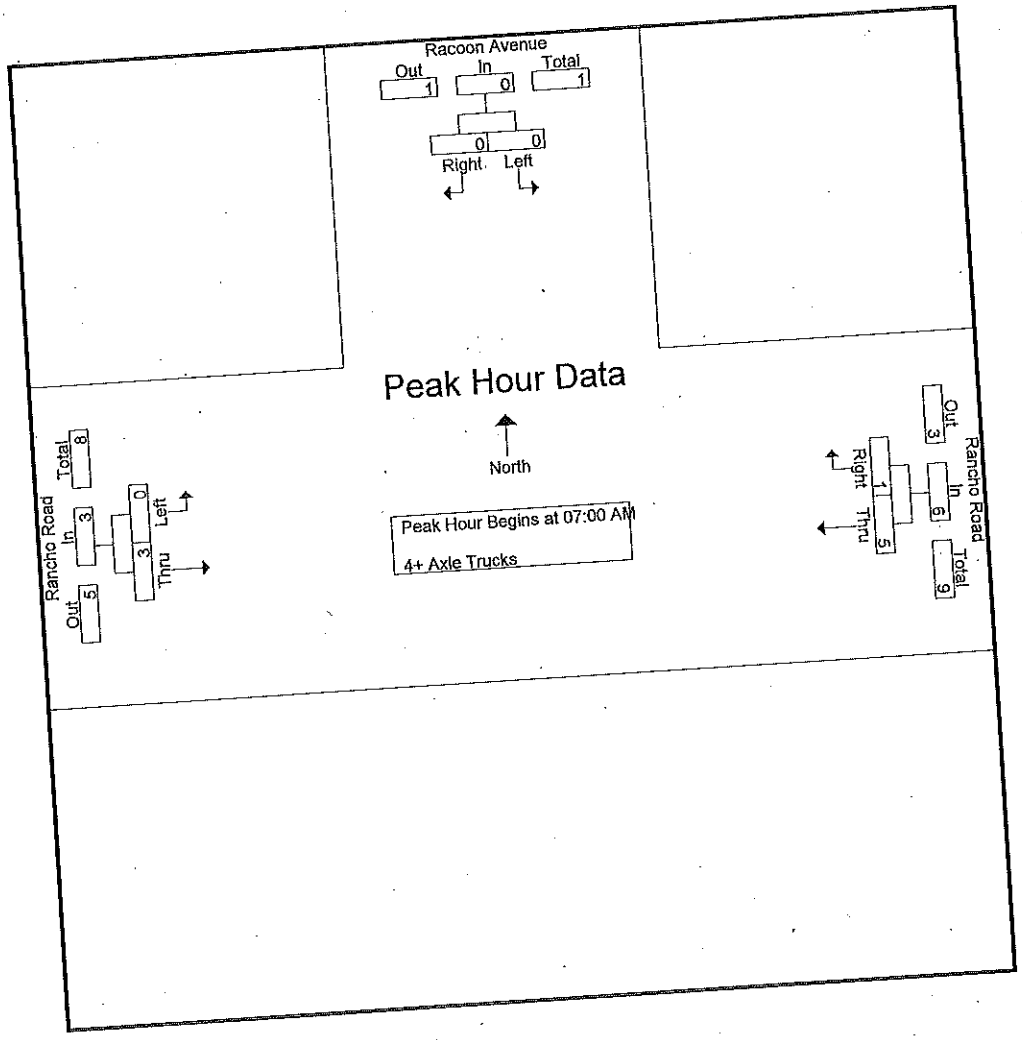

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	2	0	2	0	2	2
+15 mins.	0	0	0	3	0	3	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	5	1	6	0	3	3
% App. Total	0	0		83.3	16.7		0	100	
PHF	.000	.000	.000	.417	.250	.500	.000	.375	.375

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	20	2	22	22	2	24	3	72	75	121
04:15 PM	10	0	10	33	2	35	0	51	51	96
04:30 PM	17	1	18	22	3	25	1	63	64	107
04:45 PM	7	0	7	26	6	32	3	61	64	103
Total	54	3	57	103	13	116	7	247	254	427
05:00 PM	20	3	23	28	7	35	2	49	51	109
05:15 PM	14	0	14	20	6	26	0	37	37	77
05:30 PM	12	0	12	10	3	13	0	54	54	79
05:45 PM	3	0	3	25	3	28	0	32	32	63
Total	49	3	52	83	19	102	2	172	174	328
Grand Total	103	6	109	186	32	218	9	419	428	755
Apprch %	94.5	5.5		85.3	14.7		2.1	97.9		
Total %	13.6	0.8	14.4	24.6	4.2	28.9	1.2	55.5	56.7	
Passenger Vehicles	97	6	103	167	22	189	9	395	404	696
% Passenger Vehicles	94.2	100	94.5	89.8	68.8	86.7	100	94.3	94.4	92.2
Large 2 Axle Vehicles	4	0	4	6	9	15	0	11	11	30
% Large 2 Axle Vehicles	3.9	0	3.7	3.2	28.1	6.9	0	2.6	2.6	4
3 Axle Vehicles	1	0	1	2	1	3	0	3	3	7
% 3 Axle Vehicles	1	0	0.9	1.1	3.1	1.4	0	0.7	0.7	0.9
4+ Axle Trucks	1	0	1	11	0	11	0	10	10	22
% 4+ Axle Trucks	1	0	0.9	5.9	0	5	0	2.4	2.3	2.9

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**20**	**2**	**22**	22	2	24	3	72	**75**	**121**
04:15 PM	10	0	10	**33**	2	**35**	0	51	51	96
04:30 PM	17	1	18	22	3	25	1	63	64	107
04:45 PM	7	0	7	26	6	32	3	61	64	103
Total Volume	54	3	57	103	13	116	7	247	254	427
% App. Total	94.7	5.3		88.8	11.2		2.8	97.2		
PHF	.675	.375	.648	.780	.542	.829	.583	.858	.847	.882

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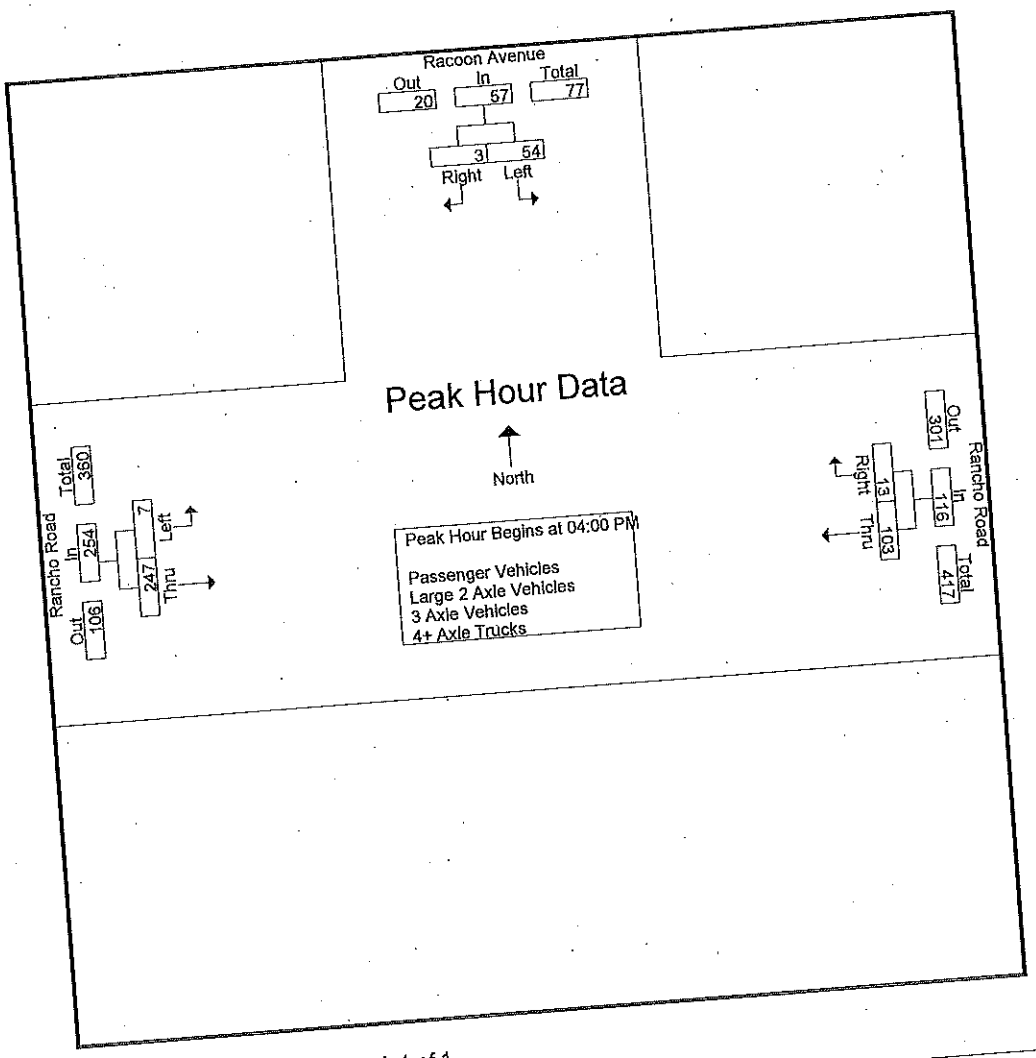

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM			04:15 PM			04:00 PM		
+0 mins.	17	1	18	**33**	2	**35**	**3**	**72**	**75**
+15 mins.	7	0	7	22	3	25	0	51	51
+30 mins.	**20**	**3**	**23**	26	6	32	1	63	64
+45 mins.	14	0	14	28	**7**	35	3	61	64
Total Volume	58	4	62	109	18	127	7	247	254
% App. Total	93.5	6.5		85.8	14.2		2.8	97.2	
PHF	.725	.333	.674	.826	.643	.907	.583	.858	.847

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Groups Printed- Passenger Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	18	2	20	22	2	24	3	69	72	116
04:15 PM	10	0	10	30	2	32	0	44	44	86
04:30 PM	16	1	17	19	3	22	1	61	62	101
04:45 PM	6	0	6	22	4	26	3	54	57	89
Total	50	3	53	93	11	104	7	228	235	392
05:00 PM	19	3	22	24	4	28	2	49	51	101
05:15 PM	14	0	14	18	3	21	0	37	37	72
05:30 PM	12	0	12	9	3	12	0	50	50	74
05:45 PM	2	0	2	23	1	24	0	31	31	57
Total	47	3	50	74	11	85	2	167	169	304
Grand Total	97	6	103	167	22	189	9	395	404	696
Apprch %	94.2	5.8		88.4	11.6		2.2	97.8		
Total %	13.9	0.9	14.8	24	3.2	27.2	1.3	56.8	58	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**18**	**2**	**20**	22	2	24	**3**	**69**	**72**	**116**
04:15 PM	10	0	10	**30**	2	**32**	0	44	44	86
04:30 PM	16	1	17	19	3	22	1	61	62	101
04:45 PM	6	0	6	22	**4**	26	3	54	57	89
Total Volume	50	3	53	93	11	104	7	228	235	392
% App. Total	94.3	5.7		89.4	10.6		3	97		
PHF	.694	.375	.663	.775	.688	.813	.583	.826	.816	.845

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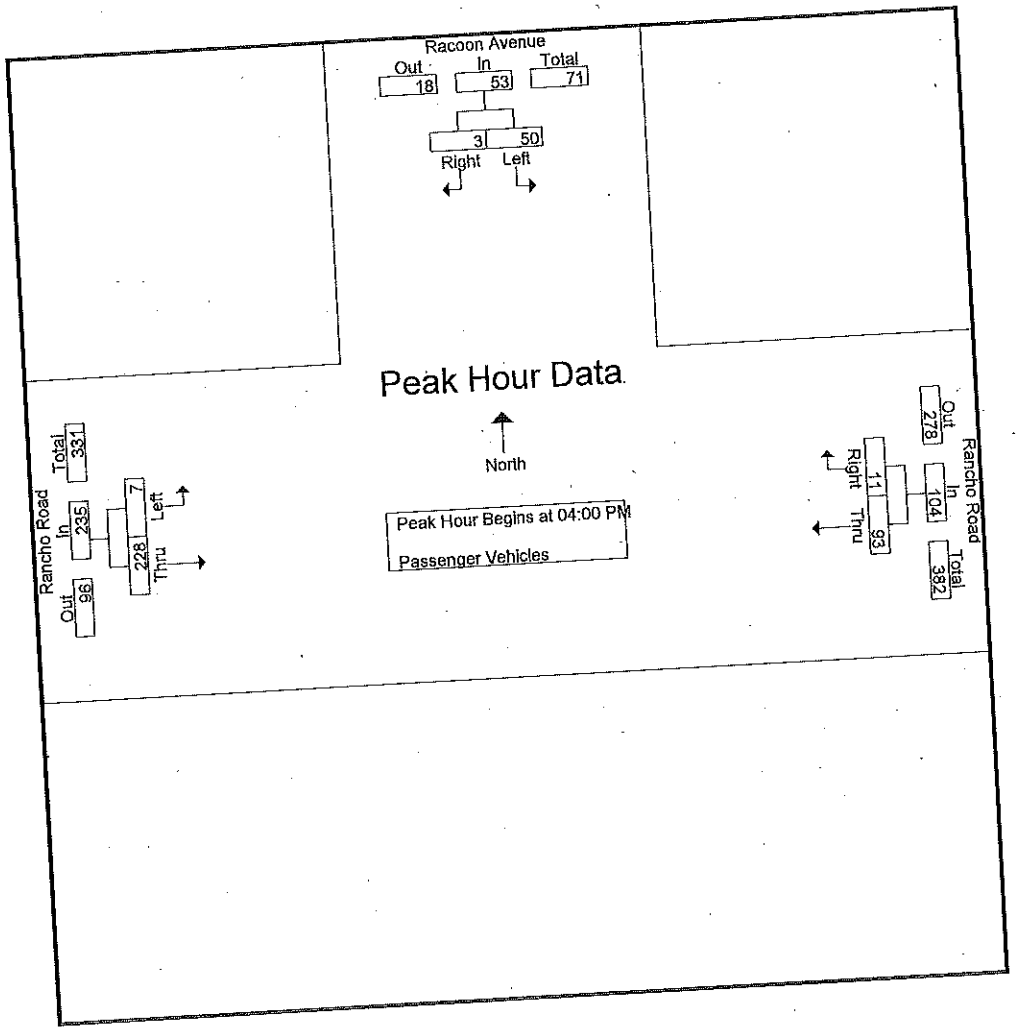

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	**18**	**2**	**20**	22	2	24	**3**	**69**	**72**
+15 mins.	10	0	10	**30**	2	**32**	0	44	44
+30 mins.	16	1	17	19	3	22	1	61	62
+45 mins.	6	0	6	22	**4**	26	3	54	57
Total Volume	50	3	53	93	11	104	7	228	235
% App. Total	94.3	5.7		89.4	10.6		3	97	
PHF	.694	.375	.663	.775	.688	.813	.583	.826	.816

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNPM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	1	0	3	3	4
04:30 PM	1	0	1	1	0	1	0	2	2	4
04:45 PM	1	0	1	1	2	3	0	4	4	8
Total	2	0	2	3	2	5	0	9	9	16
05:00 PM	1	0	1	2	2	4	0	0	0	5
05:15 PM	0	0	0	1	3	4	0	0	0	4
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	1	0	1	0	2	2	0	0	0	3
Total	2	0	2	3	7	10	0	2	2	14
Grand Total	4	0	4	6	9	15	0	11	11	30
Apprch %	100	0		40	60		0	100		
Total %	13.3	0	13.3	20	30	50	0	36.7	36.7	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	1	0	3	3	4
04:30 PM	1	0	1	1	0	1	0	2	2	4
04:45 PM	1	0	1	1	2	3	0	4	4	8
Total Volume	2	0	2	3	2	5	0	9	9	16
% App. Total	100	0		60	40		0	100		
PHF	.500	.000	.500	.750	.250	.417	.000	.563	.563	.500

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File Name : ADLRARNPM
Site Code : 05116575
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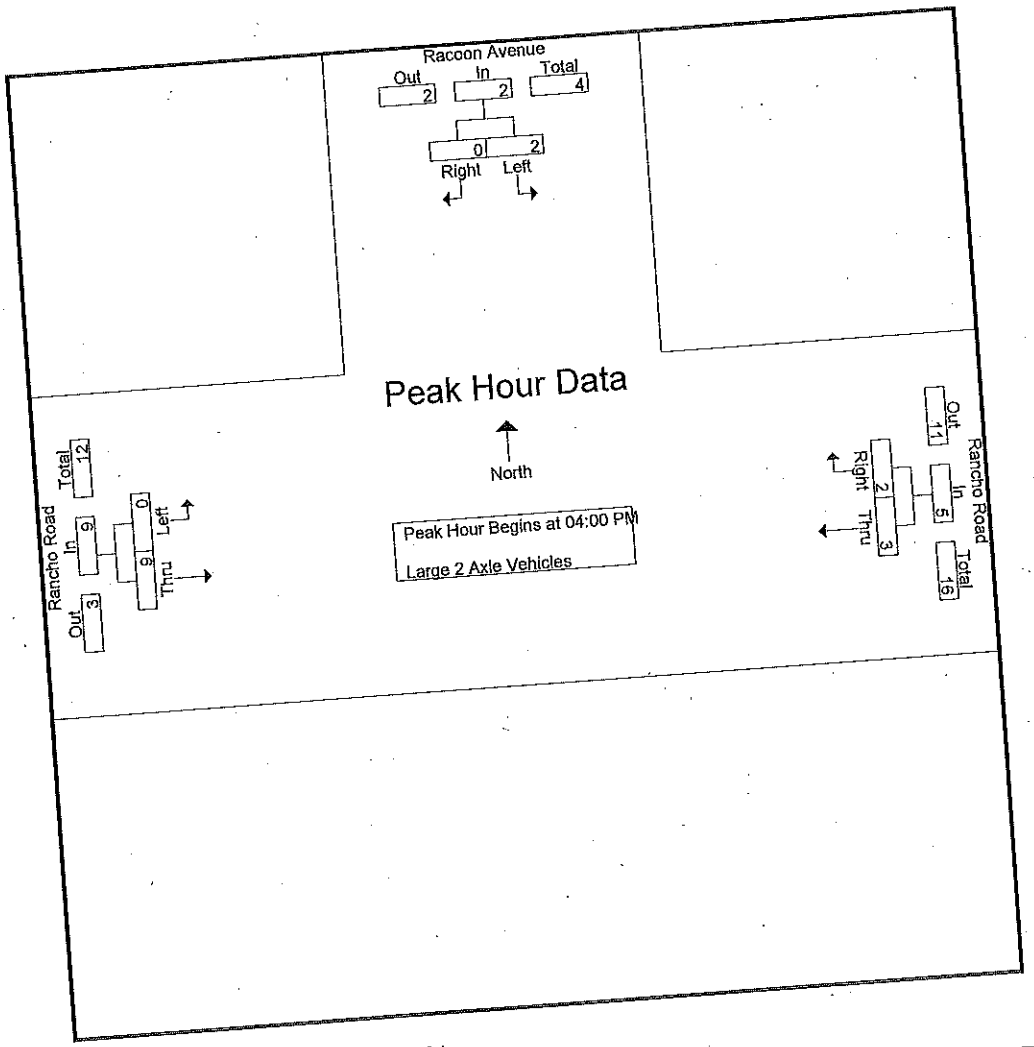
City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	1	0	1	0	3	3
+30 mins.	1	0	1	1	0	1	0	2	2
+45 mins.	1	0	1	1	2	3	0	4	4
Total Volume	2	0	2	3	2	5	0	9	9
% App. Total	100	0		60	40		0	100	
PHF	.500	.000	.500	.750	.250	.417	.000	.563	.563

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNPM
Site Code : 05116575
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Groups Printed- 3 Axle Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	1	0	1	0	0	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	2	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	3	3	4
05:00 PM	0	0	0	0	1	1	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	2	1	3	0	0	0	3
Grand Total	1	0	1	2	1	3	0	3	3	7
Apprch %	100	0		66.7	33.3		0	100		
Total %	14.3	0	14.3	28.6	14.3	42.9	0	42.9	42.9	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**1**	0	**1**	0	0	0	0	1	1	**2**
04:15 PM	0	0	0	0	0	0	0	**2**	**2**	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	3	3	4
% App. Total	100	0		0	0		0	100		
PHF	.250	.000	.250	.000	.000	.000	.000	.375	.375	.500

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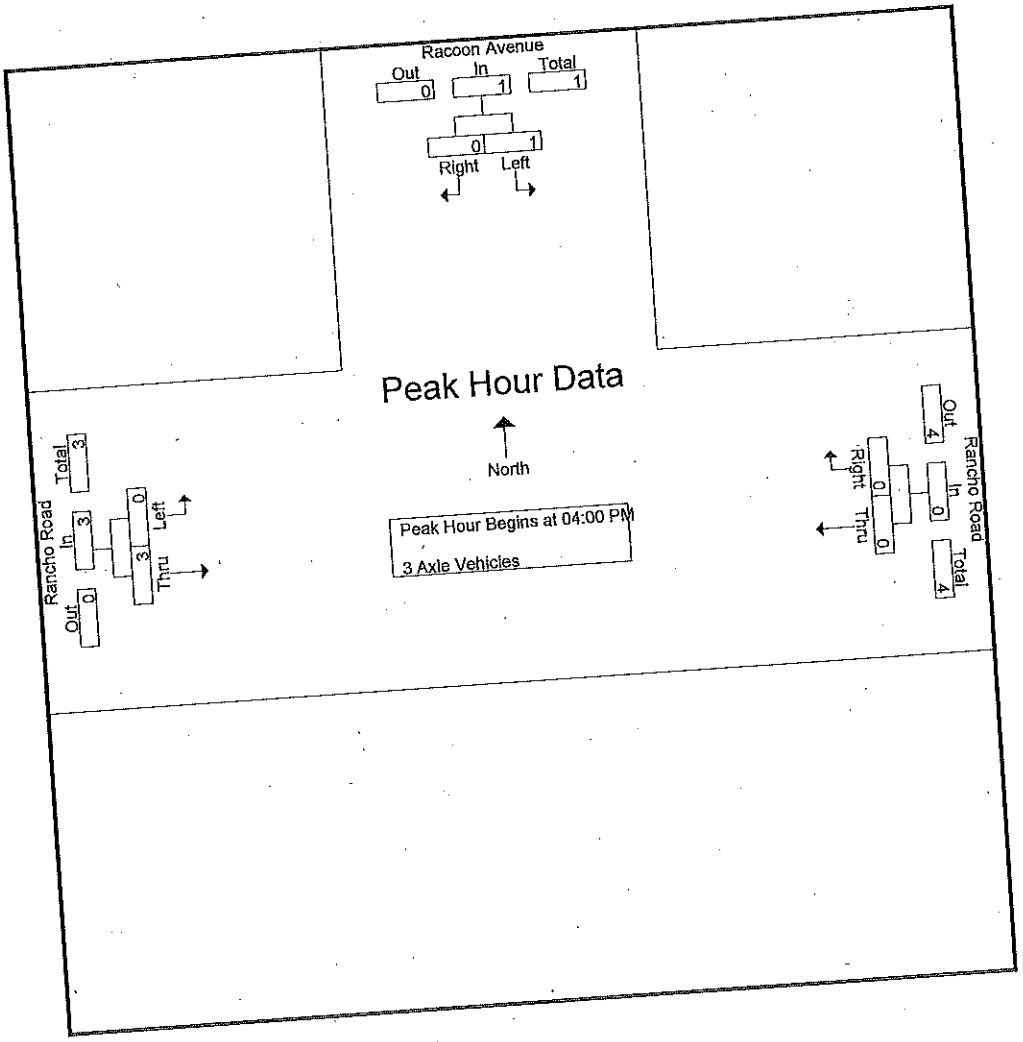
City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:									
	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	**1**	0	**1**	0	0	0	0	**1**	**1**
+15 mins.	0	0	0	0	0	0	0	**2**	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	3	3
% App. Total	100	0		0	0		0	100	
PHF	.250	.000	.250	.000	.000	.000	.000	.375	.375

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNPM
Site Code : 05116575
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Groups Printed- 4+ Axle Trucks

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	1	0	1	0	0	0	0	2	2	3
04:15 PM	0	0	0	2	0	2	0	2	2	4
04:30 PM	0	0	0	2	0	2	0	0	0	2
04:45 PM	0	0	0	3	0	3	0	3	3	6
Total	1	0	1	7	0	7	0	7	7	15
05:00 PM	0	0	0	2	0	2	0	0	0	2
05:15 PM	0	0	0	1	0	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	0	0	0	1	0	1	0	1	1	2
Total	0	0	0	4	0	4	0	3	3	7
Grand Total	1	0	1	11	0	11	0	10	10	22
Apprch %	100	0		100	0		0	100		
Total %	4.5	0	4.5	50	0	50	0	45.5	45.5	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	1	0	1	0	0	0	0	2	2	3
04:15 PM	0	0	0	2	0	2	0	2	2	4
04:30 PM	0	0	0	2	0	2	0	0	0	2
04:45 PM	0	0	0	3	0	3	0	3	3	6
Total Volume	1	0	1	7	0	7	0	7	7	15
% App. Total	100	0		100	0		0	100		
PHF	.250	.000	.250	.583	.000	.583	.000	.583	.583	.625

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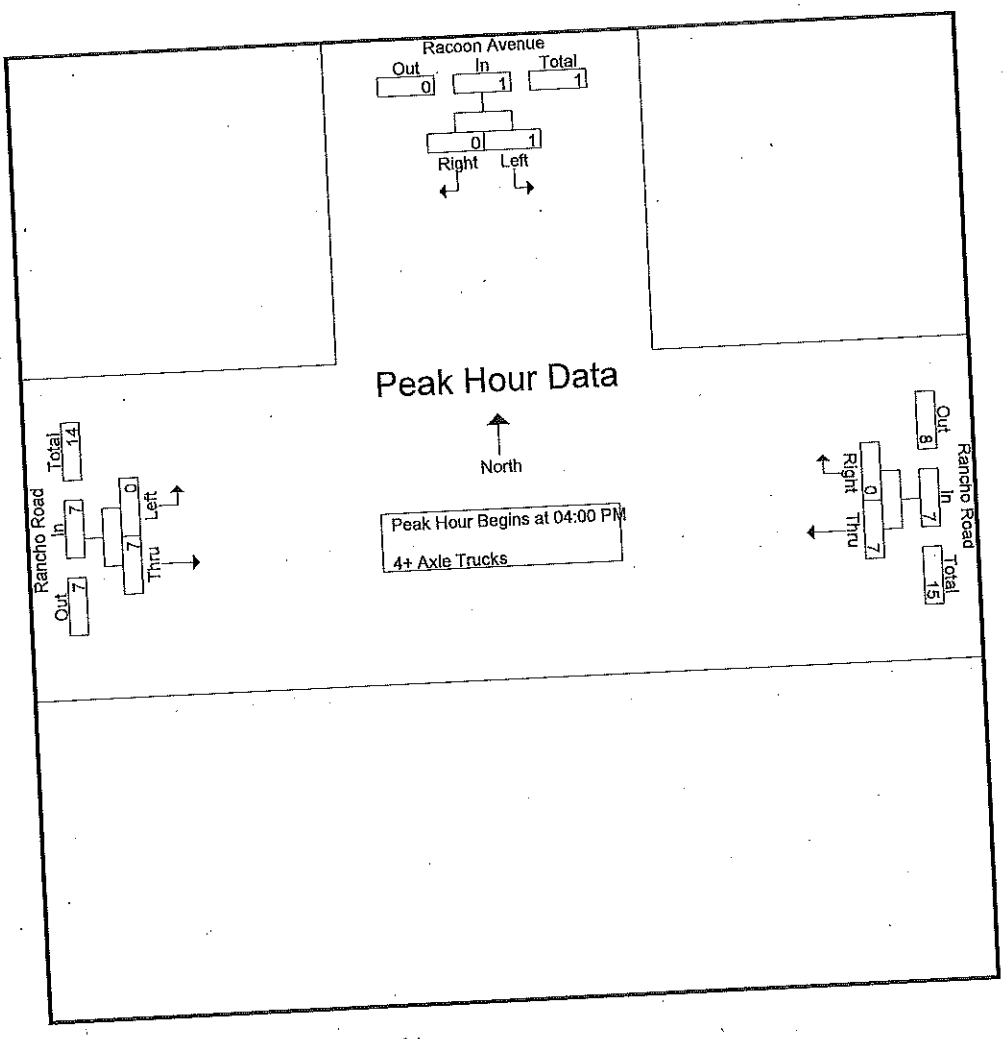
City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	1	0	1	0	0	0	0	2	2
+15 mins.	0	0	0	2	0	2	0	2	2
+30 mins.	0	0	0	2	0	2	0	0	0
+45 mins.	0	0	0	3	0	3	0	3	3
Total Volume	1	0	1	7	0	7	0	7	7
% App. Total	100	0		100	0		0	100	
PHF	.250	.000	.250	.583	.000	.583	.000	.583	.583

Location: Adelanto
N/S: Raccoon Avenue
E/W: Rancho Road

Date: 10/27/2016
Day: Thursday

PEDESTRIANS

	North Leg Raccoon Avenue	East Leg Rancho Road	South Leg Raccoon Avenue	West Leg Rancho Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Raccoon Avenue	East Leg Rancho Road	South Leg Raccoon Avenue	West Leg Rancho Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Location: Adelanto
N/S: Raccoon Avenue
E/W: Rancho Road

Date: 10/27/2016
Day: Thursday

BICYCLES

	North Leg Raccoon Avenue	East Leg Rancho Road	South Leg Raccoon Avenue	West Leg Rancho Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Raccoon Avenue	East Leg Rancho Road	South Leg Raccoon Avenue	West Leg Rancho Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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APPENDIX 3.2:

EXISTING (2016) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	6	4	53	14	7	8	1	3	2	0
Future Vol, veh/h	0	9	6	4	53	14	7	8	1	3	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	13	9	6	77	20	10	12	1	4	3	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	22	0	0	117	126	17	123	121	87
Stage 1	-	-	-	-	-	-	17	17	-	99	99	-
Stage 2	-	-	-	-	-	-	100	109	-	24	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1509	-	-	1607	-	-	864	768	1068	856	773	977
Stage 1	-	-	-	-	-	-	1008	885	-	912	817	-
Stage 2	-	-	-	-	-	-	911	809	-	999	881	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1607	-	-	859	765	1068	842	770	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	859	765	-	842	770	-
Stage 1	-	-	-	-	-	-	1008	885	-	912	814	-
Stage 2	-	-	-	-	-	-	904	806	-	985	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	9.5	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	819	1509	-	-	1607	-	-	812
HCM Lane V/C Ratio	0.028	-	-	-	0.004	-	-	0.009
HCM Control Delay (s)	9.5	0	-	-	7.2	0	-	9.5
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	Y	
Traffic Vol, veh/h	5	98	155	28	9	5
Future Vol, veh/h	5	98	155	28	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	148	235	42	14	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	235	0	-	0	399	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1344	-	-	-	565	809
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1344	-	-	-	562	809
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	631
HCM Lane V/C Ratio	0.006	-	-	-	0.034
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	64	7	9	7
Future Vol, veh/h	0	13	64	7	9	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	70	8	10	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	162	14	18	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	834	1072	1612	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	797	1072	1612	-	-	-
Mov Cap-2 Maneuver	797	-	-	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	845	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	6.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1612	-	1072	-	-
HCM Lane V/C Ratio	0.044	-	0.013	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection							
Int Delay, s/veh	0.7						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑	↑	↱	↰	↱	
Traffic Vol, veh/h	0	108	189	77	23	0	
Future Vol, veh/h	0	108	189	77	23	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized		None		None		None	
Storage Length	-	-	-	0	0	60	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	66	66	66	66	66	66	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	0	164	286	117	35	0	

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	286	0	-	0	450	286
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1288	-	-	-	571	758
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %		-				
Mov Cap-1 Maneuver	1288	-	-	-	571	758
Mov Cap-2 Maneuver	-	-	-	-	571	-
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1288	-	-	-	571	-
HCM Lane V/C Ratio	-	-	-	-	0.061	-
HCM Control Delay (s)	0	-	-	-	11.7	0
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	35	7	1	4	2	8	4	4	10	17	6
Future Vol, veh/h	5	35	7	1	4	2	8	4	4	10	17	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	46	9	1	5	3	11	5	5	13	22	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	55	0	0	88	75	51	78	77	7
Stage 1	-	-	-	-	-	-	64	64	-	9	9	-
Stage 2	-	-	-	-	-	-	24	11	-	69	68	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1625	-	-	1563	-	-	902	819	1023	916	817	1081
Stage 1	-	-	-	-	-	-	952	846	-	1017	892	-
Stage 2	-	-	-	-	-	-	999	890	-	946	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1625	-	-	1563	-	-	873	815	1023	903	813	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	873	815	-	903	813	-
Stage 1	-	-	-	-	-	-	948	843	-	1013	891	-
Stage 2	-	-	-	-	-	-	966	889	-	932	839	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1	9.1	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	890	1625	-	-	1563	-	-	879
HCM Lane V/C Ratio	0.024	0.004	-	-	0.001	-	-	0.049
HCM Control Delay (s)	9.1	7.2	0	-	7.3	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection							
Int Delay, s/veh	1.4						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↑	↑	↱	↰		
Traffic Vol, veh/h	2	227	115	7	41	5	
Future Vol, veh/h	2	227	115	7	41	5	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized		None	-	None	-	None	
Storage Length	-	-	-	0	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	88	88	88	88	88	88	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	2	258	131	8	47	6	

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	131	0	-	0	394	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1467	-	-	-	569	924
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	747	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1467	-	-	-	568	924
Mov Cap-2 Maneuver	-	-	-	-	568	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	746	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1467	-	-	-	593
HCM Lane V/C Ratio	0.002	-	-	-	0.088
HCM Control Delay (s)	7.5	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	44	6	7	4	1
Future Vol, veh/h	5	44	6	7	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	49	7	8	4	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	26	5	6	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	995	1084	1628	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	991	1084	1628	-	-	-
Mov Cap-2 Maneuver	991	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1628	-	1074	-	-
HCM Lane V/C Ratio	0.004	-	0.051	-	-
HCM Control Delay (s)	7.2	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	7	269	119	14	58	3
Future Vol, veh/h	7	269	119	14	58	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	306	135	16	66	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	135	0	-	0	457	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1462	-	-	-	565	919
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	739	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1462	-	-	-	561	919
Mov Cap-2 Maneuver	-	-	-	-	561	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1462	-	-	-	561	919
HCM Lane V/C Ratio	0.005	-	-	-	0.117	0.004
HCM Control Delay (s)	7.5	0	-	-	12.3	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0

APPENDIX 3.3:

EXISTING (2016) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2016) Conditions - Weekday AM Peak Hour**

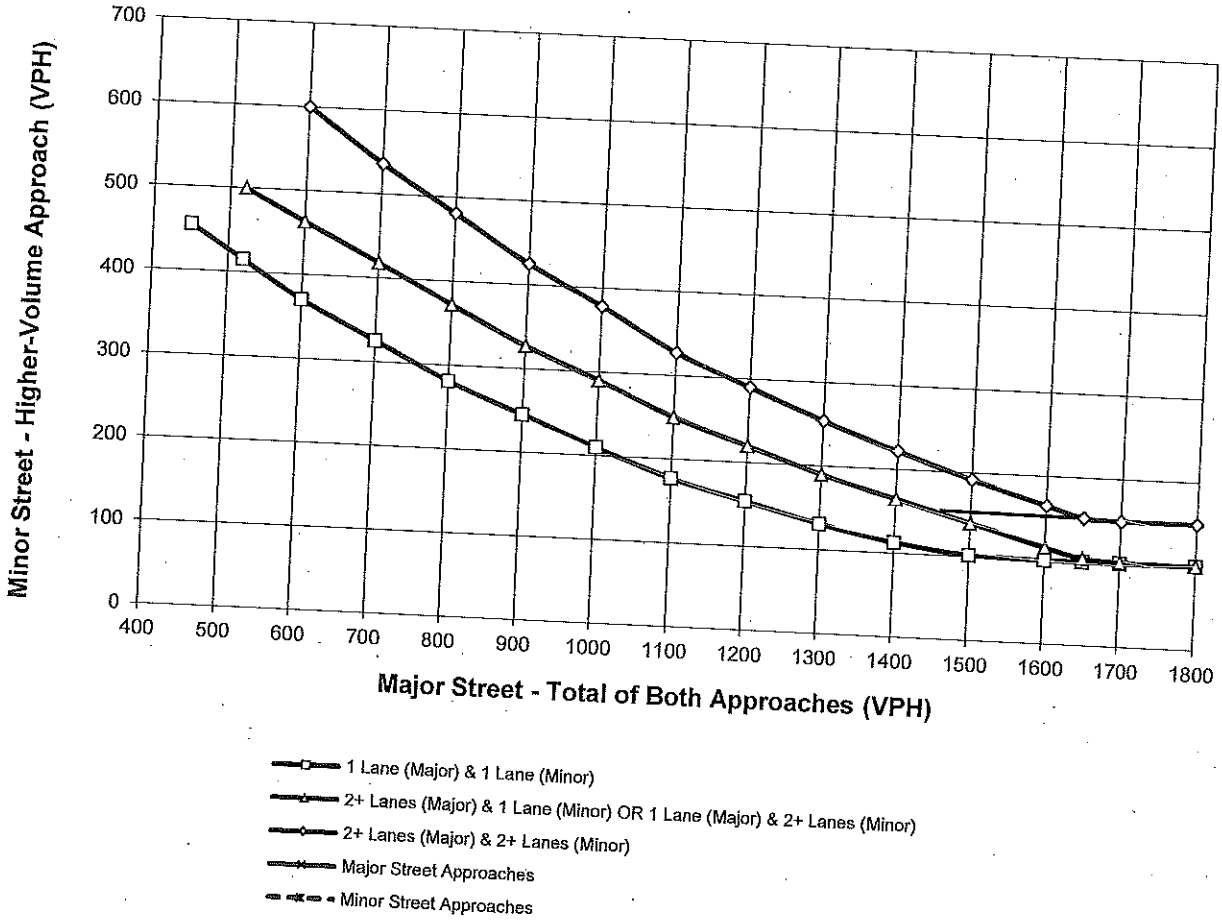
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **86**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **16**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

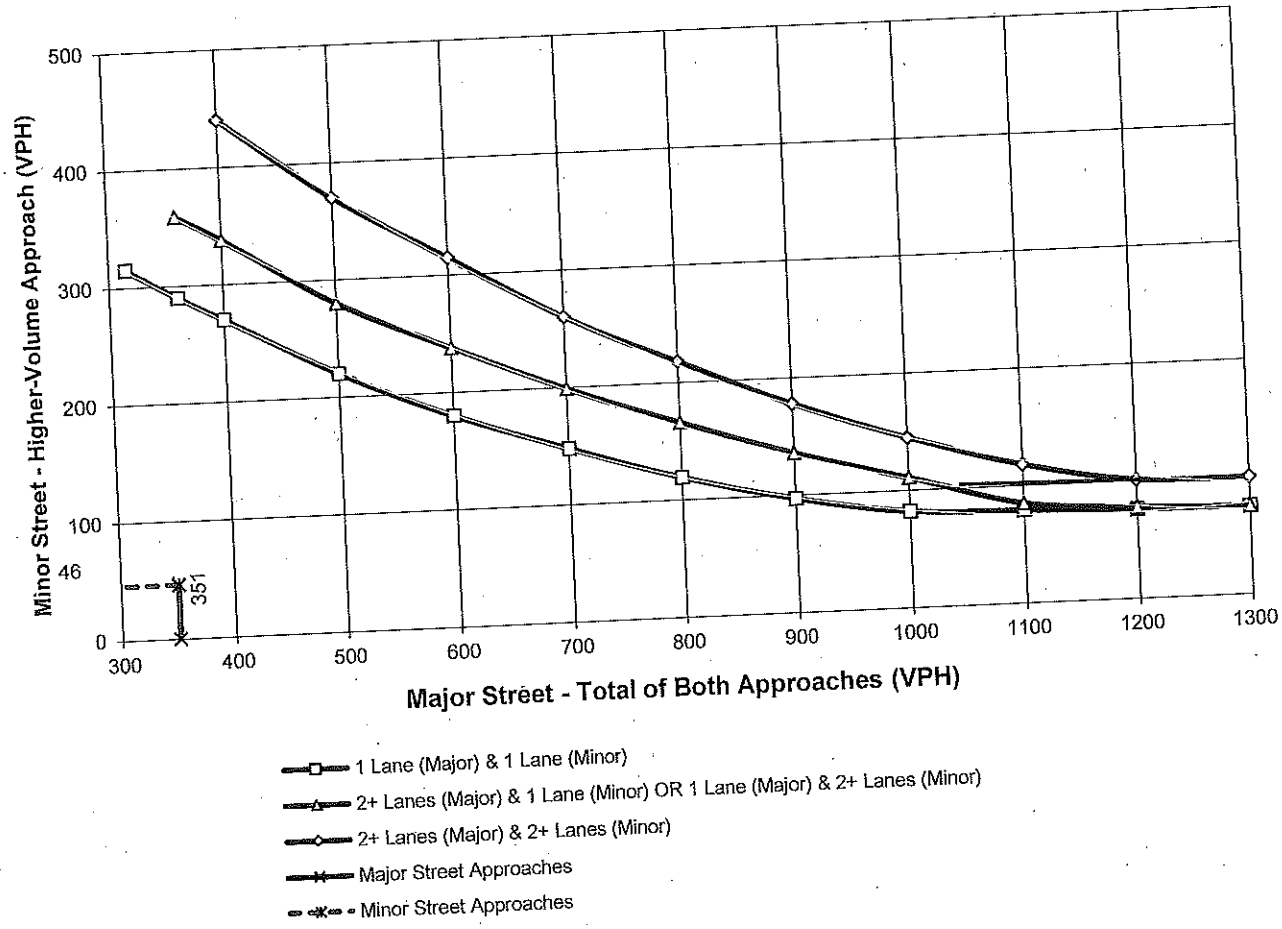
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2016) Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road**
Total of Both Approaches (VPH) = **351**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Muskrat Avenue**
High Volume Approach (VPH) = **46**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2016) Conditions - Weekday PM Peak Hour**

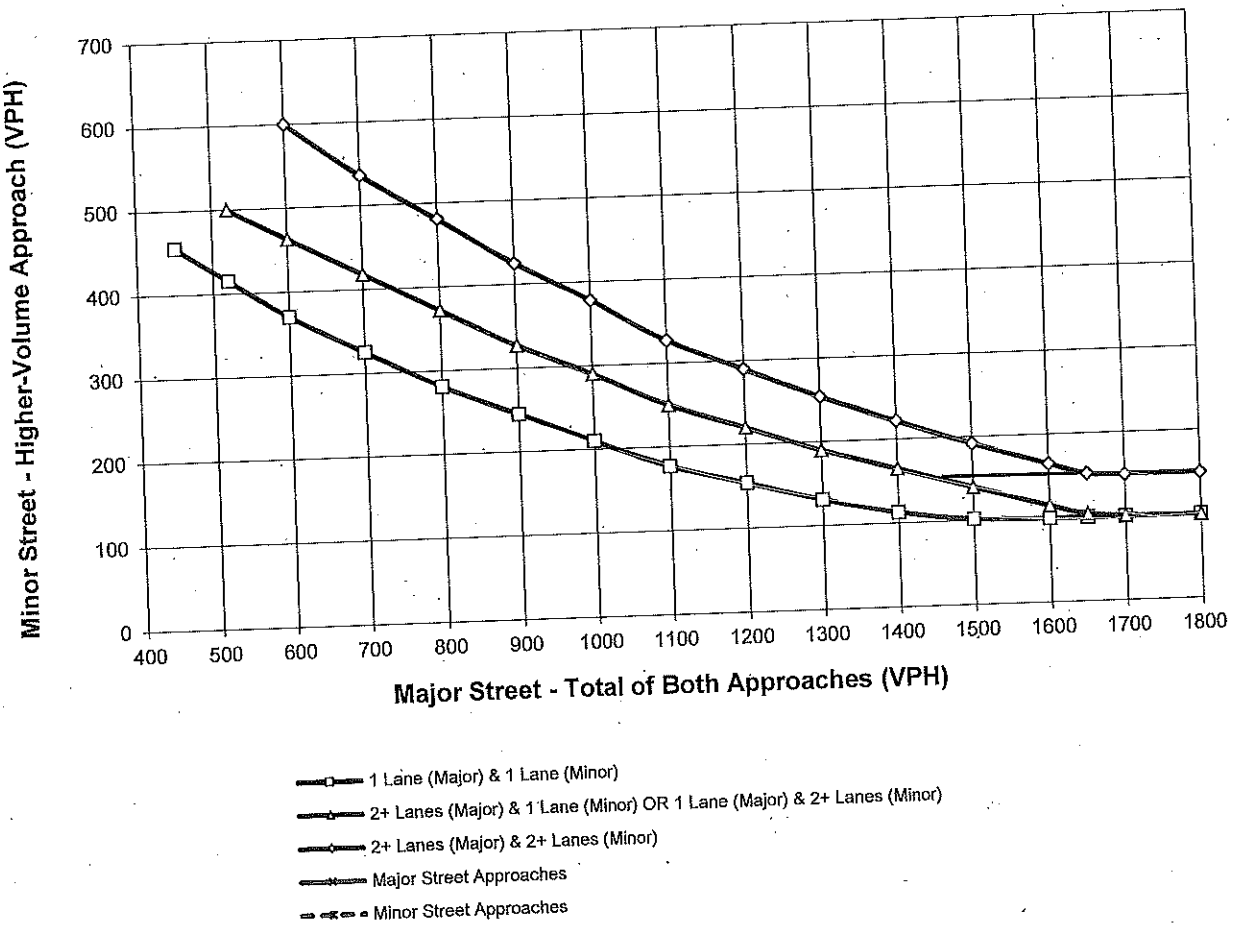
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **49**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **13**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2016) Conditions - Weekday PM Peak Hour**

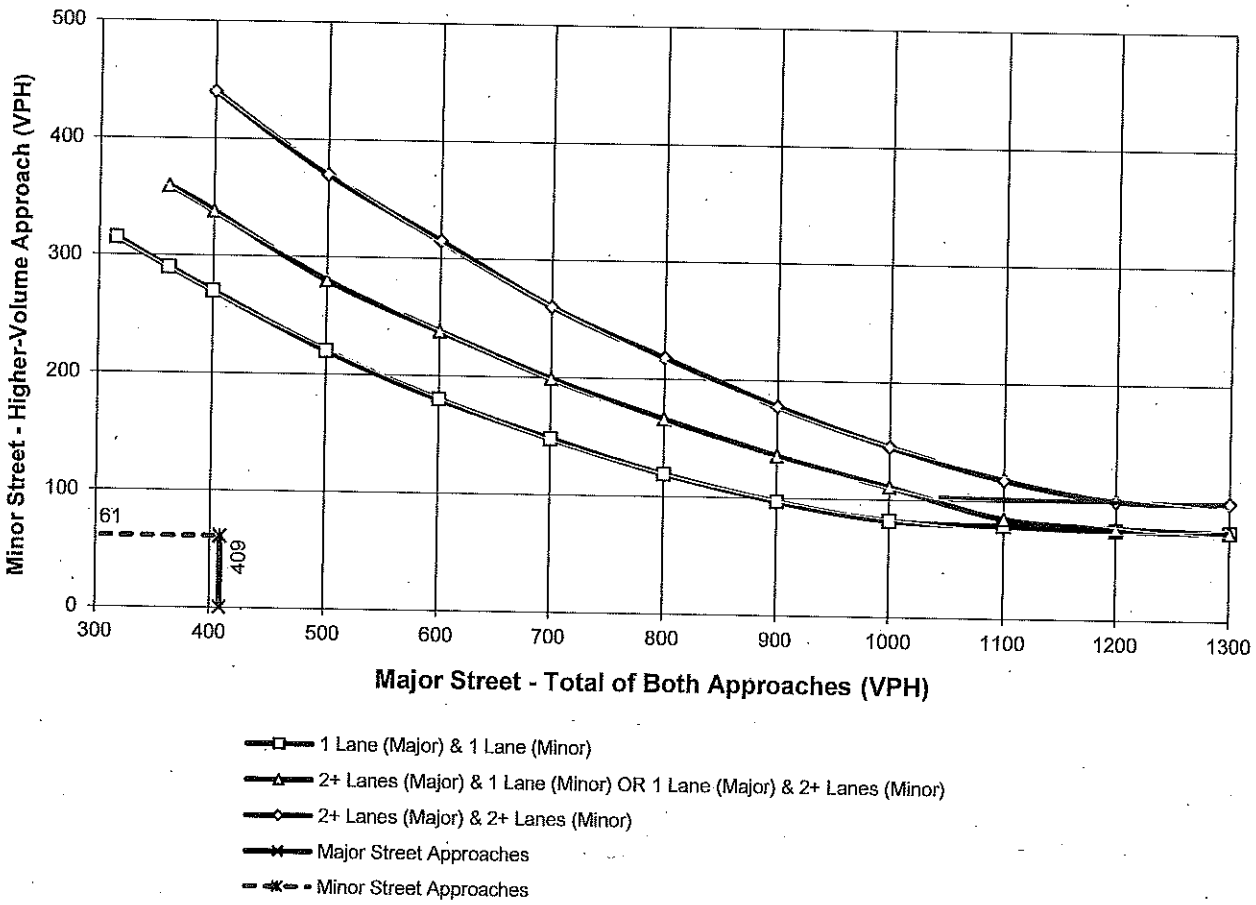
Major Street Name = **Rancho Road**

Total of Both Approaches (VPH) = **409**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **61**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 5.1:

E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	22	13	0	5
Future Vol, veh/h	5	0	22	13	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	0	24	14	0	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	36	31	0	0	38	0
Stage 1	31	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	982	1049	-	-	1585	-
Stage 1	997	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	982	1049	-	-	1585	-
Mov Cap-2 Maneuver	982	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	1023	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	982	1585	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	6	5	53	14	7	21	4	3	7	0
Future Vol, veh/h	0	9	6	5	53	14	7	21	4	3	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	13	9	7	77	20	10	30	6	4	10	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	22	0	0	124	129	17	137	123	87
Stage 1	-	-	-	-	-	-	17	17	-	101	101	-
Stage 2	-	-	-	-	-	-	107	112	-	36	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1509	-	-	1607	-	-	855	765	1068	838	771	977
Stage 1	-	-	-	-	-	-	1008	885	-	910	815	-
Stage 2	-	-	-	-	-	-	903	807	-	985	881	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1607	-	-	843	761	1068	805	767	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	843	761	-	805	767	-
Stage 1	-	-	-	-	-	-	1008	885	-	910	811	-
Stage 2	-	-	-	-	-	-	887	803	-	946	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	9.7	9.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	807	1509	-	-	1607	-	-	778
HCM Lane V/C Ratio	0.057	-	-	-	0.005	-	-	0.019
HCM Control Delay (s)	9.7	0	-	-	7.2	0	-	9.7
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection							
Int Delay, s/veh	0.8						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		↰	↑	↱	Y		
Traffic Vol, veh/h	6	98	155	42	14	6	
Future Vol, veh/h	6	98	155	42	14	6	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized		None	-	None	-	None	
Storage Length	-	-	-	0	0	-	
Veh in Median Storage, #	-	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	66	66	66	66	66	66	
Heavy Vehicles, %	0	0	0	0	0	0	
Mvmt Flow	9	148	235	64	21	9	

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	235	0	-	0	402	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1344	-	-	-	562	809
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	840	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1344	-	-	-	559	809
Mov Cap-2 Maneuver	-	-	-	-	559	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	834	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	616
HCM Lane V/C Ratio	0.007	-	-	-	0.049
HCM Control Delay (s)	7.7	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑		Y	
Traffic Vol, veh/h	3	13	71	23	8	1
Future Vol, veh/h	3	13	71	23	8	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	14	77	25	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	102	0	-	0	111	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1503	-	-	-	891	973
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1503	-	-	-	889	973
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	1005	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1503	-	-	-	898
HCM Lane V/C Ratio	0.002	-	-	-	0.011
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	19	82	7	9	12
Future Vol, veh/h	2	19	82	7	9	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	21	90	8	10	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	204	16	23	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	188	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	789	1069	1605	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	745	1069	1605	-	-	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	6.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1605	-	1026	-	-
HCM Lane V/C Ratio	0.056	-	0.022	-	-
HCM Control Delay (s)	7.4	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	0	113	203	95	29	0
Future Vol, veh/h	0	113	203	95	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	171	308	144	44	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	308	0	-	0	479	308
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1264	-	-	-	549	737
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1264	-	-	-	549	737
Mov Cap-2 Maneuver	-	-	-	-	549	-
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1264	-	-	-	549	-
HCM Lane V/C Ratio	-	-	-	-	0.08	-
HCM Control Delay (s)	0	-	-	-	12.1	0
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	-

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	0	11	8	0	32
Future Vol, veh/h	12	0	11	8	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	0	12	9	0	35

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	51	16	0	0	21	0
Stage 1	16	-	-	-	-	-
Stage 2	35	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	963	1069	-	-	1608	-
Stage 1	1012	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	963	1069	-	-	1608	-
Mov Cap-2 Maneuver	963	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	993	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	963	1608	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	35	7	4	4	2	8	12	6	10	29	6
Future Vol, veh/h	5	35	7	4	4	2	8	12	6	10	29	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	46	9	5	5	3	11	16	8	13	38	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	55	0	0	104	82	51	93	85	7
Stage 1	-	-	-	-	-	-	64	64	-	17	17	-
Stage 2	-	-	-	-	-	-	40	18	-	76	68	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1625	-	-	1563	-	-	881	812	1023	895	809	1081
Stage 1	-	-	-	-	-	-	952	846	-	1008	885	-
Stage 2	-	-	-	-	-	-	980	884	-	938	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1625	-	-	1563	-	-	838	806	1023	870	803	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	838	806	-	870	803	-
Stage 1	-	-	-	-	-	-	948	843	-	1004	882	-
Stage 2	-	-	-	-	-	-	928	881	-	910	839	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	2.9	9.4	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	858	1625	-	-	1563	-	-	847
HCM Lane V/C Ratio	0.04	0.004	-	-	0.003	-	-	0.07
HCM Control Delay (s)	9.4	7.2	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	Y	
Traffic Vol, veh/h	3	227	115	16	55	6
Future Vol, veh/h	3	227	115	16	55	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-		0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	258	131	18	63	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	131	0	-	0	396	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1467	-	-	-	613	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1467	-	-	-	612	924
Mov Cap-2 Maneuver	-	-	-	-	612	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1467	-	-	-	633
HCM Lane V/C Ratio	0.002	-	-	-	0.11
HCM Control Delay (s)	7.5	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	2	49	7	14	22	3
Future Vol, veh/h	2	49	7	14	22	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	53	8	15	24	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	73	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	58	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1605	-	-	-	936	1070
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	970	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1605	-	-	-	935	1070
Mov Cap-2 Maneuver	-	-	-	-	935	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	969	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1605	-	-	-	949
HCM Lane V/C Ratio	0.001	-	-	-	0.029
HCM Control Delay (s)	7.2	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	7.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	61	17	7	4	4
Future Vol, veh/h	10	61	17	7	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	69	19	8	4	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	53	7	9	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	960	1081	1624	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	948	1081	1624	-	-	-
Mov Cap-2 Maneuver	948	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	5.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1624	-	1060	-	-
HCM Lane V/C Ratio	0.012	-	0.075	-	-
HCM Control Delay (s)	7.2	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	7	283	128	25	75	3
Future Vol, veh/h	7	283	128	25	75	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	322	145	28	85	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	145	0	-	0	483	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	338	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1450	-	-	-	546	908
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	727	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1450	-	-	-	542	908
Mov Cap-2 Maneuver	-	-	-	-	542	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	722	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1450	-	-	-	542	908
HCM Lane V/C Ratio	0.005	-	-	-	0.157	0.004
HCM Control Delay (s)	7.5	0	-	-	12.9	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

APPENDIX 5.2:

E+P CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST ____ CO ____ RTE ____ PM ____

Jurisdiction: **City of Adelanto**
Major Street: **Muskrat Avenue**
Minor Street: **Driveway 1**

TRAFFIC CONDITIONS
CALC BA
CHK BA

E+P
DATE 11/02/16
DATE 11/02/16

Critical Approach Speed (Major) 25 mph
Critical Approach Speed (Minor) 15 mph

Major Street Approach Lanes = **1** lane
Major Street Future ADT = **798** vpd

Minor Street Approach Lanes **1** lane
Minor Street Future ADT = **131** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ] or [ ] In built up area of isolated community of < 10,000 population .....

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT	
CONDITION A - Minimum Vehicular Volume	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Satisfied: XX / Not Satisfied: XX	Urban / Rural	Urban / Rural
Number of lanes for moving traffic on each approach: Major Street / Minor Street		
1 **798** / 1 **131**	8,000 / 5,600	2,400 / 1,680
2 + / 1	9,600 / 6,720	2,400 / 1,680
2 + / 2 +	9,600 / 6,720	3,200 / 2,240
1 / 2 +	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Satisfied / Not Satisfied: XX	Urban / Rural	Urban / Rural
Number of lanes for moving traffic on each approach: Major Street / Minor Street		
1 **798** / 1 **131**	12,000 / 8,400	1,200 / 850
2 + / 1	14,400 / 10,080	1,200 / 850
2 + / 2 +	14,400 / 10,080	1,600 / 1,120
1 / 2 +	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A + B	2 CONDITIONS 80%	2 CONDITIONS 80%
Satisfied / Not Satisfied: XX		
No one condition satisfied, but following conditions fulfilled 80% of more ..... A: 5% / B: 7%		

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Conditions - Weekday AM Peak Hour**

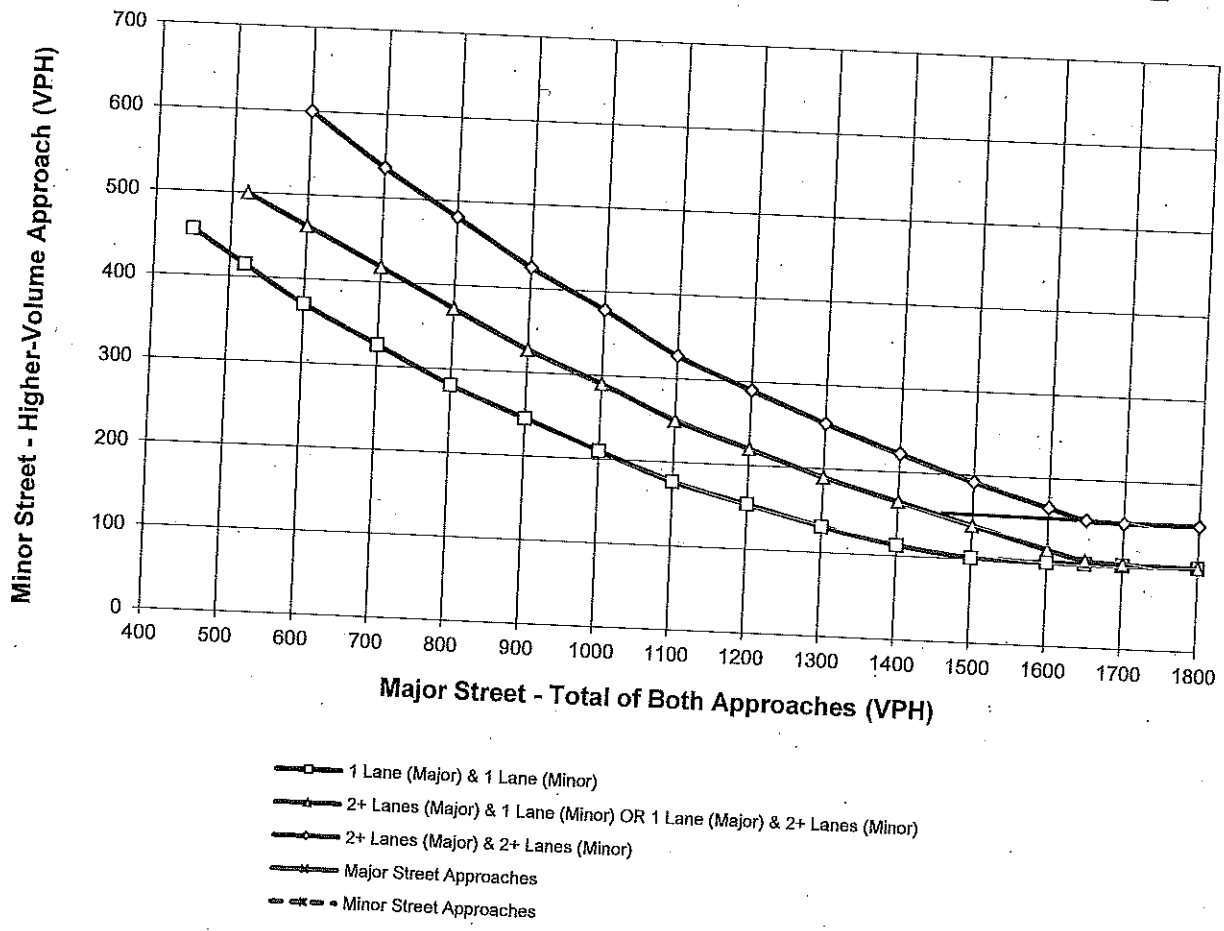
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **87**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **32**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

URBAN CROSSROADS

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

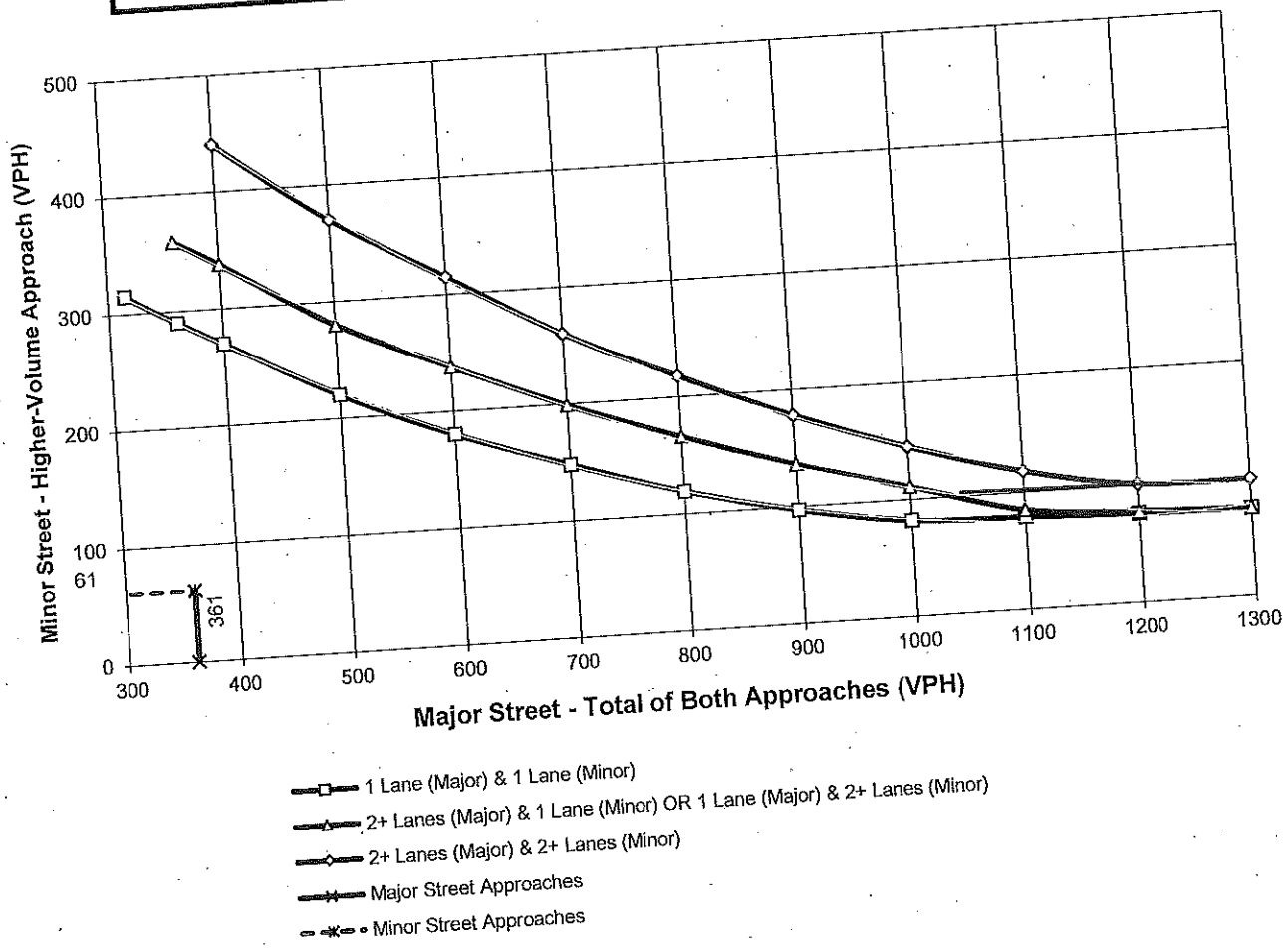
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road** — Total of Both Approaches (VPH) = **361**, Number of Approach Lanes Major Street = **1**

Minor Street Name = **Muskrat Avenue** — High Volume Approach (VPH) = **61**, Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST ___ CO ___ RTE ___ PM ___

Jurisdiction: **City of Adelanto**
Major Street: **Yucca Road**
Minor Street: **Driveway 2**

TRAFFIC CONDITIONS
CALC BA
CHK BA

E+P
DATE 11/02/16
DATE 11/02/16

Critical Approach Speed (Major) 25 mph
Critical Approach Speed (Minor) 15 mph

Major Street Approach Lanes = **1** lane
Major Street Future ADT = **1,155** vpd

Minor Street Approach Lanes **1** lane
Minor Street Future ADT = **292** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... ☐

In built up area of isolated community of < 10,000 population ..... ☐ or **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT	
XX	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
CONDITION A - Minimum Vehicular Volume		
Satisfied / Not Satisfied: XX		
Number of lanes for moving traffic on each approach: Major Street / Minor Street	Urban / Rural	Urban / Rural
1 **1,155** / 1 **292**	8,000 / 5,600	2,400 / 1,680
2 + / 1	9,600 / 6,720	2,400 / 1,680
2 + / 2 +	9,600 / 6,720	3,200 / 2,240
1 / 2 +	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Satisfied / Not Satisfied: XX		
Number of lanes for moving traffic on each approach: Major Street / Minor Street	Urban / Rural	Urban / Rural
1 **1,155** / 1 **292**	12,000 / 8,400	1,200 / 850
2 + / 1	14,400 / 10,080	1,200 / 850
2 + / 2 +	14,400 / 10,080	1,600 / 1,120
1 / 2 +	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A + B		
Satisfied / Not Satisfied: XX		
No one condition satisfied, but following conditions fulfilled 80% of more ..... A: 12% B: 10%	2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

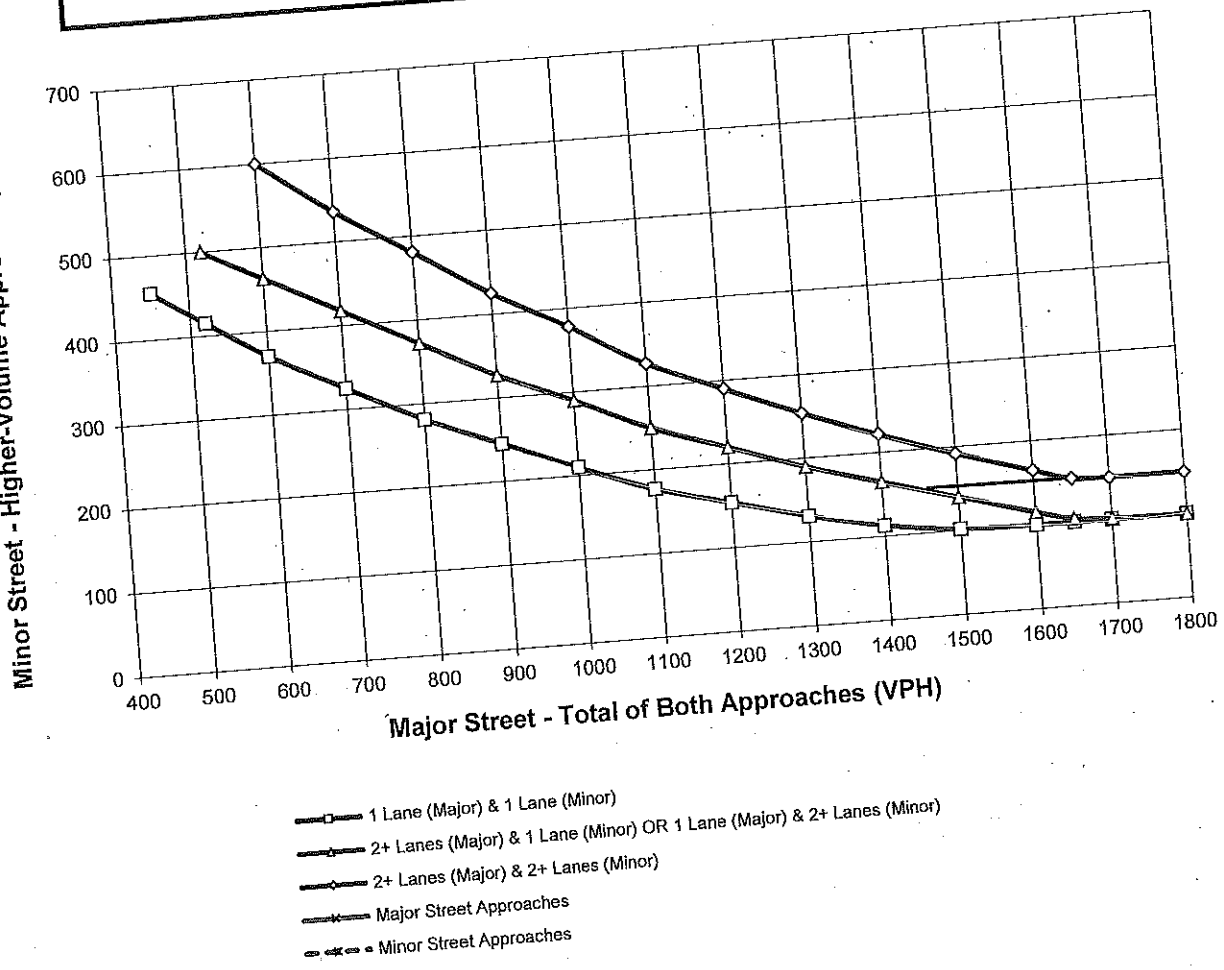
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

Major Street Name = **Yucca Road**
Total of Both Approaches (VPH) = **71**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Raccoon Avenue**
High Volume Approach (VPH) = **24**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

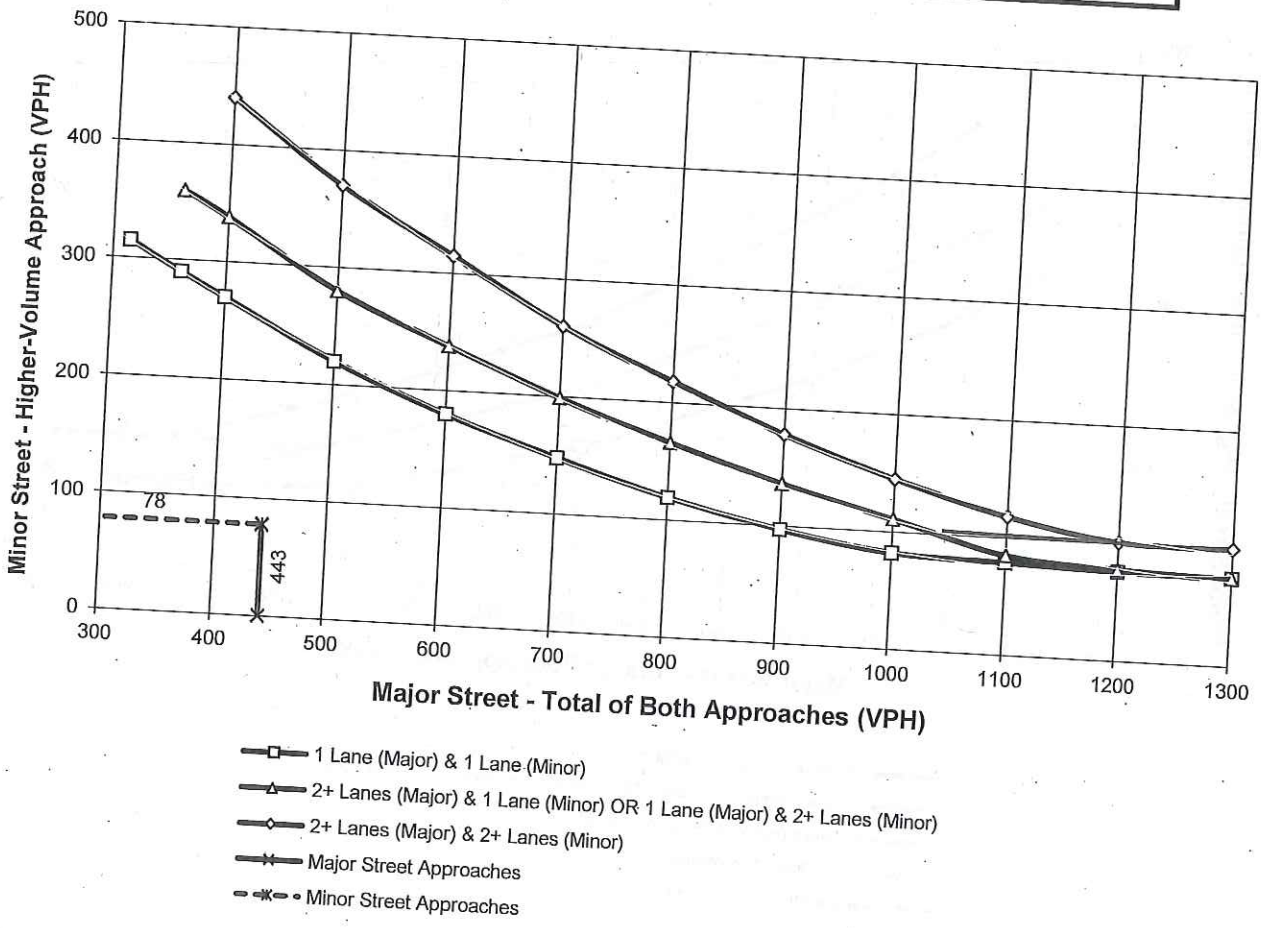
Major Street Name = **Rancho Road**

Total of Both Approaches (VPH) = **443**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **78**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 6.1:

OPENING YEAR (2018) CUMULATIVE WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	6	4	55	15	7	8	1	3	2	0
Future Vol, veh/h	0	9	6	4	55	15	7	8	1	3	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	13	9	6	80	22	10	12	1	4	3	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	101	0	0	22	0	0	121	130	17	126	124	91
Stage 1	-	-	-	-	-	-	17	17	-	102	102	-
Stage 2	-	-	-	-	-	-	104	113	-	24	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1504	-	-	1607	-	-	859	764	1068	852	770	972
Stage 1	-	-	-	-	-	-	1008	885	-	909	815	-
Stage 2	-	-	-	-	-	-	907	806	-	999	881	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1504	-	-	1607	-	-	854	761	1068	838	767	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	854	761	-	838	767	-
Stage 1	-	-	-	-	-	-	1008	885	-	909	812	-
Stage 2	-	-	-	-	-	-	900	803	-	985	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	9.6	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	814	1504	-	-	1607	-	-	808
HCM Lane V/C Ratio	0.028	-	-	-	0.004	-	-	0.009
HCM Control Delay (s)	9.6	0	-	-	7.2	0	-	9.5
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	↰	
Traffic Vol, veh/h	5	104	163	30	9	5
Future Vol, veh/h	5	104	163	30	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	158	247	45	14	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	247	0	-	0	420	247
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1331	-	-	-	594	797
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	590	797
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	650
HCM Lane V/C Ratio	0.006	-	-	-	0.033
HCM Control Delay (s)	7.7	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	67	7	10	7
Future Vol, veh/h	0	13	67	7	10	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	74	8	11	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	170	15	19	0	-	0
Stage 1	15	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	825	1070	1611	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	787	1070	1611	-	-	-
Mov Cap-2 Maneuver	787	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	6.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1611	-	1070	-	-
HCM Lane V/C Ratio	0.046	-	0.013	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	0	114	199	81	24	0
Future Vol, veh/h	0	114	199	81	24	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	173	302	123	36	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	302	0	-	0	475	302
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1270	-	-	-	552	742
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1270	-	-	-	552	742
Mov Cap-2 Maneuver	-	-	-	-	552	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1270	-	-	-	552	-
HCM Lane V/C Ratio	-	-	-	-	0.066	-
HCM Control Delay (s)	0	-	-	-	12	0
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-

Intersection													
Int Delay, s/veh	4.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕		8	4	4	10	17	6	
Traffic Vol, veh/h	5	37	7	1	4	2	8	4	4	10	17	6	
Future Vol, veh/h	5	37	7	1	4	2	0	0	0	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	Stop	Stop	Stop	Stop	Stop	Stop	
Sign Control	Free	Free	Free	Free	Free	Free	-	-	None	-	-	None	
RT Channelized	-	-	None	-	-	None	-	-	-	-	-	-	
Storage Length	-	-	-	-	-	-	-	0	-	-	0	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	
Mvmt Flow	7	49	9	1	5	3	11	5	5	13	22	8	

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	58	0	0	90	77	53	81	80	7
Stage 1	-	-	-	-	-	-	66	66	-	9	9	-
Stage 2	-	-	-	-	-	-	24	11	-	72	71	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1625	-	-	1559	-	-	900	817	1020	912	814	1081
Stage 1	-	-	-	-	-	-	950	844	-	1017	892	-
Stage 2	-	-	-	-	-	-	999	890	-	943	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1625	-	-	1559	-	-	871	813	1020	899	810	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	871	813	-	899	810	-
Stage 1	-	-	-	-	-	-	946	841	-	1013	891	-
Stage 2	-	-	-	-	-	-	966	889	-	929	837	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	9.2	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	888	1625	-	-	1559	-	-	876
HCM Lane V/C Ratio	0.024	0.004	-	-	0.001	-	-	0.05
HCM Control Delay (s)	9.2	7.2	0	-	7.3	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	↰	
Traffic Vol, veh/h	2	239	122	7	43	5
Future Vol, veh/h	2	239	122	7	43	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	272	139	8	49	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	139	0	-	0	415	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	276	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1457	-	-	-	551	915
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1457	-	-	-	550	915
Mov Cap-2 Maneuver	-	-	-	-	550	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1457	-	-	-	574
HCM Lane V/C Ratio	0.002	-	-	-	0.095
HCM Control Delay (s)	7.5	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection						
Int Delay, s/veh	6.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	46	6	7	4	1
Future Vol, veh/h	5	46	6	7	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	52	7	8	4	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	26	5	6	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	995	1084	1628	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	991	1084	1628	-	-	-
Mov Cap-2 Maneuver	991	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1628	-	1074	-	-
HCM Lane V/C Ratio	0.004	-	0.053	-	-
HCM Control Delay (s)	7.2	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	7	284	125	15	61	3
Future Vol, veh/h	7	284	125	15	61	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	323	142	17	69	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	142	0	-	0	481	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1453	-	-	-	548	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1453	-	-	-	544	911
Mov Cap-2 Maneuver	-	-	-	-	544	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	721	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1453	-	-	-	544	911
HCM Lane V/C Ratio	0.005	-	-	-	0.127	0.004
HCM Control Delay (s)	7.5	0	-	-	12.6	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0

APPENDIX 6.2:

OPENING YEAR (2018) CUMULATIVE WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	23	14	0	5
Future Vol, veh/h	5	0	23	14	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	0	25	15	0	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	38	33	0	0	40	0
Stage 1	33	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	979	1046	-	-	1583	-
Stage 1	995	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	979	1046	-	-	1583	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	1023	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	979	1583	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	6	5	55	15	7	22	4	3	7	0
Future Vol, veh/h	0	9	6	5	55	15	7	22	4	3	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	13	9	7	80	22	10	32	6	4	10	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	101	0	0	22	0	0	127	133	17	141	127	91
Stage 1	-	-	-	-	-	-	17	17	-	105	105	-
Stage 2	-	-	-	-	-	-	110	116	-	36	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1504	-	-	1607	-	-	851	761	1068	833	767	972
Stage 1	-	-	-	-	-	-	1008	885	-	906	812	-
Stage 2	-	-	-	-	-	-	900	803	-	985	881	-
Platoon blocked, %		-	-			-						
Mov Cap-1 Maneuver	1504	-	-	1607	-	-	839	757	1068	799	763	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	839	757	-	799	763	-
Stage 1	-	-	-	-	-	-	1008	885	-	906	808	-
Stage 2	-	-	-	-	-	-	884	799	-	944	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	9.8	9.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	802	1504	-	-	1607	-	-	773
HCM Lane V/C Ratio	0.06	-	-	-	0.005	-	-	0.019
HCM Control Delay (s)	9.8	0	-	-	7.2	0	-	9.7
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	Y	
Traffic Vol, veh/h	6	104	163	44	14	6
Future Vol, veh/h	6	104	163	44	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	158	247	67	21	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	247	0	-	0	423	247
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1331	-	-	-	591	797
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	587	797
Mov Cap-2 Maneuver	-	-	-	-	587	-
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	853	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	637
HCM Lane V/C Ratio	0.007	-	-	-	0.048
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	3	13	75	24	8	1
Future Vol, veh/h	3	13	75	24	8	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	14	82	26	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	116	95
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1495	-	-	-	885	967
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	883	967
Mov Cap-2 Maneuver	-	-	-	-	883	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	1005	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1495	-	-	-	892
HCM Lane V/C Ratio	0.002	-	-	-	0.011
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	20	86	7	10	13
Future Vol, veh/h	2	20	86	7	10	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	22	95	8	11	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	215	18	25	0	-	0
Stage 1	18	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	778	1066	1603	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	731	1066	1603	-	-	-
Mov Cap-2 Maneuver	731	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	791	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	6.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1603	-	1023	-	-
HCM Lane V/C Ratio	0.059	-	0.024	-	-
HCM Control Delay (s)	7.4	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	↰	↱
Traffic Vol, veh/h	0	119	214	100	30	0
Future Vol, veh/h	0	119	214	100	30	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	180	324	152	45	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	324	0	-	0	504	324
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1247	-	-	-	531	722
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	856	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1247	-	-	-	531	722
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1247	-	-	-	531	-
HCM Lane V/C Ratio	-	-	-	-	0.086	-
HCM Control Delay (s)	0	-	-	-	12.4	0
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	-

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	0	11	8	0	34
Future Vol, veh/h	13	0	11	8	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	0	12	9	0	37

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	53	16	0	0	21	0
Stage 1	16	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	960	1069	-	-	1608	-
Stage 1	1012	-	-	-	-	-
Stage 2	991	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	960	1069	-	-	1608	-
Mov Cap-2 Maneuver	960	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	991	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	960	1608	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	37	7	4	4	2	8	13	6	10	30	6
Future Vol, veh/h	5	37	7	4	4	2	8	13	6	10	30	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	49	9	5	5	3	11	17	8	13	39	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	58	0	0	107	84	53	96	88	7
Stage 1	-	-	-	-	-	-	66	66	-	17	17	-
Stage 2	-	-	-	-	-	-	41	18	-	79	71	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1625	-	-	1559	-	-	877	810	1020	891	806	1081
Stage 1	-	-	-	-	-	-	950	844	-	1008	885	-
Stage 2	-	-	-	-	-	-	979	884	-	935	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1625	-	-	1559	-	-	833	804	1020	865	800	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	833	804	-	865	800	-
Stage 1	-	-	-	-	-	-	946	841	-	1004	882	-
Stage 2	-	-	-	-	-	-	926	881	-	905	837	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	2.9	9.4	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	853	1625	-	-	1559	-	-	842
HCM Lane V/C Ratio	0.042	0.004	-	-	0.003	-	-	0.072
HCM Control Delay (s)	9.4	7.2	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	Y	
Traffic Vol, veh/h	3	239	122	17	58	6
Future Vol, veh/h	3	239	122	17	58	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	272	139	19	66	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	139	0	-	0	417	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	278	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1457	-	-	-	550	915
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	733	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1457	-	-	-	549	915
Mov Cap-2 Maneuver	-	-	-	-	549	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	732	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1457	-	-	-	570
HCM Lane V/C Ratio	0.002	-	-	-	0.128
HCM Control Delay (s)	7.5	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑		↰	
Traffic Vol, veh/h	2	51	7	15	23	3
Future Vol, veh/h	2	51	7	15	23	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	55	8	16	25	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	76	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	60	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1604	-	-	-	932	1069
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1604	-	-	-	931	1069
Mov Cap-2 Maneuver	-	-	-	-	931	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1604	-	-	-	945
HCM Lane V/C Ratio	0.001	-	-	-	0.03
HCM Control Delay (s)	7.2	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	7.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	64	17	7	4	4
Future Vol, veh/h	11	64	17	7	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	72	19	8	4	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	53	7	9	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	960	1081	1624	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	948	1081	1624	-	-	-
Mov Cap-2 Maneuver	948	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	5.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1624	-	1059	-	-
HCM Lane V/C Ratio	0.012	-	0.08	-	-
HCM Control Delay (s)	7.2	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	7	299	135	26	79	3
Future Vol, veh/h	7	299	135	26	79	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	340	153	30	90	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	153	0	-	0	509	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1440	-	-	-	528	898
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1440	-	-	-	524	898
Mov Cap-2 Maneuver	-	-	-	-	524	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	708	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1440	-	-	-	524	898
HCM Lane V/C Ratio	0.006	-	-	-	0.171	0.004
HCM Control Delay (s)	7.5	0	-	-	13.3	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

APPENDIX 6.3:

OPENING YEAR (2018) CUMULATIVE WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year (2018) Without Project Conditions - Weekday AM Peak Hour**

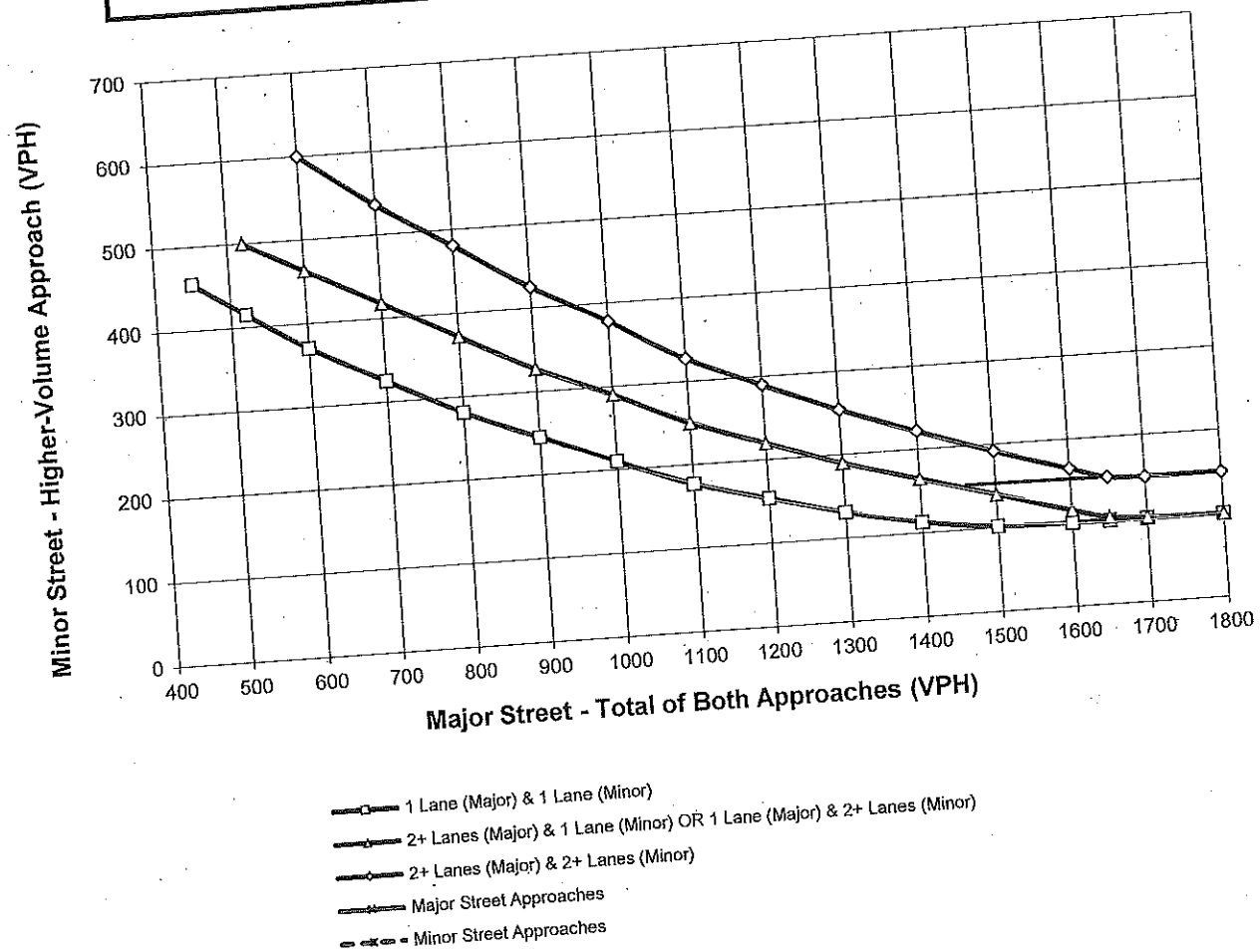
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **89**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **16**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Opening Year (2018) Without Project Conditions - Weekday PM Peak Hour**

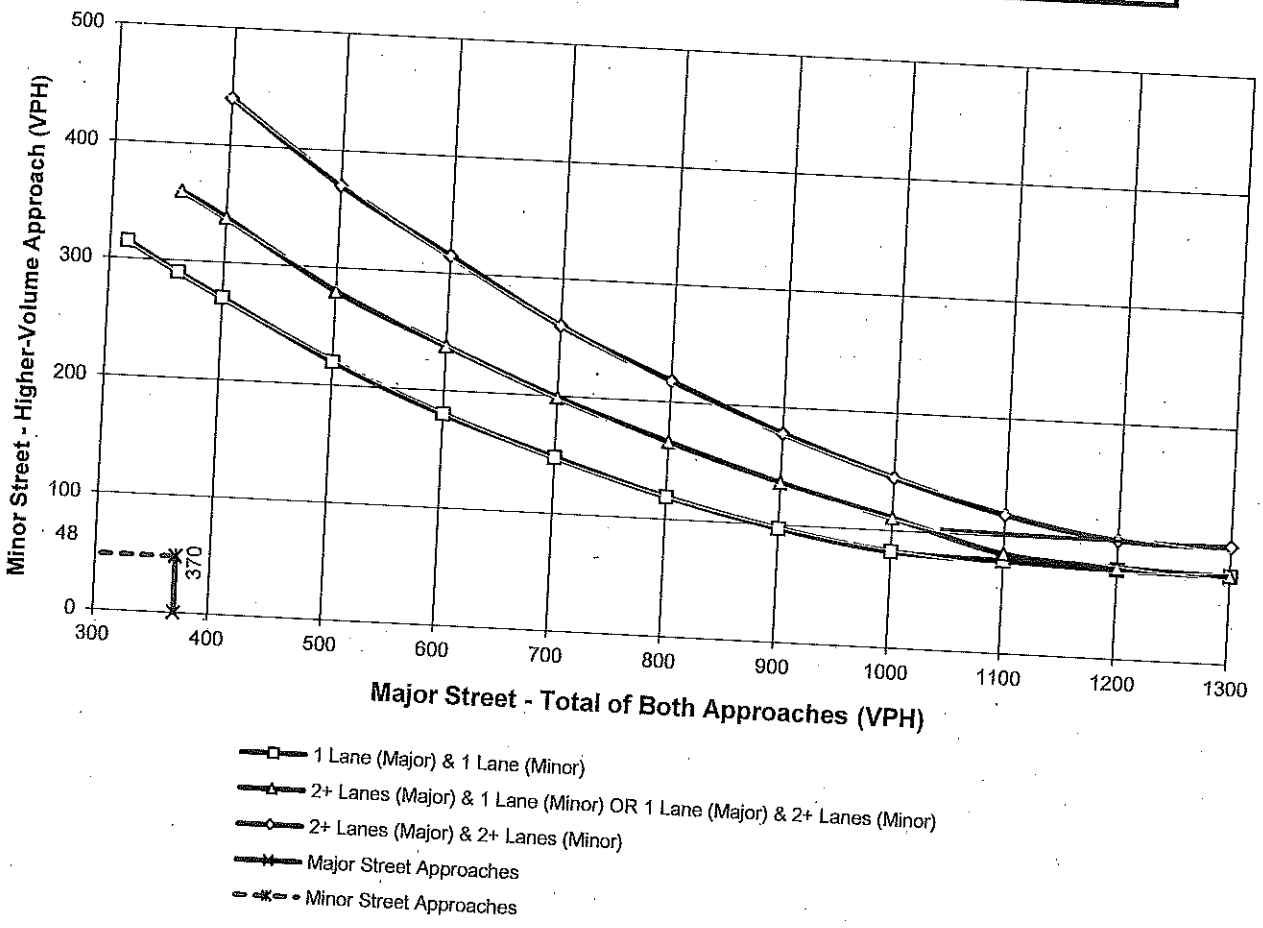
Major Street Name = **Rancho Road**

Total of Both Approaches (VPH) = **370**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **48**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year (2018) Without Project Conditions - Weekday PM Peak Hour**

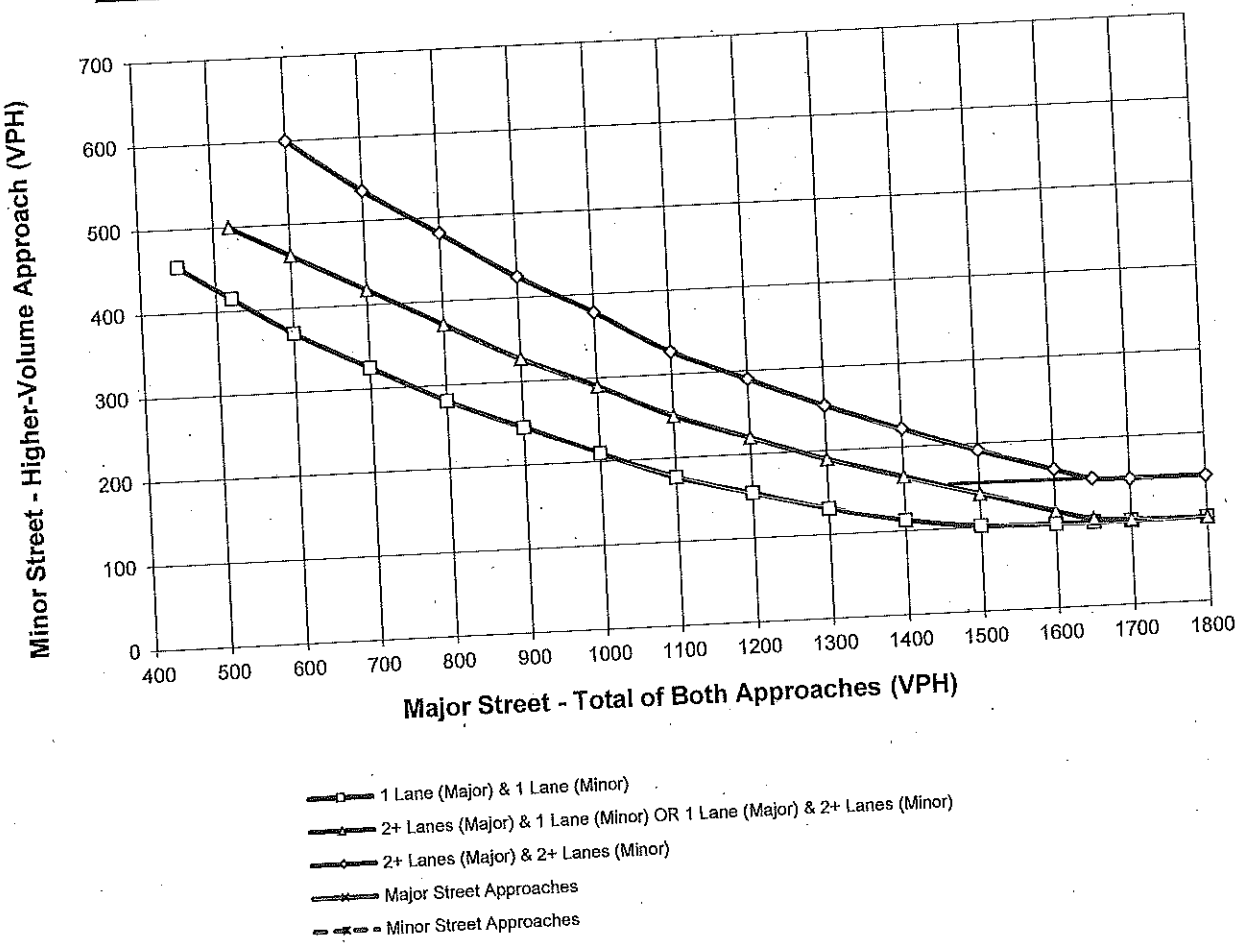
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **51**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **13**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Opening Year (2018) Without Project Conditions - Weekday PM Peak Hour**

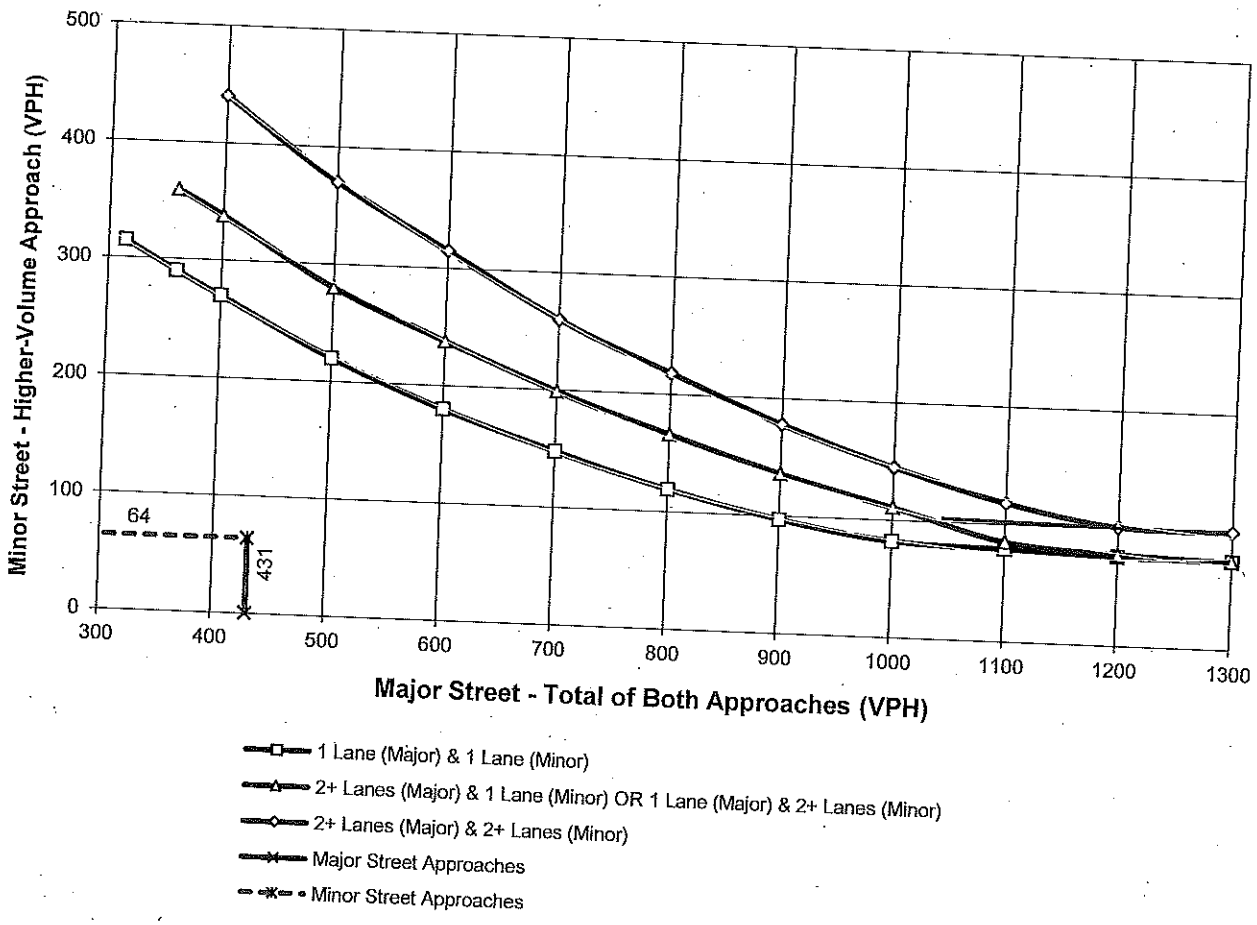
Major Street Name = **Rancho Road**

Total of Both Approaches (VPH) = **431**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **64**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 6.4:

OPENING YEAR (2018) CUMULATIVE WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST CO RTE PM

Jurisdiction: **City of Adelanto**
Major Street: **Muskrat Avenue**
Minor Street: **Driveway 1**

TRAFFIC CONDITIONS — **g Year (2018) With**

CALC BA DATE 11/02/16
CHK BA DATE 11/02/16

Critical Approach Speed (Major) 25 mph
Critical Approach Speed (Minor) 15 mph

Major Street Approach Lanes = 1 lane
Minor Street Approach Lanes 1 lane

Major Street Future ADT = 844 vpd
Minor Street Future ADT = 139 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ] or [ ] In built up area of isolated community of < 10,000 population ..... **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT	
XX **CONDITION A - Minimum Vehicular Volume** Satisfied / Not Satisfied XX	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach: Major Street / Minor Street	Urban / Rural	Urban / Rural
1 **844** / *1* **139**	8,000 / 5,600	2,400 / 1,680
2 + / *1*	9,600 / 6,720	2,400 / 1,680
2 + / 2 +	9,600 / 6,720	3,200 / 2,240
1 / 2 +	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffic Satisfied / Not Satisfied XX	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Number of lanes for moving traffic on each approach: Major Street / Minor Street	Urban / Rural	Urban / Rural
1 **844** / *1* **139**	12,000 / 8,400	1,200 / 850
2 + / *1*	14,400 / 10,080	1,200 / 850
2 + / 2 +	14,400 / 10,080	1,600 / 1,120
1 / 2 +	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A + B Satisfied / Not Satisfied XX	2 CONDITIONS 80%	2 CONDITIONS 80%
No one condition satisfied, but following conditions fulfilled 80% of more ..... A 6% B 7%		

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year (2018) With Project Conditions - Weekday AM Peak Hour**

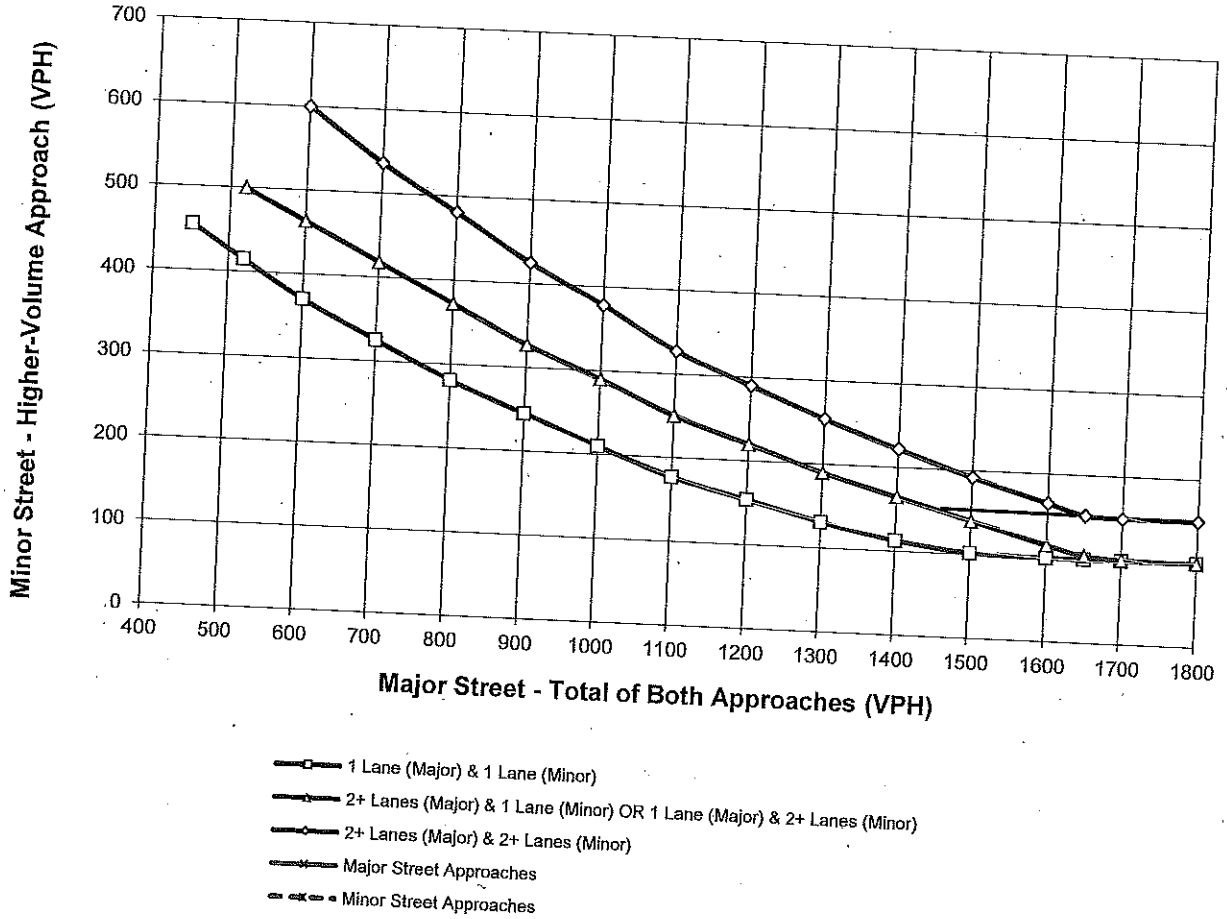
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **90**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **33**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

URBAN CROSSROADS

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

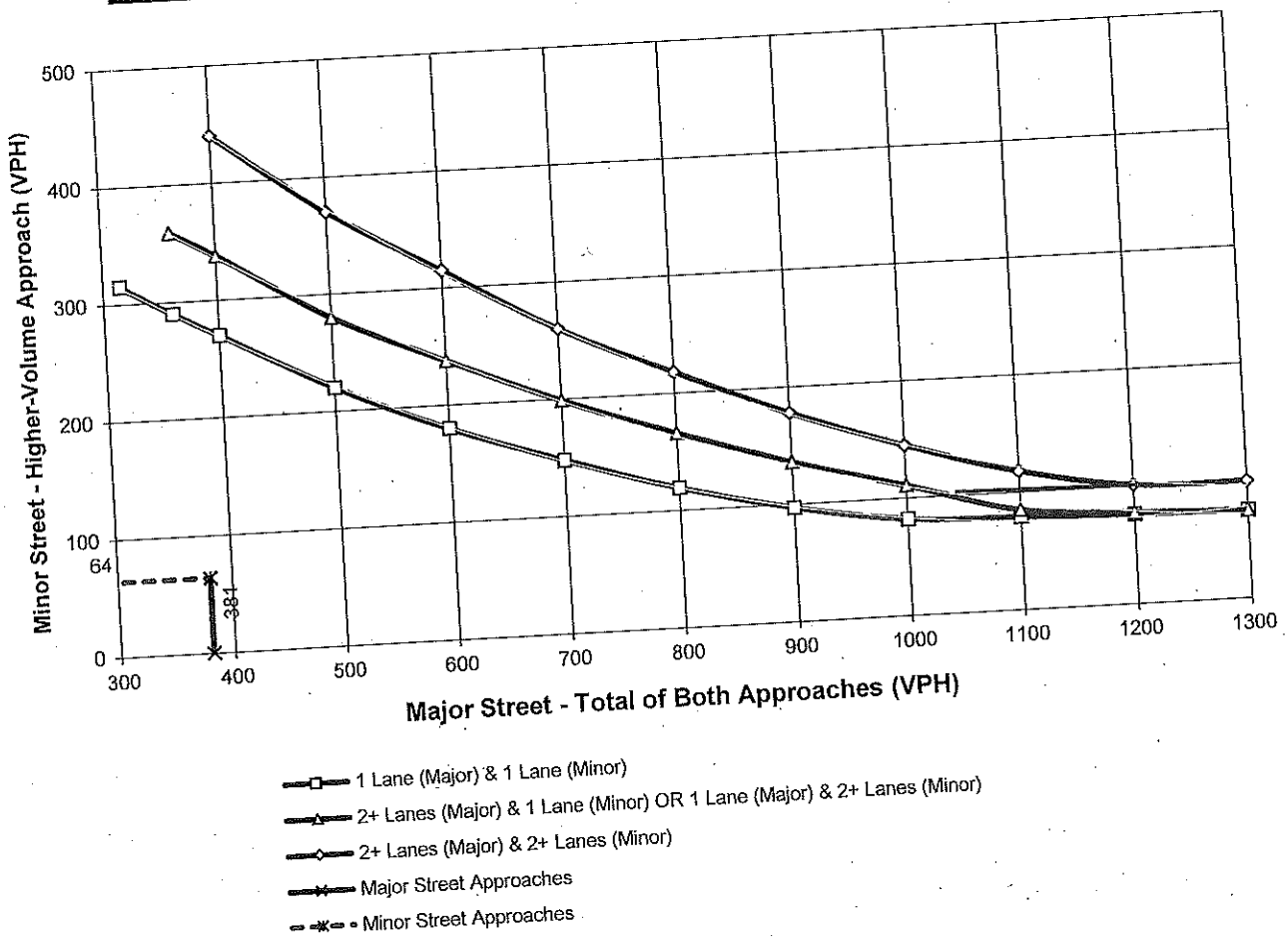
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Opening Year (2018) With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road** — Total of Both Approaches (VPH) = **381**, Number of Approach Lanes Major Street = **1**

Minor Street Name = **Muskrat Avenue** — High Volume Approach (VPH) = **64**, Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST ____ CO ____ RTE ____ PM ____

Jurisdiction: **City of Adelanto**

Major Street: **Yucca Road**

Minor Street: **Driveway 2**

TRAFFIC CONDITIONS

CALC BA

CHK BA

g Year (2018) With

DATE 11/02/16

DATE 11/02/16

Critical Approach Speed (Major) 25 mph

Critical Approach Speed (Minor) 15 mph

Major Street Approach Lanes = **1** lane

Major Street Future ADT = **1,221** vpd

Minor Street Approach Lanes **1** lane

Minor Street Future ADT = **309** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

In built up area of isolated community of < 10,000 population ..... [ ]

or

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT	
XX	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
CONDITION A - Minimum Vehicular Volume		
Satisfied / Not Satisfied **XX**		
Number of lanes for moving traffic on each approach: Major Street / Minor Street	Urban / Rural	Urban / Rural
1 **1,221** / *1* **309**	8,000 / 5,600	2,400 / 1,680
2 + / *1*	9,600 / 6,720	2,400 / 1,680
2 + / *2 +*	9,600 / 6,720	3,200 / 2,240
1 / *2 +*	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Satisfied / Not Satisfied **XX**		
Number of lanes for moving traffic on each approach: Major Street / Minor Street	Urban / Rural	Urban / Rural
1 **1,221** / *1* **309**	12,000 / 8,400	1,200 / 850
2 + / *1*	14,400 / 10,080	1,200 / 850
2 + / *2 +*	14,400 / 10,080	1,600 / 1,120
1 / *2 +*	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A + B		
Satisfied / Not Satisfied **XX**		
No one condition satisfied, but following conditions fulfilled 80% of more ..... A **13%** B **10%**	2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

URBAN CROSSROADS

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year (2018) With Project Conditions - Weekday PM Peak Hour**

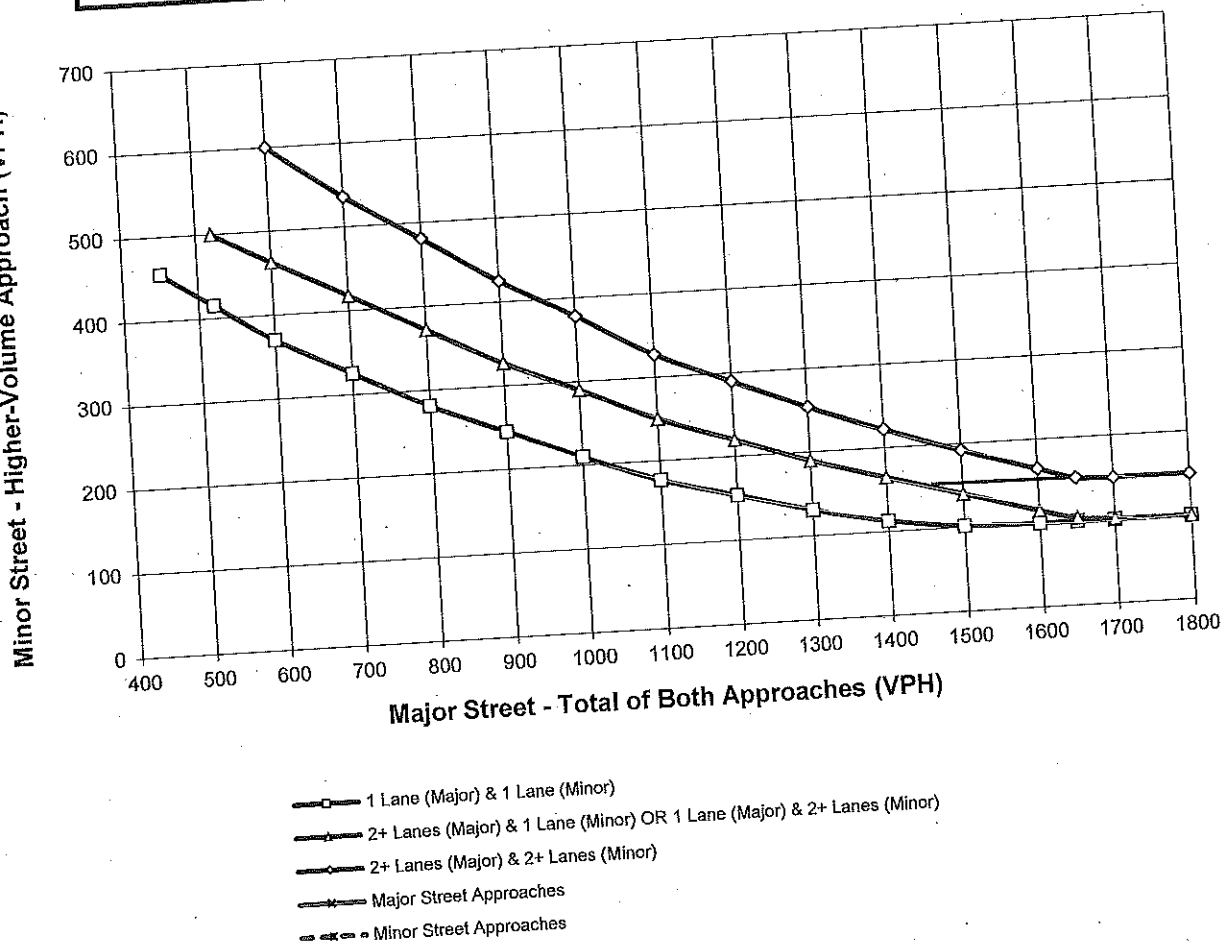
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **75**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **24**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Opening Year (2018) With Project Conditions - Weekday PM Peak Hour**

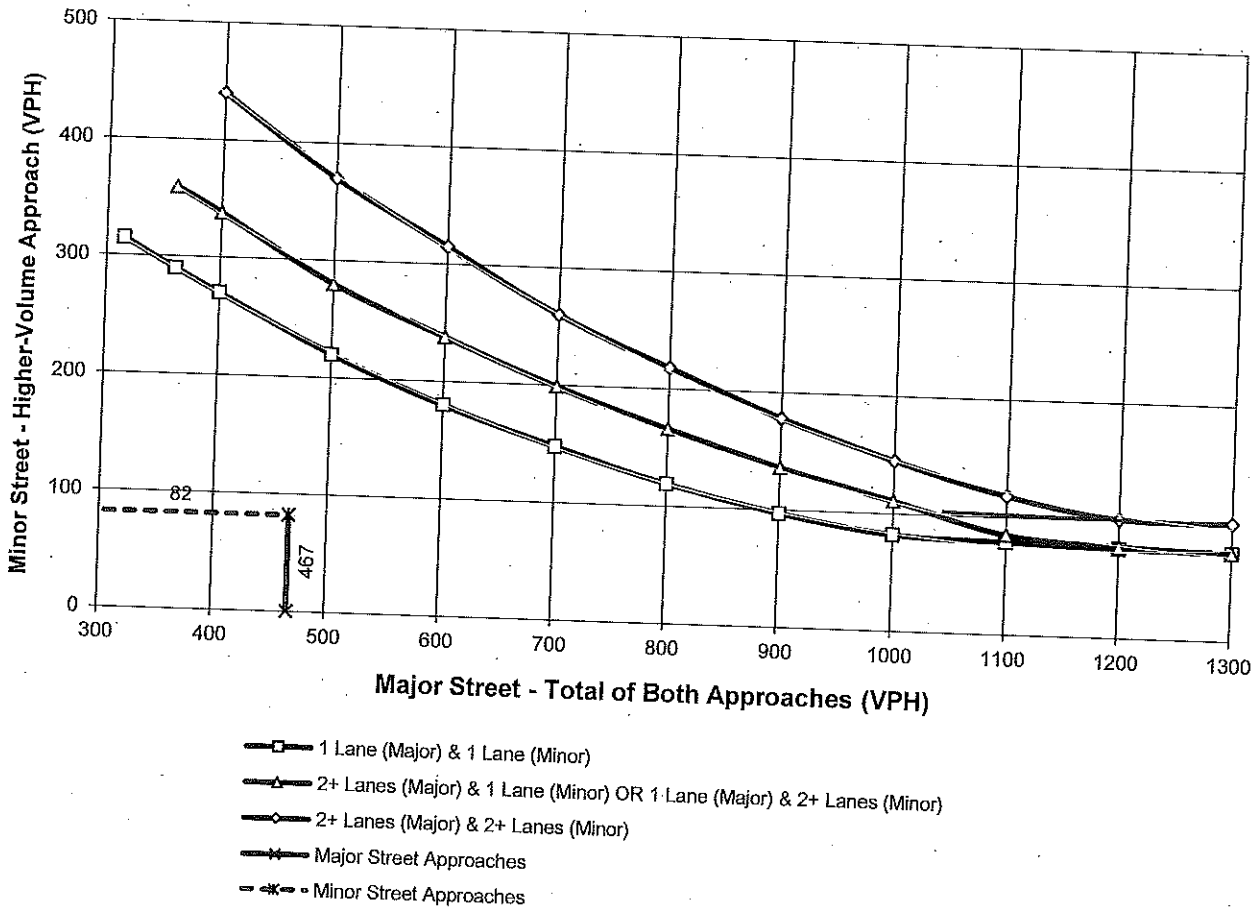
Major Street Name = **Rancho Road**

Total of Both Approaches (VPH) = **467**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **82**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS – OCTOBER 2016

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Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

File Name : ADLMUYUAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

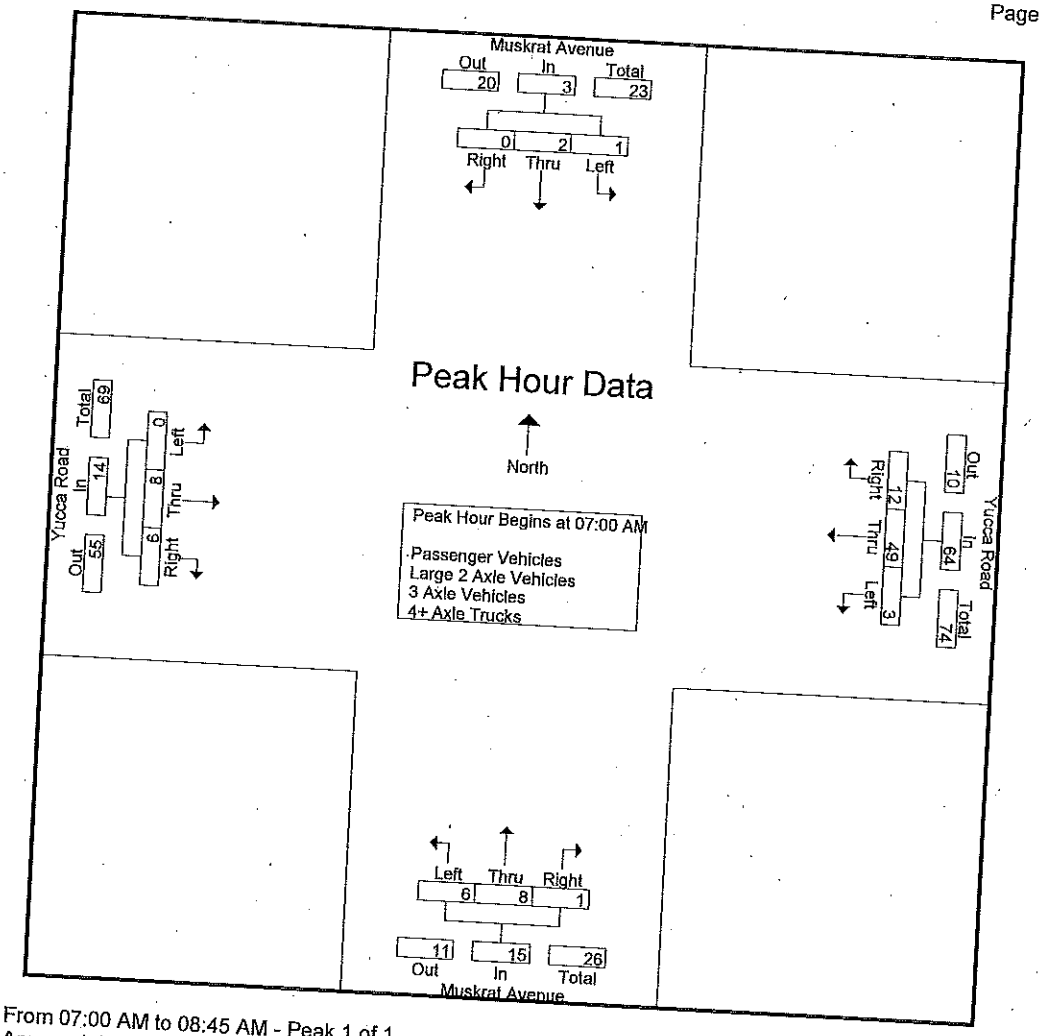
	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	1	16	2	19	2	3	0	5	0	1	1	2	27
07:15 AM	0	0	0	0	1	9	2	12	0	0	0	0	0	4	0	4	16
07:30 AM	0	0	0	0	0	7	4	11	3	1	1	5	0	1	1	2	18
07:45 AM	1	1	0	2	1	17	4	22	1	4	0	5	0	2	4	6	35
Total	1	2	0	3	3	49	12	64	6	8	1	15	0	8	6	14	96
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	1	2	5
08:15 AM	0	0	0	0	0	5	0	5	1	1	0	2	0	2	2	4	11
08:30 AM	1	1	0	2	0	1	1	2	1	1	1	3	0	0	3	3	10
08:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	0	2	1	3	7
Total	1	1	0	2	0	12	1	13	3	2	1	6	0	5	7	12	33
Grand Total	2	3	0	5	3	61	13	77	9	10	2	21	0	13	13	26	129
Apprch %	40	60	0		3.9	79.2	16.9		42.9	47.6	9.5		0	50	50		
Total %	1.6	2.3	0	3.9	2.3	47.3	10.1	59.7	7	7.8	1.6	16.3	0	10.1	10.1	20.2	
Passenger Vehicles	1	3	0	4	2	58	12	72	8	10	2	20	0	11	11	22	118
% Passenger Vehicles	50	100	0	80	66.7	95.1	92.3	93.5	88.9	100	100	95.2	0	84.6	84.6	84.6	91.5
Large 2 Axle Vehicles	0	0	0	0	0	1	0	1	1	0	0	1	0	0	2	2	4
% Large 2 Axle Vehicles	0	0	0	0	0	1.6	0	1.3	11.1	0	0	4.8	0	0	15.4	7.7	3.1
3 Axle Vehicles	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
% 3 Axle Vehicles	0	0	0	0	33.3	3.3	0	3.9	0	0	0	0	0	0	0	0	2.3
4+ Axle Trucks	1	0	0	1	0	0	1	1	0	0	0	0	0	2	0	2	4
% 4+ Axle Trucks	50	0	0	20	0	0	7.7	1.3	0	0	0	0	0	15.4	0	7.7	3.1

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	0	1	1	16	2	19	2	3	0	5	0	1	1	2	27
07:15 AM	0	0	0	0	1	9	2	12	0	0	0	0	0	4	0	4	16
07:30 AM	0	0	0	0	0	7	4	11	3	1	1	5	0	1	1	2	18
07:45 AM	1	1	0	2	1	17	4	22	1	4	0	5	0	2	4	6	35
Total Volume	1	2	0	3	3	49	12	64	6	8	1	15	0	8	6	14	96
% App. Total	33.3	66.7	0		4.7	76.6	18.8		40	53.3	6.7		0	57.1	42.9		
PHF	.250	.500	.000	.375	.750	.721	.750	.727	.500	.500	.250	.750	.000	.500	.375	.583	.686

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				07:00 AM				07:00 AM				07:45 AM			
+0 mins.	1	1	0	2	1	16	2	19	2	3	0	5	0	2	4	6
+15 mins.	0	0	0	0	1	9	2	12	0	0	0	0	0	1	1	2
+30 mins.	0	0	0	0	0	7	4	11	3	1	1	5	0	2	2	4
+45 mins.	1	1	0	2	1	17	4	22	1	4	0	5	0	0	3	3
Total Volume	2	2	0	4	3	49	12	64	6	8	1	15	0	5	10	15
% App. Total	50	50	0		4.7	76.6	18.8		40	53.3	6.7		0	33.3	66.7	
PHF	.500	.500	.000	.500	.750	.721	.750	.727	.500	.500	.250	.750	.000	.625	.625	.625

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	1	0	1	1	15	2	18	2	3	0	5	0	1	1	2	26
07:15 AM	0	0	0	0	0	8	2	10	0	0	0	0	0	4	0	4	14
07:30 AM	0	0	0	0	0	7	3	10	2	1	1	4	0	1	1	2	16
07:45 AM	0	1	0	1	1	16	4	21	1	4	0	5	0	2	4	6	33
Total	0	2	0	2	2	46	11	59	5	8	1	14	0	8	6	14	89
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
08:15 AM	0	0	0	0	0	5	0	5	1	1	0	2	0	2	2	4	11
08:30 AM	1	1	0	2	0	1	1	2	1	1	1	3	0	0	2	2	9
08:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	0	1	1	2	6
Total	1	1	0	2	0	12	1	13	3	2	1	6	0	3	5	8	29
Grand Total	1	3	0	4	2	58	12	72	8	10	2	20	0	11	11	22	118
Apprch %	25	75	0		2.8	80.6	16.7		40	50	10		0	50	50		
Total %	0.8	2.5	0	3.4	1.7	49.2	10.2	61	6.8	8.5	1.7	16.9	0	9.3	9.3	18.6	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	1	0	1	1	15	2	18	2	3	0	5	0	1	1	2	26
07:15 AM	0	0	0	0	0	8	2	10	0	0	0	0	0	4	0	4	14
07:30 AM	0	0	0	0	0	7	3	10	2	1	1	4	0	1	1	2	16
07:45 AM	0	1	0	1	1	16	4	21	1	4	0	5	0	2	4	6	33
Total Volume	0	2	0	2	2	46	11	59	5	8	1	14	0	8	6	14	89
% App. Total	0	100	0		3.4	78	18.6		35.7	57.1	7.1		0	57.1	42.9		
PHF	.000	.500	.000	.500	.500	.719	.688	.702	.625	.500	.250	.700	.000	.500	.375	.583	.674

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUAM
Site Code : 05116575
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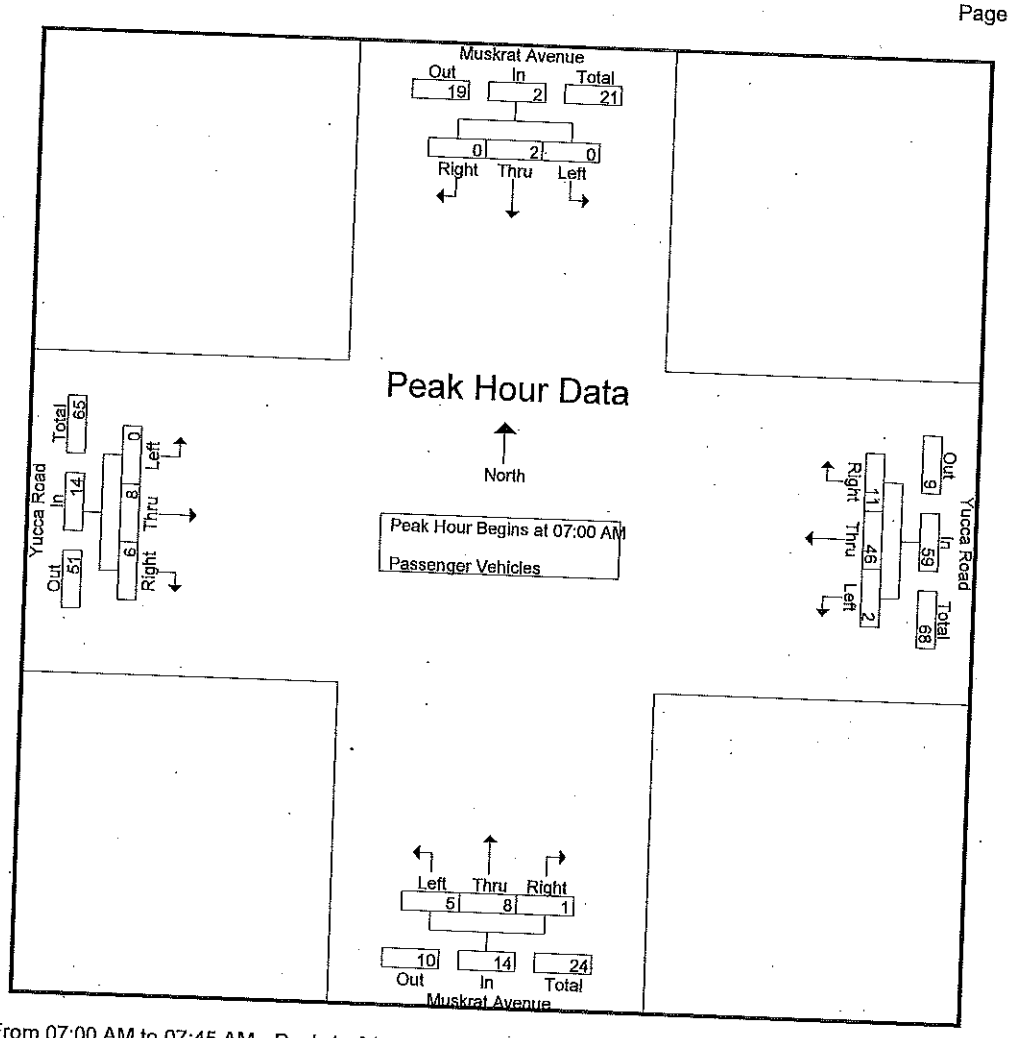

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	1	0	1	1	15	2	18	2	3	0	5	0	1	1	2
+15 mins.	0	0	0	0	0	8	2	10	0	0	0	0	0	4	0	4
+30 mins.	0	0	0	0	0	7	3	10	2	1	1	4	0	1	1	2
+45 mins.	0	1	0	1	1	16	4	21	1	4	0	5	0	2	4	6
Total Volume	0	2	0	2	2	46	11	59	5	8	1	14	0	8	6	14
% App. Total	0	100	0		3.4	78	18.6		35.7	57.1	7.1		0	57.1	42.9	
PHF	.000	.500	.000	.500	.500	.719	.688	.702	.625	.500	.250	.700	.000	.500	.375	.583

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Large 2 Axle Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
Grand Total	0	0	0	0	0	1	0	1	1	0	0	1	0	0	2	2	
Apprch %	0	0	0		0	100	0		100	0	0		0	0	100		
Total %	0	0	0	0	0	25	0	25	25	0	0	25	0	0	50	50	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0		
% App. Total	0	0	0		0	100	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000	.500

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

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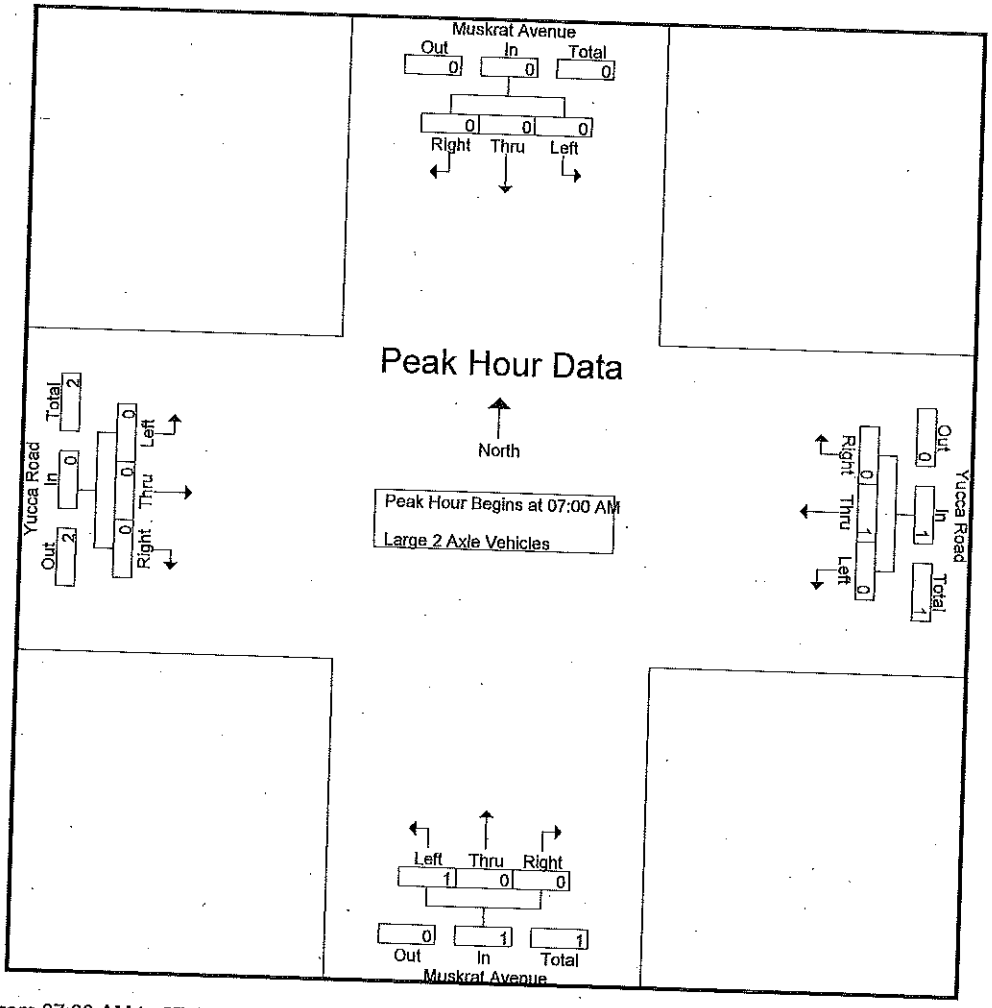

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0
% App. Total	0	0	0		0	100	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.000	.000	.000	.000

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- 3 Axle Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
Apprch %	0	0	0		33.3	66.7	0		0	0	0		0	0	0		
Total %	0	0	0	0	33.3	66.7	0	100	0	0	0	0	0	0	0	0	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3
% App. Total	0	0	0		33.3	66.7	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.500	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000	.375

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUAM
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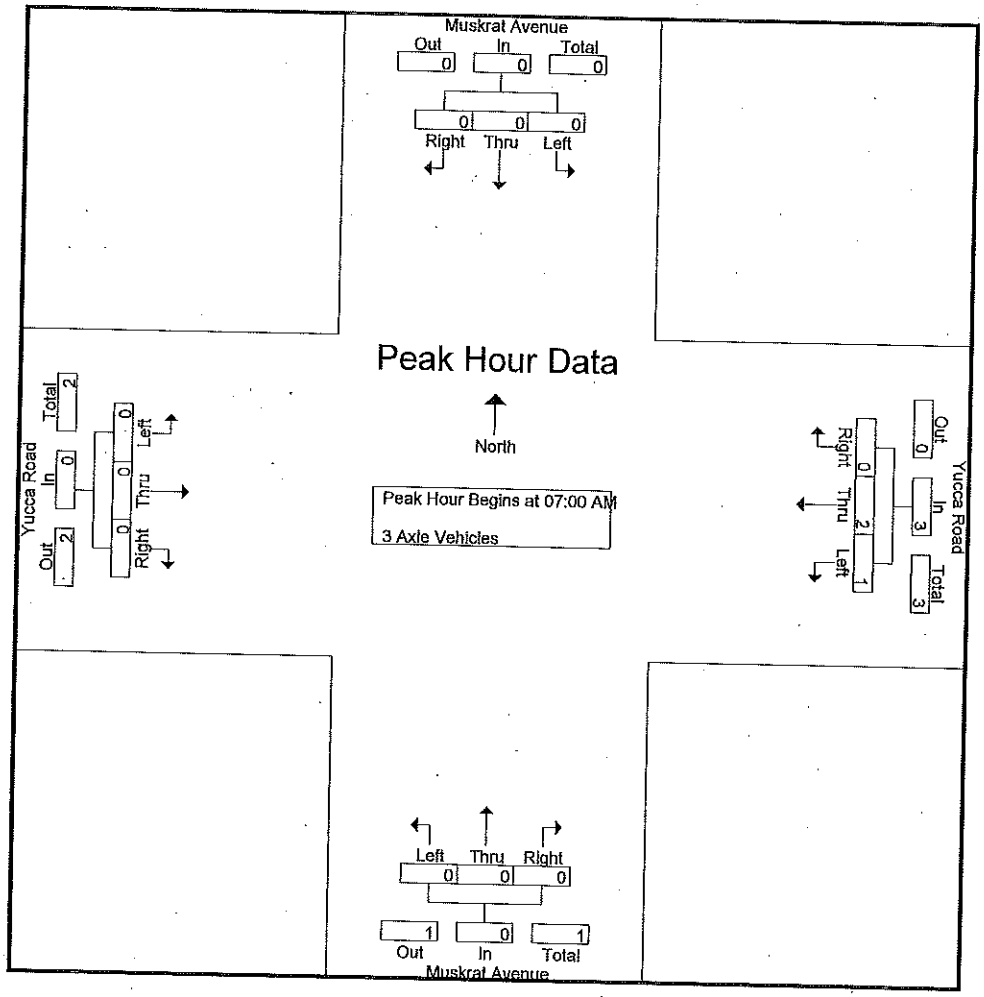

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0
% App. Total	0	0	0		33.3	66.7	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.250	.500	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- 4+ Axle Trucks

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
07:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Grand Total	1	0	0	1	0	0	1	1	0	0	0	0	0	2	0	2	4
Apprch %	100	0	0		0	0	100		0	0	0		0	100	0		
Total %	25	0	0	25	0	0	25	25	0	0	0	0	0	50	0	50	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
07:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
% App. Total	100	0	0		0	0	100		0	0	0		0	0	0		
PHF	.250	.000	.000	.250	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.500

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

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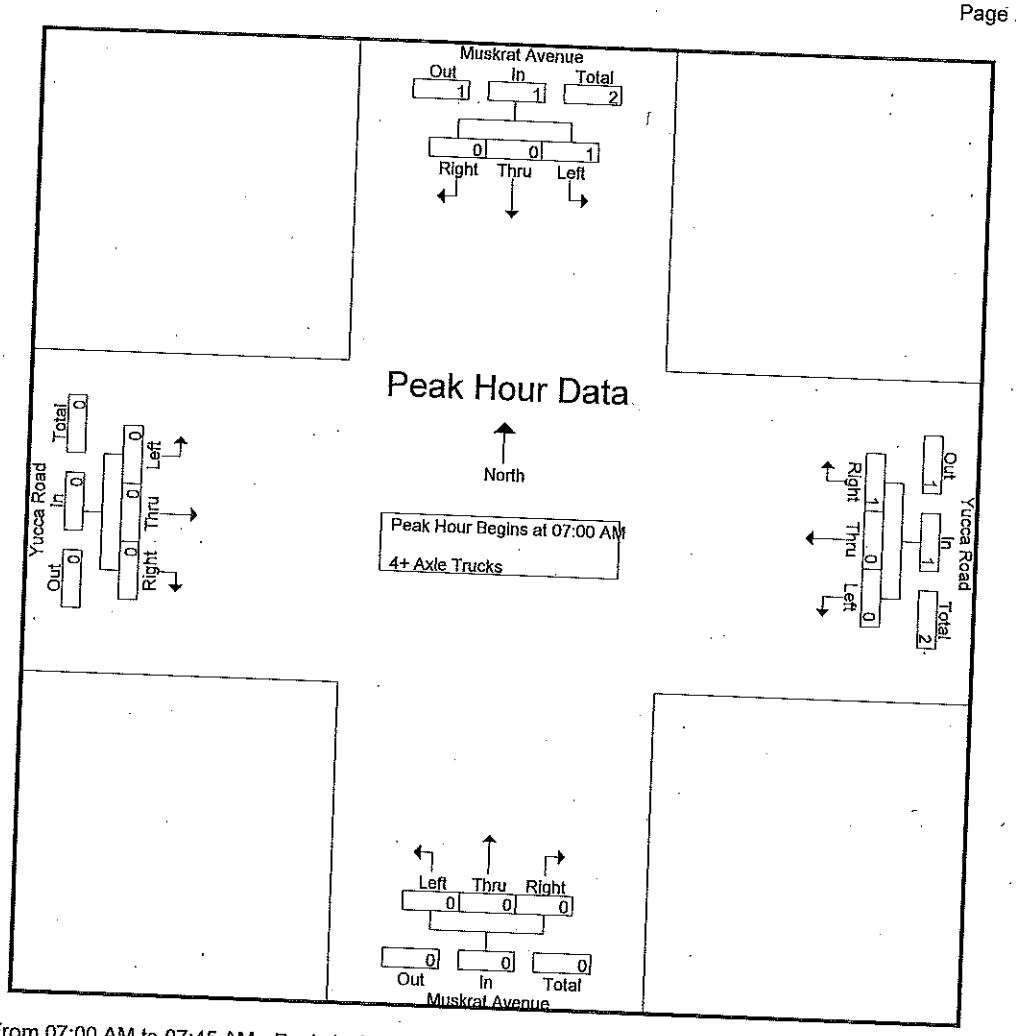

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
+45 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0
% App. Total	100	0	0		0	0	100		0	0	0		0	0	0	
PHF	.250	.000	.000	.250	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	1	1	0	2	4	0	0	4	1	6	5	12	20
04:15 PM	0	2	0	2	0	1	0	1	0	1	1	2	0	8	3	11	16
04:30 PM	2	3	4	9	1	0	1	2	6	1	0	7	1	9	2	12	30
04:45 PM	1	4	0	5	0	1	1	2	0	1	0	1	1	7	1	9	17
Total	4	10	4	18	2	3	2	7	10	3	1	14	3	30	11	44	83
05:00 PM	5	8	2	15	0	2	0	2	0	1	2	3	1	5	1	7	27
05:15 PM	0	1	0	1	0	0	0	0	2	1	1	4	0	9	3	12	17
05:30 PM	1	1	0	2	0	2	0	2	0	0	0	0	0	8	1	9	13
05:45 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	3	0	3	6
Total	6	12	2	20	0	5	0	5	2	2	3	7	1	25	5	31	63
Grand Total	10	22	6	38	2	8	2	12	12	5	4	21	4	55	16	75	146
Apprch %	26.3	57.9	15.8		16.7	66.7	16.7		57.1	23.8	19		5.3	73.3	21.3		
Total %	6.8	15.1	4.1	26	1.4	5.5	1.4	8.2	8.2	3.4	2.7	14.4	2.7	37.7	11	51.4	139
Passenger Vehicles	9	20	6	35	2	8	2	12	12	4	4	20	2	54	16	72	95.2
% Passenger Vehicles	90	90.9	100	92.1	100	100	100	100	100	80	100	95.2	50	98.2	100	96	
Large 2 Axle Vehicles	1	2	0	3	0	0	0	0	0	1	0	1	1	0	0	1	5
% Large 2 Axle Vehicles	10	9.1	0	7.9	0	0	0	0	0	20	0	4.8	25	0	0	1.3	3.4
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	25	1.8	0	2.7	1.4
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	3	4	9	1	0	1	2	6	1	0	7	1	9	2	12	30
04:45 PM	1	4	0	5	0	1	1	2	0	1	0	1	1	7	1	9	17
05:00 PM	5	8	2	15	0	2	0	2	0	1	2	3	1	5	1	7	27
05:15 PM	0	1	0	1	0	0	0	0	2	1	1	4	0	9	3	12	17
Total Volume	8	16	6	30	1	3	2	6	8	4	3	15	3	30	7	40	91
% App. Total	26.7	53.3	20		16.7	50	33.3		53.3	26.7	20		7.5	75	17.5		
PHF	.400	.500	.375	.500	.250	.375	.500	.750	.333	1.00	.375	.536	.750	.833	.583	.833	.758

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUPM
Site Code : 05116575
Start Date : 10/27/2016
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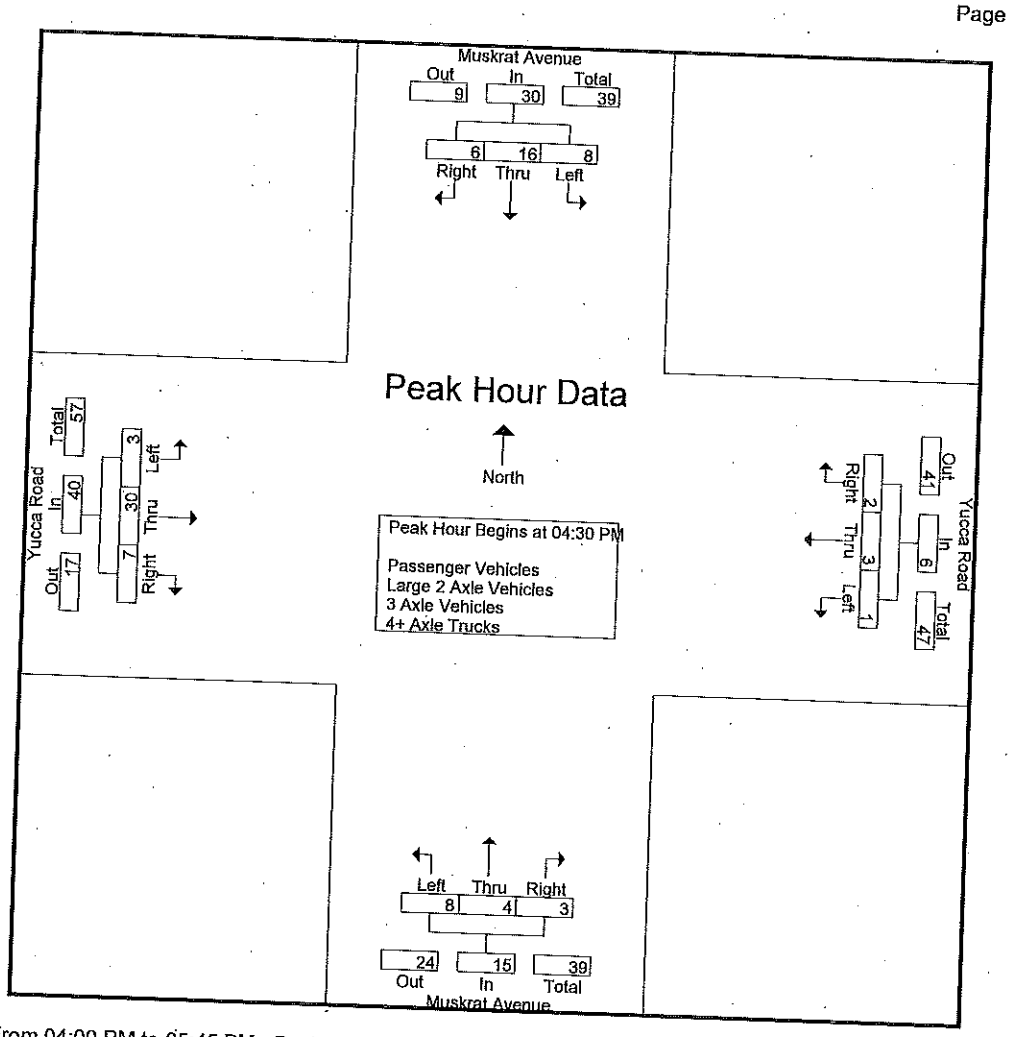

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:30 PM				04:00 PM			
+0 mins.	0	2	0	2	1	1	0	2	6	1	0	7	1	6	5	12
+15 mins.	2	3	4	9	0	1	0	1	0	1	0	1	0	8	3	11
+30 mins.	1	4	0	5	1	0	1	2	0	1	2	3	1	9	2	12
+45 mins.	5	8	2	15	0	1	1	2	2	1	1	4	1	7	1	9
Total Volume	8	17	6	31	2	3	2	7	8	4	3	15	3	30	11	44
% App. Total	25.8	54.8	19.4		28.6	42.9	28.6		53.3	26.7	20		6.8	68.2	25	
PHF	.400	.531	.375	.517	.500	.750	.500	.875	.333	1.000	.375	.536	.750	.833	.550	.917

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File Name : ADLMUYUPM
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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	1	1	0	2	4	0	0	4	1	5	5	11	19
04:15 PM	0	1	0	1	0	1	0	1	0	0	1	1	0	8	3	11	14
04:30 PM	2	3	4	9	1	0	1	2	6	1	0	7	0	9	2	11	29
04:45 PM	0	3	0	3	0	1	1	2	0	1	0	1	0	7	1	8	14
Total	3	8	4	15	2	3	2	7	10	2	1	13	1	29	11	41	76
05:00 PM	5	8	2	15	0	2	0	2	0	1	2	3	1	5	1	7	27
05:15 PM	0	1	0	1	0	0	0	0	2	1	1	4	0	9	3	12	17
05:30 PM	1	1	0	2	0	2	0	2	0	0	0	0	0	8	1	9	13
05:45 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	3	0	3	6
Total	6	12	2	20	0	5	0	5	2	2	3	7	1	25	5	31	63
Grand Total	9	20	6	35	2	8	2	12	12	4	4	20	2	54	16	72	139
Apprch %	25.7	57.1	17.1		16.7	66.7	16.7		60	20	20		2.8	75	22.2		
Total %	6.5	14.4	4.3	25.2	1.4	5.8	1.4	8.6	8.6	2.9	2.9	14.4	1.4	38.8	11.5	51.8	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	3	4	9	1	0	1	2	6	1	0	7	0	9	2	11	29
04:45 PM	0	3	0	3	0	1	1	2	0	1	0	1	0	7	1	8	14
05:00 PM	5	8	2	15	0	2	0	2	0	1	2	3	1	5	1	7	27
05:15 PM	0	1	0	1	0	0	0	0	2	1	1	4	0	9	3	12	17
Total Volume	7	15	6	28	1	3	2	6	8	4	3	15	1	30	7	38	87
% App. Total	25	53.6	21.4		16.7	50	33.3		53.3	26.7	20		2.6	78.9	18.4		
PHF	.350	.469	.375	.467	.250	.375	.500	.750	.333	1.00	.375	.536	.250	.833	.583	.792	.750

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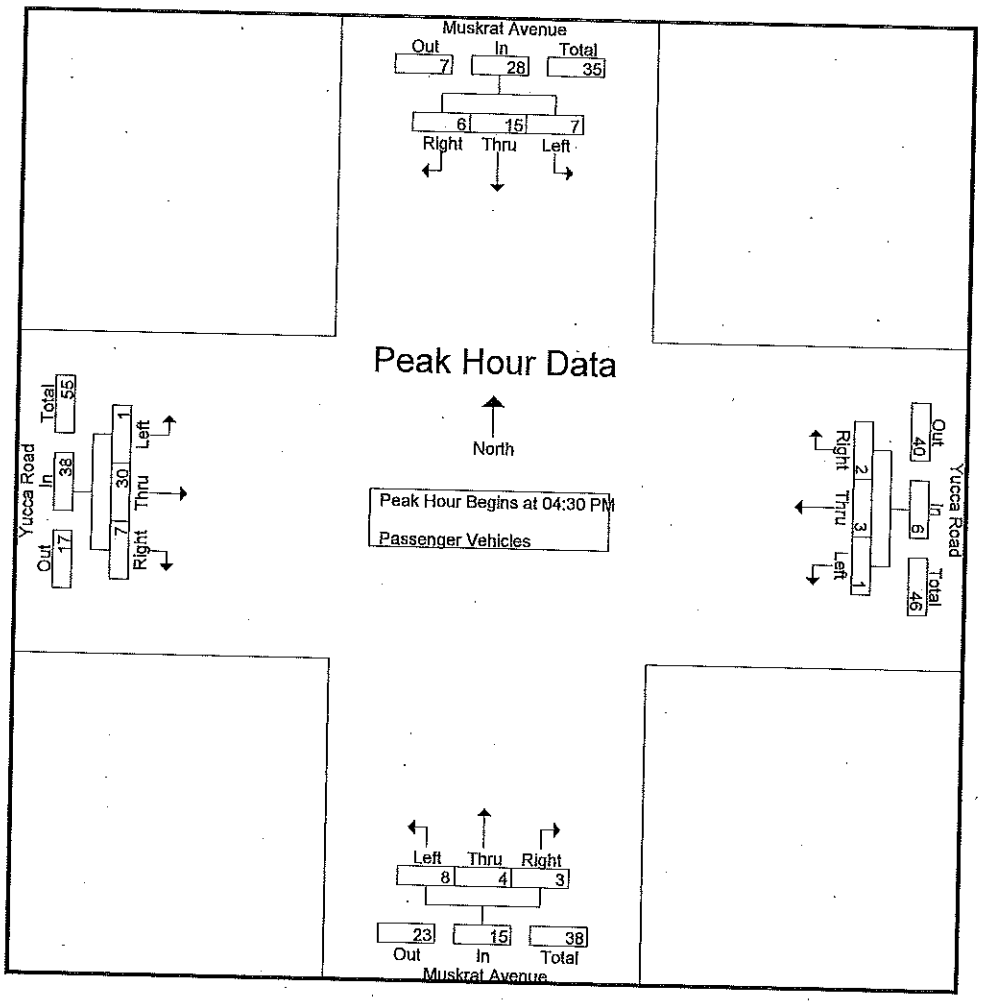
City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUPM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	2	3	**4**	9	**1**	0	**1**	**2**	**6**	**1**	0	**7**	0	**9**	2	11
+15 mins.	0	3	0	3	0	1	1	2	0	1	0	1	0	7	1	8
+30 mins.	**5**	**8**	2	**15**	0	**2**	0	2	0	1	**2**	3	**1**	5	1	7
+45 mins.	0	1	0	1	0	0	0	0	2	1	1	4	0	9	**3**	**12**
Total Volume	7	15	6	28	1	3	2	6	8	4	3	15	1	30	7	38
% App. Total	25	53.6	21.4		16.7	50	33.3		53.3	26.7	20		2.6	78.9	18.4	
PHF	.350	.469	.375	.467	.250	.375	.500	.750	.333	1.000	.375	.536	.250	.833	.583	.792

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File Name : ADLMUYUPM
Site Code : 05116575
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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Large 2 Axle Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Total	1	2	0	3	0	0	0	0	0	1	0	1	1	0	0	1	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	2	0	3	0	0	0	0	0	1	0	1	1	0	0	1	5
Apprch %	33.3	66.7	0		0	0	0		0	100	0		100	0	0		
Total %	20	40	0	60	0	0	0	0	0	20	0	20	20	0	0	20	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
% App. Total	50	50	0		0	0	0		0	0	0		100	0	0		
PHF	.250	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUPM
Site Code : 05116575
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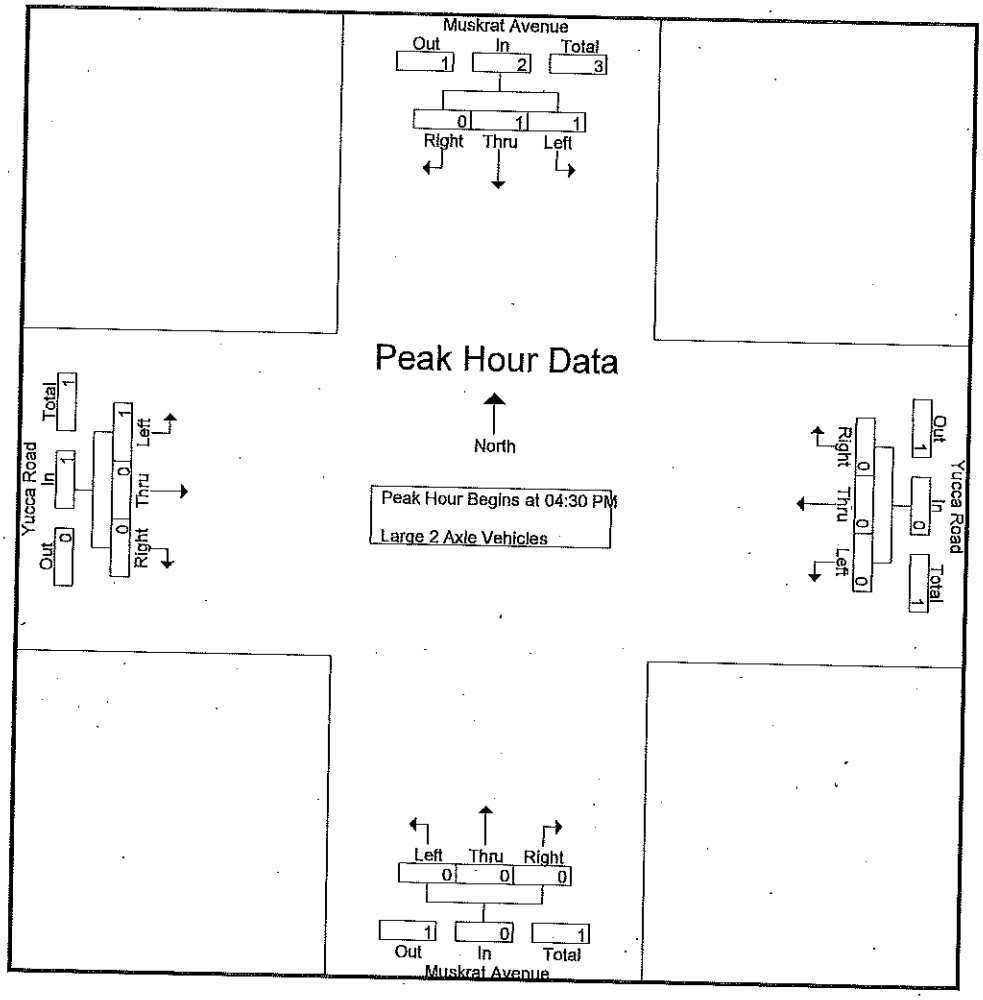

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	50	50	0		0	0	0		0	0	0		100	0	0	
PHF	.250	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

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File Name : ADLMUYUPM
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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- 3 Axle Vehicles

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
Apprch %	0	0	0		0	0	0		0	0	0		50	50	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	50	50	0	100	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUPM
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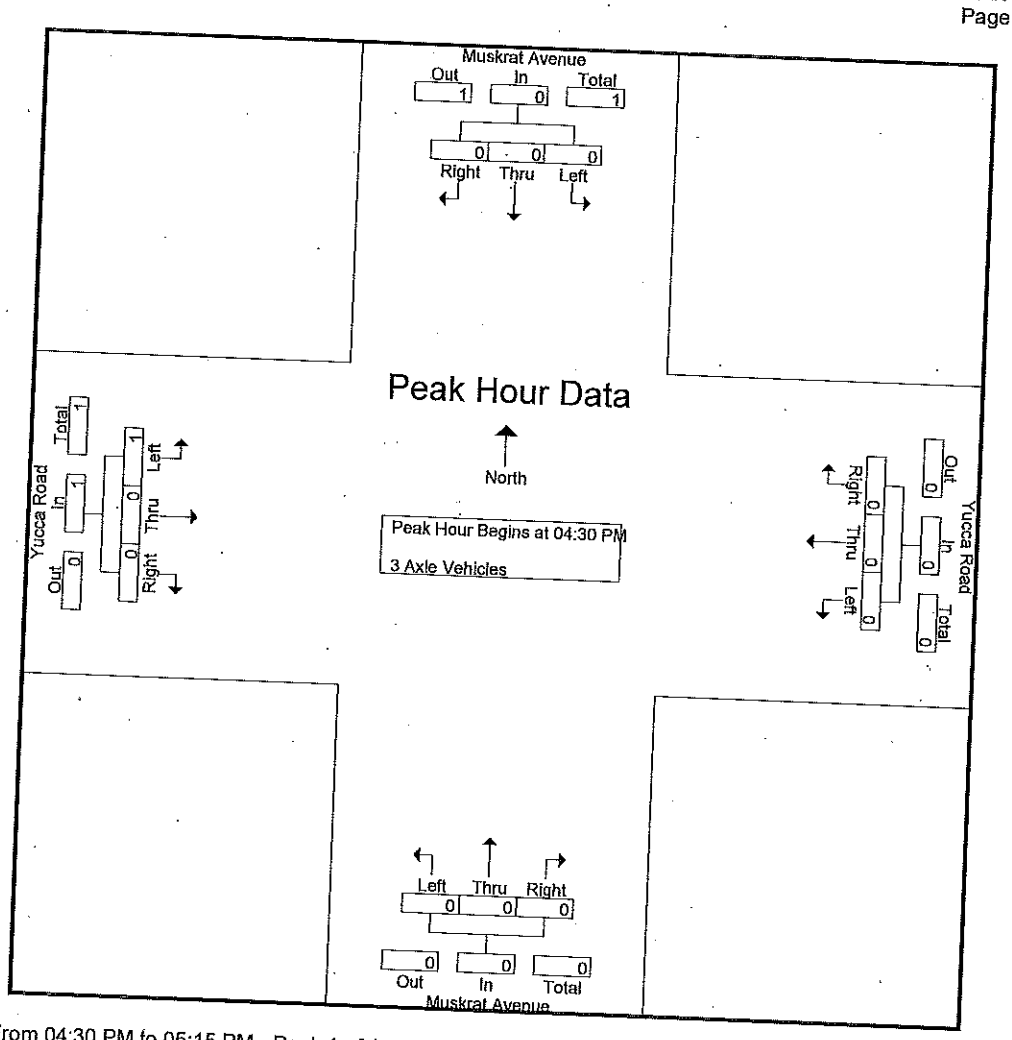

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	0	0	0		0	0	0		0	0	0		100	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

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File Name : ADLMUYUPM
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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- 4+ Axle Trucks

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Muskrat Avenue Southbound				Yucca Road Westbound				Muskrat Avenue Northbound				Yucca Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Adelanto
N/S: Muskrat Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLMUYUPM
Site Code : 05116575
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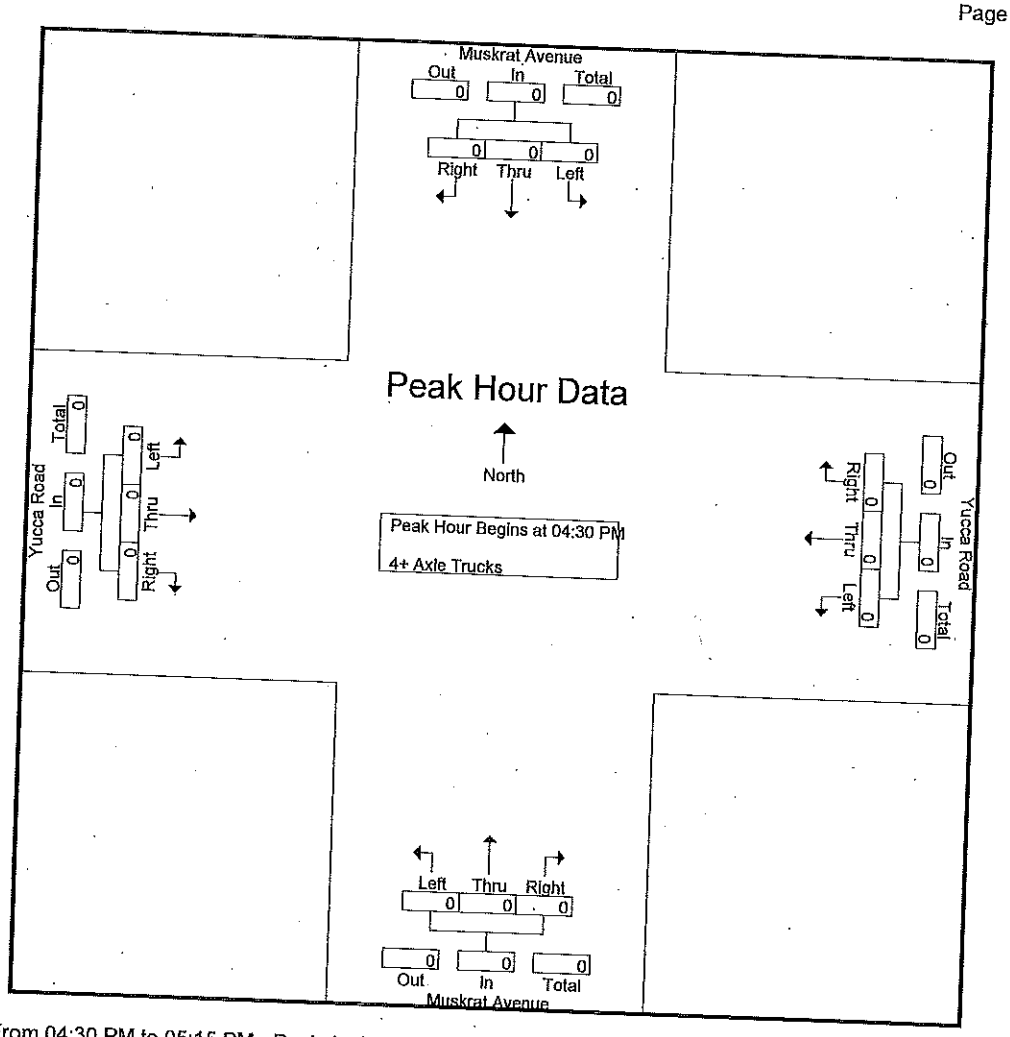

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Adelanto
N/S: Muskrat Avenue
E/W: Yucca Avenue

Date: 10/27/2016
Day: Thursday

PEDESTRIANS

	North Leg Muskrat Avenue	East Leg Yucca Avenue	South Leg Muskrat Avenue	West Leg Yucca Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	1	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

	North Leg Muskrat Avenue	East Leg Yucca Avenue	South Leg Muskrat Avenue	West Leg Yucca Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Adelanto
N/S: Muskrat Avenue
E/W: Yucca Avenue

Date: 10/27/2016
Day: Thursday

BICYCLES

	North Leg Muskrat Avenue	East Leg Yucca Avenue	South Leg Muskrat Avenue	West Leg Yucca Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Muskrat Avenue	East Leg Yucca Avenue	South Leg Muskrat Avenue	West Leg Yucca Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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File Name : ADLMURNAM
Site Code : 05116575
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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	5	0	5	53	15	68	1	28	29	102
07:15 AM	1	0	1	32	1	33	0	17	17	51
07:30 AM	2	3	5	22	6	28	2	19	21	54
07:45 AM	0	1	1	33	6	39	1	21	22	62
Total	8	4	12	140	28	168	4	85	89	269
08:00 AM	2	3	5	30	5	35	1	32	33	73
08:15 AM	1	3	4	27	6	33	0	33	33	70
08:30 AM	6	0	6	23	3	26	2	26	28	60
08:45 AM	2	1	3	22	5	27	1	16	17	47
Total	11	7	18	102	19	121	4	107	111	250
Grand Total	19	11	30	242	47	289	8	192	200	519
Apprch %	63.3	36.7		83.7	16.3		4	96		
Total %	3.7	2.1	5.8	46.6	9.1	55.7	1.5	37	38.5	
Passenger Vehicles	15	8	23	219	47	266	6	151	157	446
% Passenger Vehicles	78.9	72.7	76.7	90.5	100	92	75	78.6	78.5	85.9
Large 2 Axle Vehicles	3	2	5	11	0	11	2	19	21	37
% Large 2 Axle Vehicles	15.8	18.2	16.7	4.5	0	3.8	25	9.9	10.5	7.1
3 Axle Vehicles	0	1	1	1	0	1	0	3	3	5
% 3 Axle Vehicles	0	9.1	3.3	0.4	0	0.3	0	1.6	1.5	1
4+ Axle Trucks	1	0	1	11	0	11	0	19	19	31
% 4+ Axle Trucks	5.3	0	3.3	4.5	0	3.8	0	9.9	9.5	6

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	5	0	5	53	15	68	1	28	29	102
07:15 AM	1	0	1	32	1	33	0	17	17	51
07:30 AM	2	3	5	22	6	28	2	19	21	54
07:45 AM	0	1	1	33	6	39	1	21	22	62
Total Volume	8	4	12	140	28	168	4	85	89	269
% App. Total	66.7	33.3		83.3	16.7		4.5	95.5		
PHF	.400	.333	.600	.660	.467	.618	.500	.759	.767	.659

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNAM
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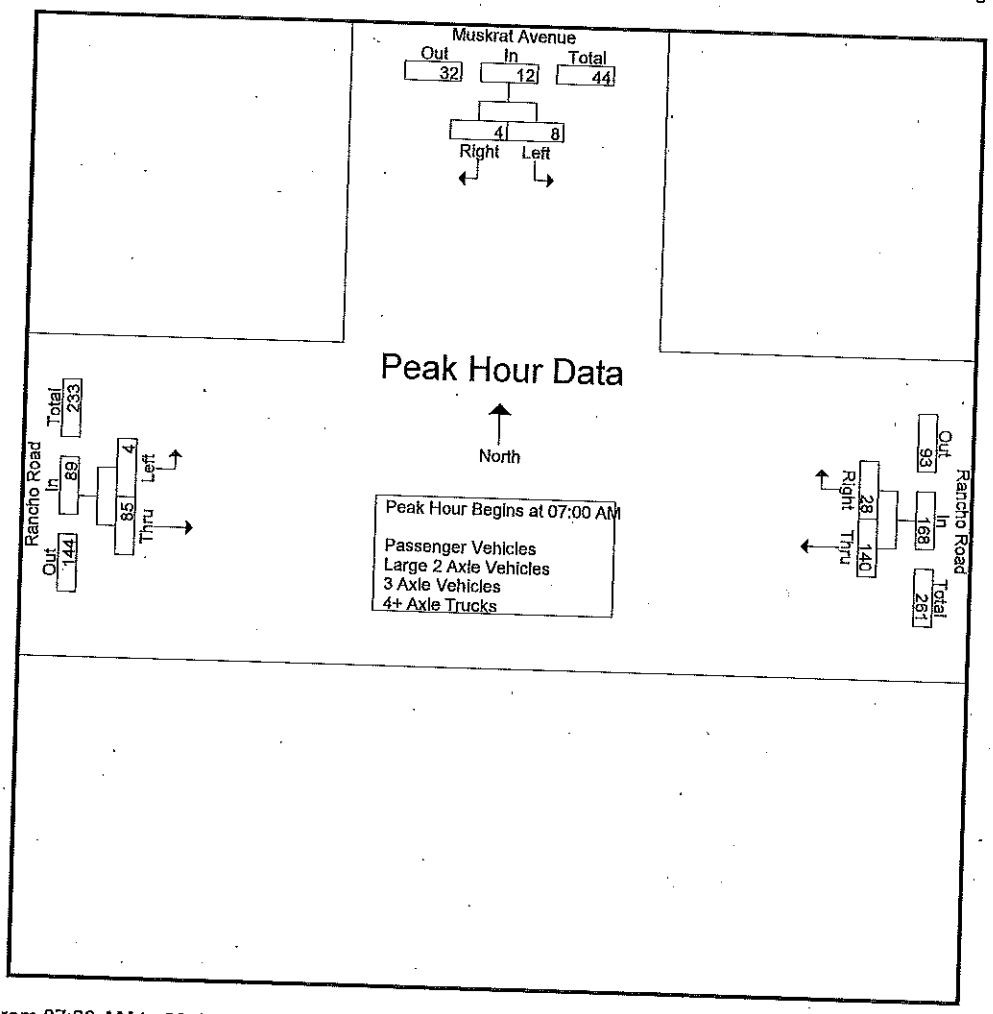

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM			07:00 AM			07:45 AM		
+0 mins.	2	**3**	5	**53**	**15**	**68**	1	21	22
+15 mins.	1	3	4	32	1	33	1	32	**33**
+30 mins.	**6**	0	**6**	22	6	28	0	**33**	33
+45 mins.	2	1	3	33	6	39	**2**	26	28
Total Volume	11	7	18	140	28	168	4	112	116
% App. Total	61.1	38.9		83.3	16.7		3.4	96.6	
PHF	.458	.583	.750	.660	.467	.618	.500	.848	.879

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File Name : ADLMURNAM
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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	4	0	4	51	15	66	1	23	24	94
07:15 AM	1	0	1	28	1	29	0	15	15	45
07:30 AM	2	2	4	19	6	25	1	16	17	46
07:45 AM	0	1	1	31	6	37	1	17	18	56
Total	7	3	10	129	28	157	3	71	74	241
08:00 AM	2	3	5	26	5	31	0	27	27	63
08:15 AM	0	1	1	25	6	31	0	22	22	54
08:30 AM	4	0	4	19	3	22	2	21	23	49
08:45 AM	2	1	3	20	5	25	1	10	11	39
Total	8	5	13	90	19	109	3	80	83	205
Grand Total	15	8	23	219	47	266	6	151	157	446
Apprch %	65.2	34.8		82.3	17.7		3.8	96.2		
Total %	3.4	1.8	5.2	49.1	10.5	59.6	1.3	33.9	35.2	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**4**	0	4	**51**	**15**	**66**	**1**	**23**	**24**	**94**
07:15 AM	1	0	1	28	1	29	0	15	15	45
07:30 AM	2	**2**	4	19	6	25	1	16	17	46
07:45 AM	0	1	1	31	6	37	1	17	18	56
Total Volume	7	3	10	129	28	157	3	71	74	241
% App. Total	70	30		82.2	17.8		4.1	95.9		
PHF	.438	.375	.625	.632	.467	.595	.750	.772	.771	.641

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

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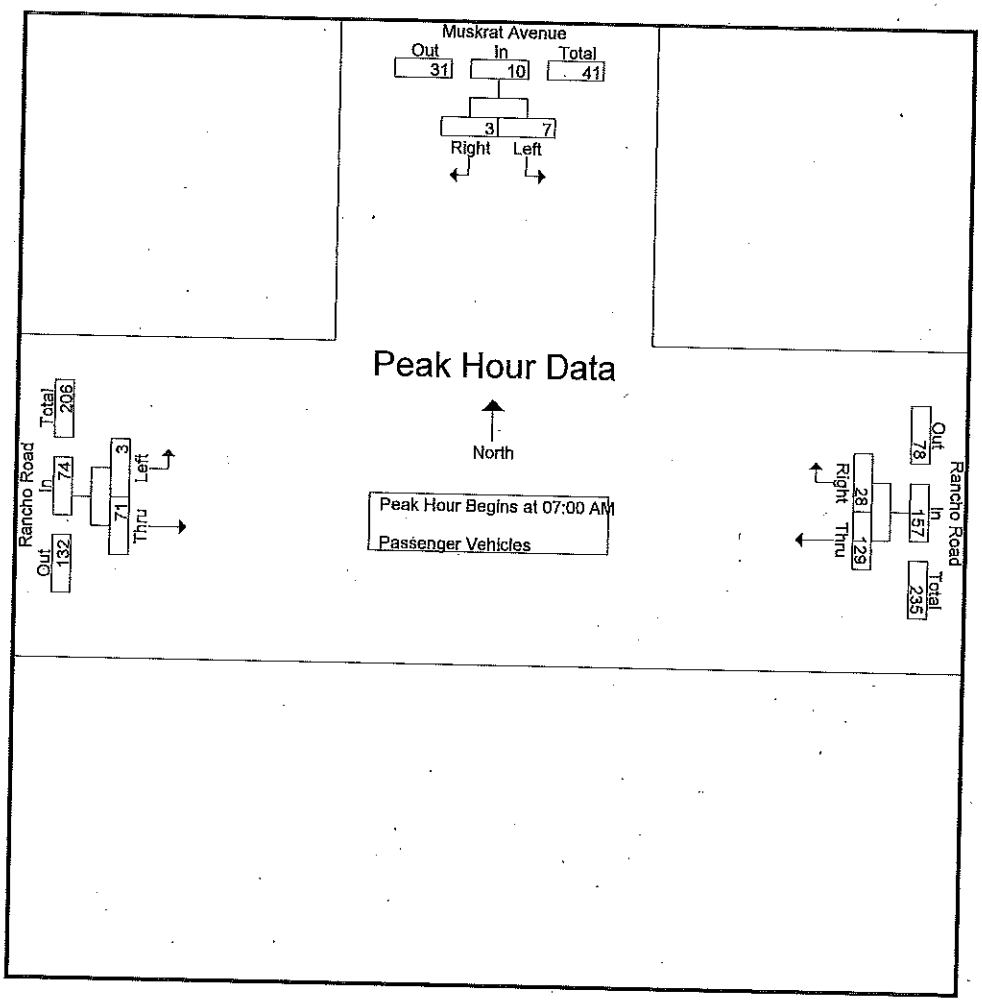

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**4**	0	**4**	**51**	**15**	**66**	**1**	**23**	**24**
+15 mins.	1	0	1	28	1	29	0	15	15
+30 mins.	2	**2**	4	19	6	25	1	16	17
+45 mins.	0	1	1	31	6	37	1	17	18
Total Volume	7	3	10	129	28	157	3	71	74
% App. Total	70	30		82.2	17.8		4.1	95.9	
PHF	.438	.375	.625	.632	.467	.595	.750	.772	.771

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Large 2 Axle Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	1	0	1	0	0	0	0	2	2	3
07:15 AM	0	0	0	1	0	1	0	2	2	3
07:30 AM	0	0	0	2	0	2	1	3	4	6
07:45 AM	0	0	0	2	0	2	0	3	3	5
Total	1	0	1	5	0	5	1	10	11	17
08:00 AM	0	0	0	2	0	2	1	0	1	3
08:15 AM	1	2	3	2	0	2	0	6	6	11
08:30 AM	1	0	1	1	0	1	0	1	1	3
08:45 AM	0	0	0	1	0	1	0	2	2	3
Total	2	2	4	6	0	6	1	9	10	20
Grand Total	3	2	5	11	0	11	2	19	21	37
Apprch %	60	40		100	0		9.5	90.5		
Total %	8.1	5.4	13.5	29.7	0	29.7	5.4	51.4	56.8	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	0	1	0	0	0	0	2	2	3
07:15 AM	0	0	0	1	0	1	0	2	2	3
07:30 AM	0	0	0	**2**	0	**2**	**1**	**3**	**4**	**6**
07:45 AM	0	0	0	2	0	2	0	3	3	5
Total Volume	1	0	1	5	0	5	1	10	11	17
% App. Total	100	0		100	0		9.1	90.9		
PHF	.250	.000	.250	.625	.000	.625	.250	.833	.688	.708

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNAM
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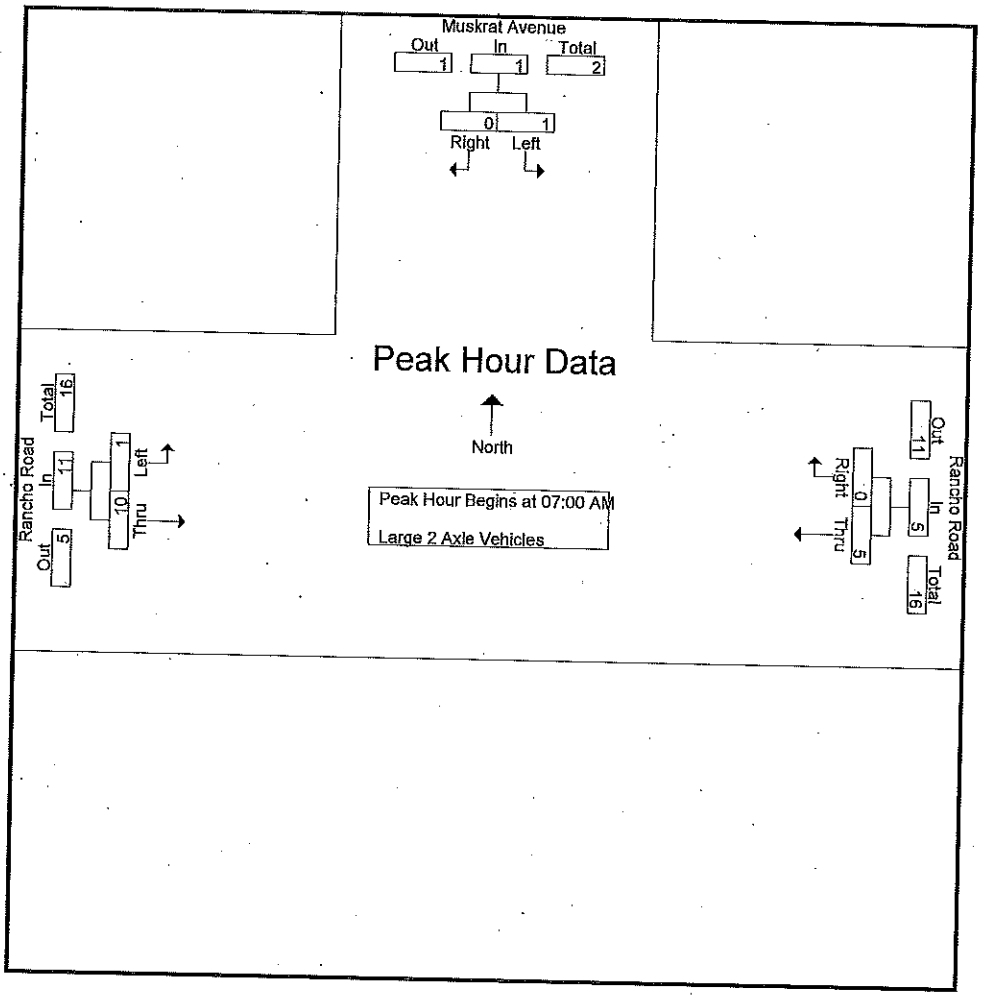

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**1**	0	**1**	0	0	0	0	2	2
+15 mins.	0	0	0	1	0	1	0	2	2
+30 mins.	0	0	0	**2**	0	**2**	**1**	**3**	**4**
+45 mins.	0	0	0	2	0	2	0	3	3
Total Volume	1	0	1	5	0	5	1	10	11
% App. Total	100	0		100	0		9.1	90.9	
PHF	.250	.000	.250	.625	.000	.625	.250	.833	.688

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- 3 Axle Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	1	1	1
08:15 AM	0	0	0	0	0	0	0	1	1	1
08:30 AM	0	0	0	0	0	0	0	1	1	1
08:45 AM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	1	0	1	0	3	3	4
Grand Total	0	1	1	1	0	1	0	3	3	5
Apprch %	0	100		100	0		0	100		
Total %	0	20	20	20	0	20	0	60	60	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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City of Adelanto
N/S: Muskrat Avenue
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Weather: Clear

File Name : ADLMURNAM
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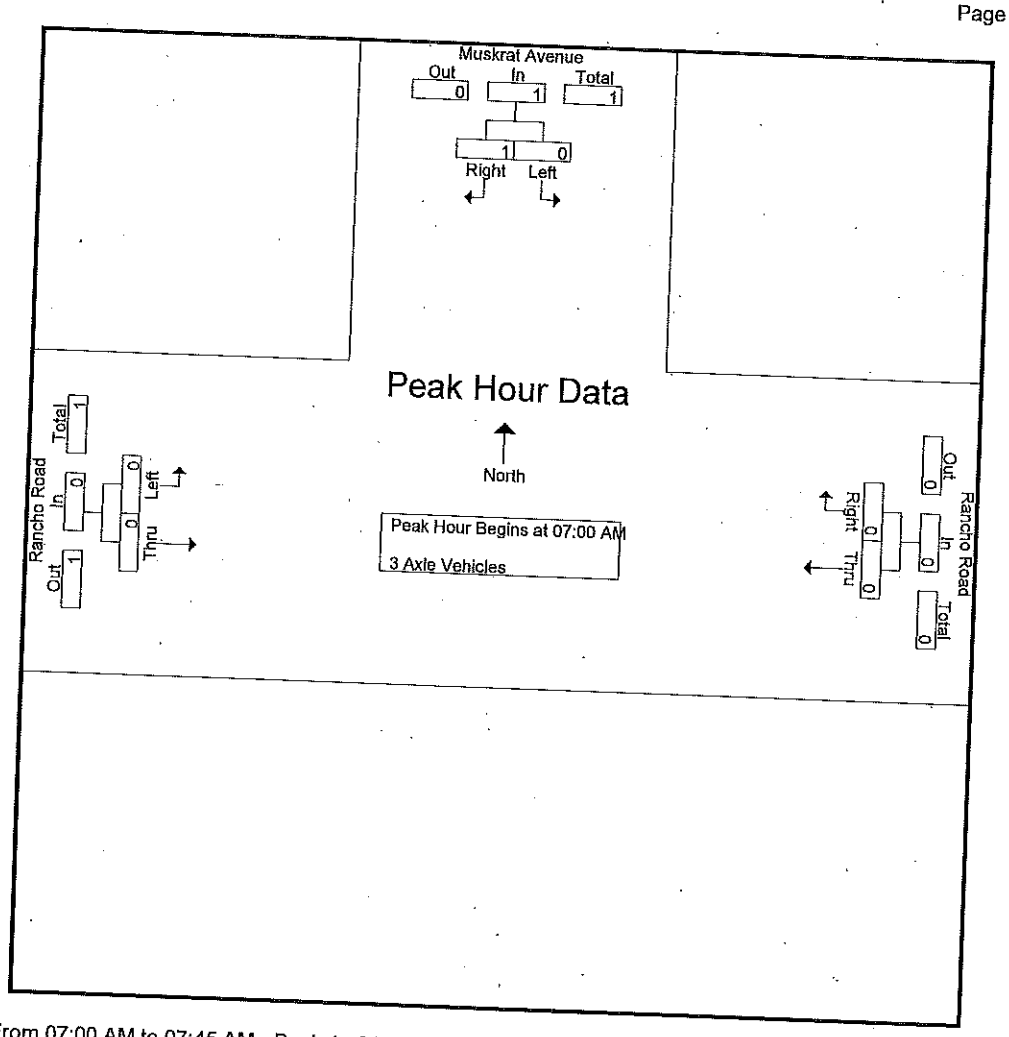

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000

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File Name : ADLMURNAM
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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- 4+ Axle Trucks

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	2	0	2	0	3	3	5
07:15 AM	0	0	0	3	0	3	0	0	0	3
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	6	0	6	0	4	4	10
08:00 AM	0	0	0	2	0	2	0	4	4	6
08:15 AM	0	0	0	0	0	0	0	4	4	4
08:30 AM	1	0	1	3	0	3	0	3	3	7
08:45 AM	0	0	0	0	0	0	0	4	4	4
Total	1	0	1	5	0	5	0	15	15	21
Grand Total	1	0	1	11	0	11	0	19	19	31
Apprch %	100	0		100	0		0	100		
Total %	3.2	0	3.2	35.5	0	35.5	0	61.3	61.3	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	2	0	2	0	3	3	5
07:15 AM	0	0	0	3	0	3	0	0	0	3
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	6	0	6	0	4	4	10
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.500	.000	.500	.000	.333	.333	.500

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City of Adelanto
N/S: Muskrat Avenue
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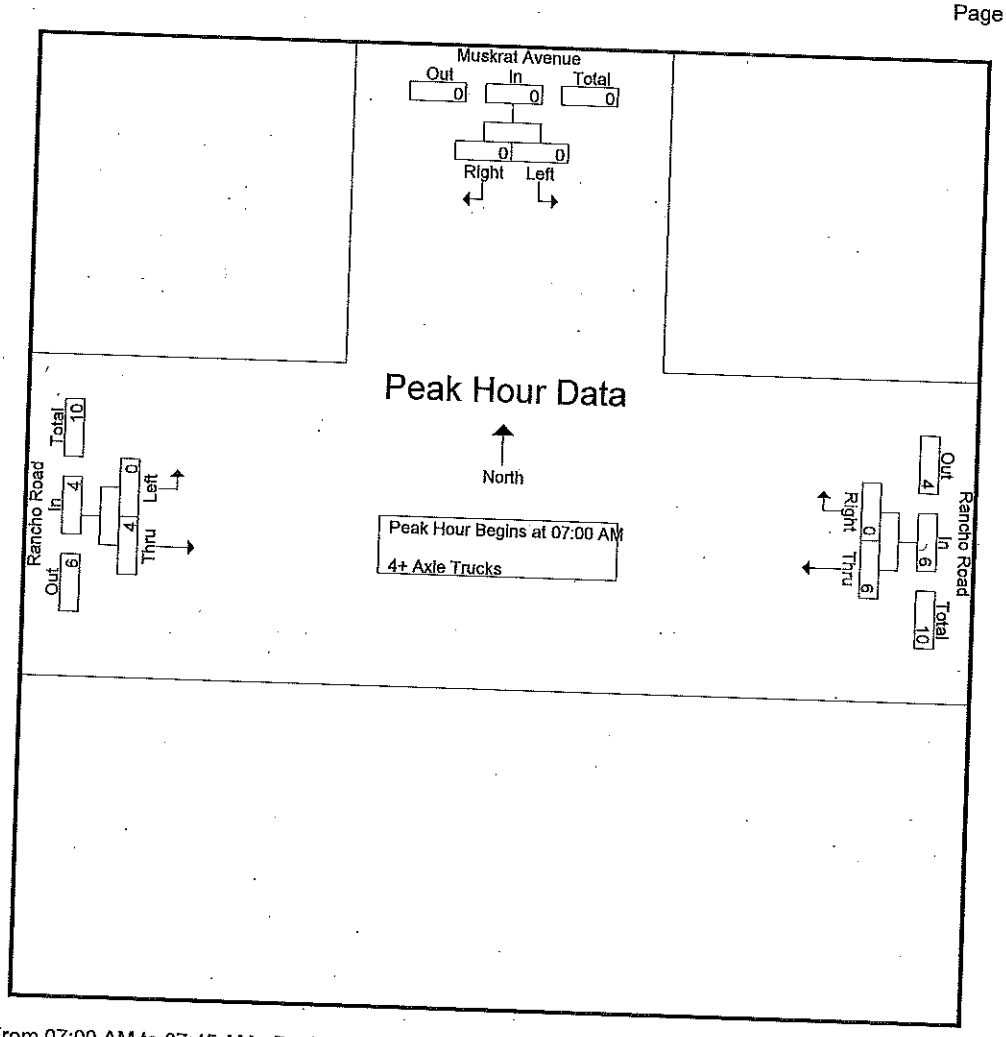

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	2	0	2	0	3	3
+15 mins.	0	0	0	3	0	3	0	0	0
+30 mins.	0	0	0	1	0	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	6	0	6	0	4	4
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.500	.000	.500	.000	.333	.333

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	14	1	15	24	1	25	1	61	62	102
04:15 PM	10	2	12	33	1	34	0	46	46	92
04:30 PM	9	1	10	20	3	23	0	44	44	77
04:45 PM	6	1	7	23	2	25	0	57	57	89
Total	39	5	44	100	7	107	1	208	209	360
05:00 PM	18	1	19	26	3	29	0	29	29	77
05:15 PM	9	0	9	22	1	23	2	36	38	70
05:30 PM	10	1	11	8	0	8	1	41	42	61
05:45 PM	7	0	7	20	1	21	0	21	21	49
Total	44	2	46	76	5	81	3	127	130	257
Grand Total	83	7	90	176	12	188	4	335	339	617
Apprch %	92.2	7.8		93.6	6.4		1.2	98.8		
Total %	13.5	1.1	14.6	28.5	1.9	30.5	0.6	54.3	54.9	
Passenger Vehicles	80	6	86	159	11	170	3	316	319	575
% Passenger Vehicles	96.4	85.7	95.6	90.3	91.7	90.4	75	94.3	94.1	93.2
Large 2 Axle Vehicles	2	1	3	4	1	5	1	7	8	16
% Large 2 Axle Vehicles	2.4	14.3	3.3	2.3	8.3	2.7	25	2.1	2.4	2.6
3 Axle Vehicles	1	0	1	2	0	2	0	2	2	5
% 3 Axle Vehicles	1.2	0	1.1	1.1	0	1.1	0	0.6	0.6	0.8
4+ Axle Trucks	0	0	0	11	0	11	0	10	10	21
% 4+ Axle Trucks	0	0	0	6.2	0	5.9	0	3	2.9	3.4

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	14	1	15	24	1	25	1	61	62	102
04:15 PM	10	2	12	33	1	34	0	46	46	92
04:30 PM	9	1	10	20	3	23	0	44	44	77
04:45 PM	6	1	7	23	2	25	0	57	57	89
Total Volume	39	5	44	100	7	107	1	208	209	360
% App. Total	88.6	11.4		93.5	6.5		0.5	99.5		
PHF	.696	.625	.733	.758	.583	.787	.250	.852	.843	.882

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNPM
Site Code : 05116575
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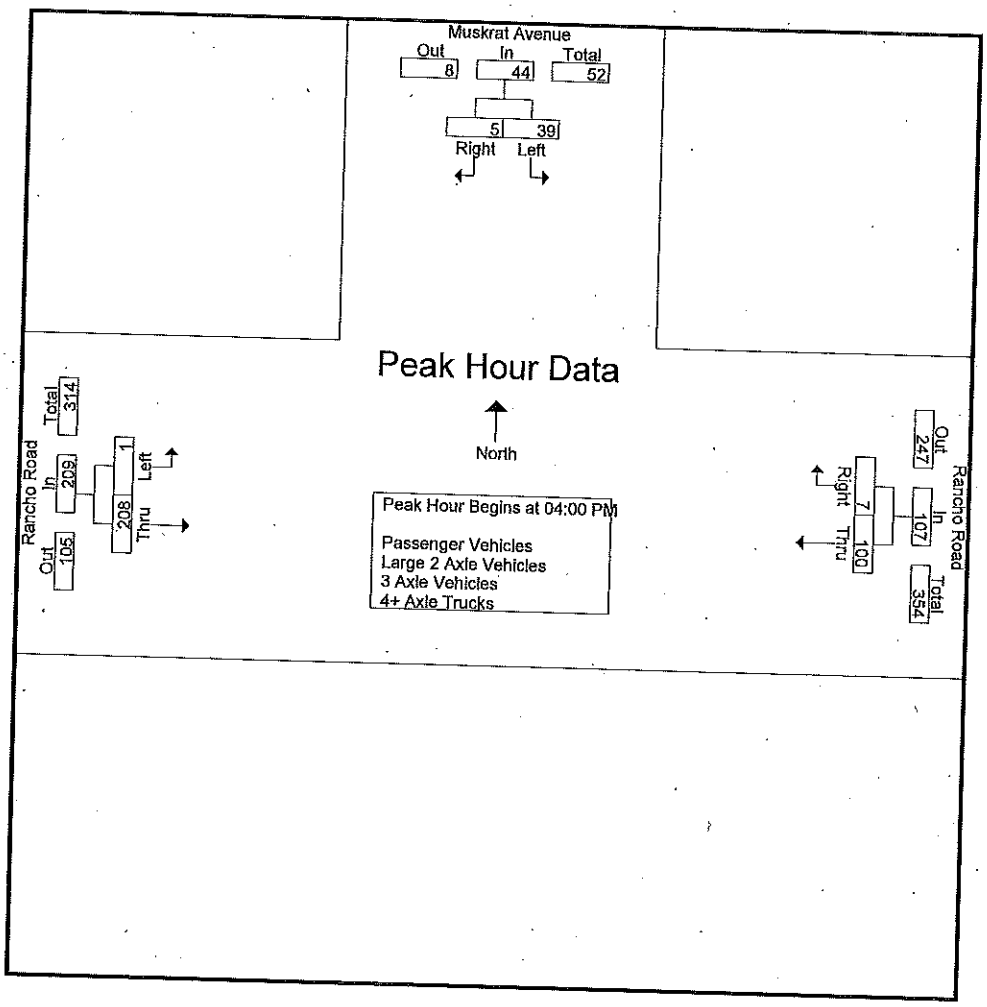

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:00 PM		
+0 mins.	10	2	12	**33**	1	**34**	**1**	**61**	**62**
+15 mins.	9	1	10	20	**3**	23	0	46	46
+30 mins.	6	1	7	23	2	25	0	44	44
+45 mins.	**18**	1	**19**	26	3	29	0	57	57
Total Volume	43	5	48	102	9	111	1	208	209
% App. Total	89.6	10.4		91.9	8.1		0.5	99.5	
PHF	.597	.625	.632	.773	.750	.816	.250	.852	.843

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	14	1	15	24	1	25	0	58	58	98
04:15 PM	8	2	10	31	1	32	0	41	41	83
04:30 PM	9	1	10	17	3	20	0	43	43	73
04:45 PM	5	1	6	19	2	21	0	52	52	79
Total	36	5	41	91	7	98	0	194	194	333
05:00 PM	18	0	18	24	2	26	0	29	29	73
05:15 PM	9	0	9	19	1	20	2	36	38	67
05:30 PM	10	1	11	7	0	7	1	37	38	56
05:45 PM	7	0	7	18	1	19	0	20	20	46
Total	44	1	45	68	4	72	3	122	125	242
Grand Total	80	6	86	159	11	170	3	316	319	575
Apprch %	93	7		93.5	6.5		0.9	99.1		
Total %	13.9	1	15	27.7	1.9	29.6	0.5	55	55.5	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**14**	1	**15**	24	1	25	0	**58**	**58**	**98**
04:15 PM	8	**2**	10	**31**	1	**32**	0	41	41	83
04:30 PM	9	1	10	17	**3**	20	0	43	43	73
04:45 PM	5	1	6	19	2	21	0	52	52	79
Total Volume	36	5	41	91	7	98	0	194	194	333
% App. Total	87.8	12.2		92.9	7.1		0	100		
PHF	.643	.625	.683	.734	.583	.766	.000	.836	.836	.849

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNPM
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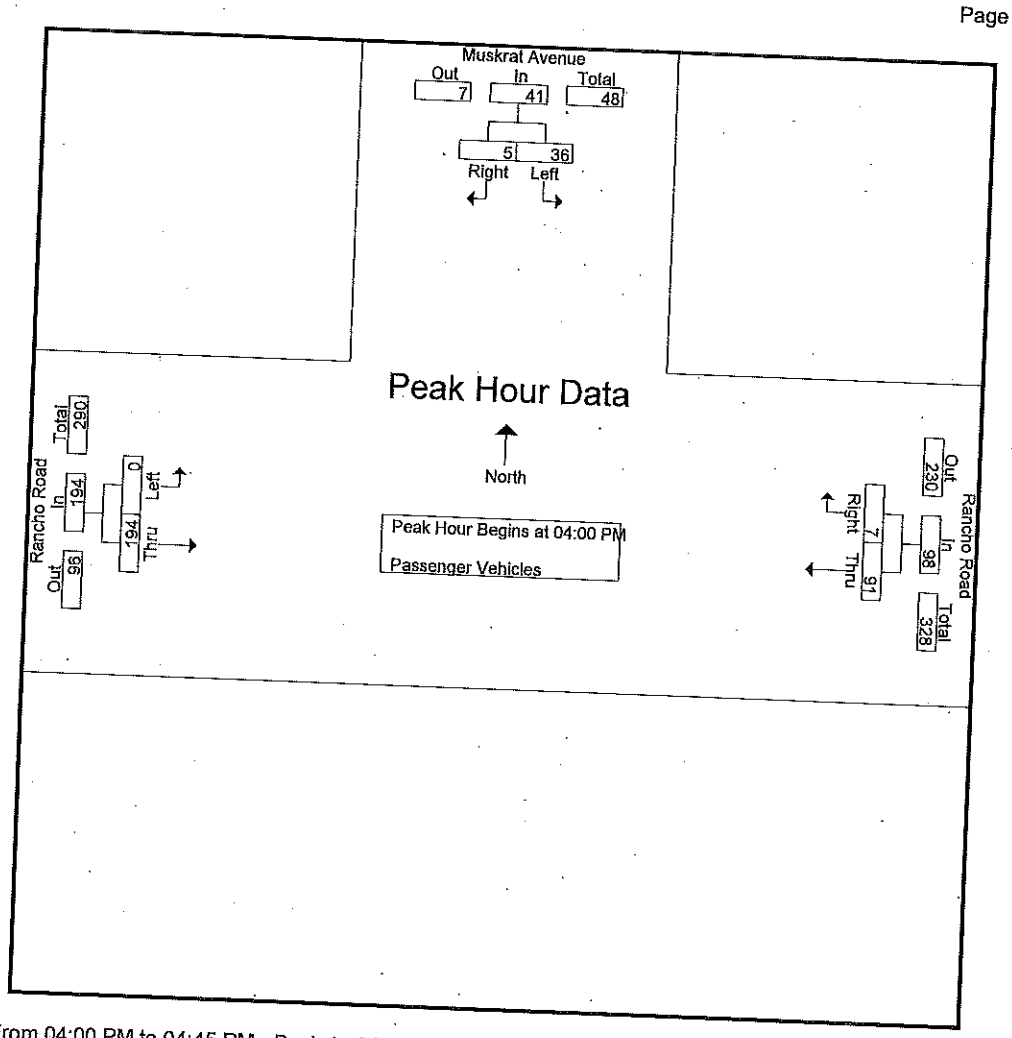

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	14	1	**15**	24	1	25	0	**58**	**58**
+15 mins.	8	**2**	10	**31**	1	**32**	0	41	41
+30 mins.	9	1	10	17	**3**	20	0	43	43
+45 mins.	5	1	6	19	2	21	0	52	52
Total Volume	36	5	41	91	7	98	0	194	194
% App. Total	87.8	12.2		92.9	7.1		0	100	
PHF	.643	.625	.683	.734	.583	.766	.000	.836	.836

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File Name : ADLMURNPM
Site Code : 05116575
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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Large 2 Axle Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	1	2	2
04:15 PM	2	0	2	0	0	0	0	1	1	3
04:30 PM	0	0	0	1	0	1	0	1	1	2
04:45 PM	0	0	0	1	0	1	0	2	2	3
Total	2	0	2	2	0	2	1	5	6	10
05:00 PM	0	1	1	1	1	2	0	0	0	3
05:15 PM	0	0	0	1	0	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	2	1	3	0	2	2	6
Grand Total	2	1	3	4	1	5	1	7	8	16
Apprch %	66.7	33.3		80	20		12.5	87.5		
Total %	12.5	6.2	18.8	25	6.2	31.2	6.2	43.8	50	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	1	1	2	2
04:15 PM	2	0	2	0	0	0	0	1	1	3
04:30 PM	0	0	0	1	0	1	0	1	1	2
04:45 PM	0	0	0	1	0	1	0	2	2	3
Total Volume	2	0	2	2	0	2	1	5	6	10
% App. Total	100	0		100	0		16.7	83.3		
PHF	.250	.000	.250	.500	.000	.500	.250	.625	.750	.833

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNPM
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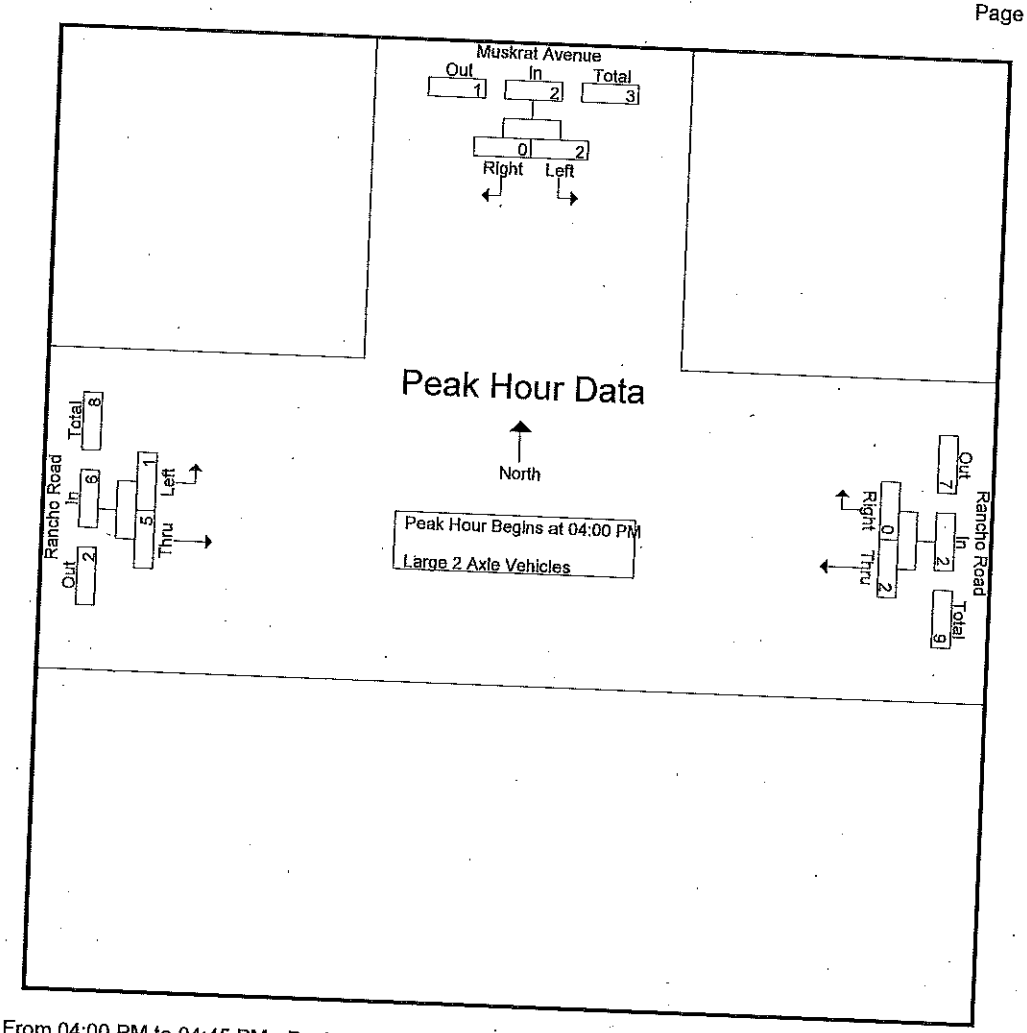

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	1	1	**2**
+15 mins.	**2**	0	**2**	0	0	0	0	1	1
+30 mins.	0	0	0	**1**	0	**1**	0	1	1
+45 mins.	0	0	0	1	0	1	0	**2**	2
Total Volume	2	0	2	2	0	2	1	5	6
% App. Total	100	0		100	0		16.7	83.3	
PHF	.250	.000	.250	.500	.000	.500	.250	.625	.750

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- 3 Axle Vehicles

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			Int. Total
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	2	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	1	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	2	2	3
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	2	0	2	0	0	0	2
Grand Total	1	0	1	2	0	2	0	2	2	5
Apprch %	100	0		100	0		0	100		
Total %	20	0	20	40	0	40	0	40	40	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			Int. Total
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	2	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	1	0	0	0	0	0	0	1
Total Volume	1	0	1	0	0	0	0	2	2	3
% App. Total	100	0		0	0		0	100		
PHF	.250	.000	.250	.000	.000	.000	.000	.250	.250	.375

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNPM
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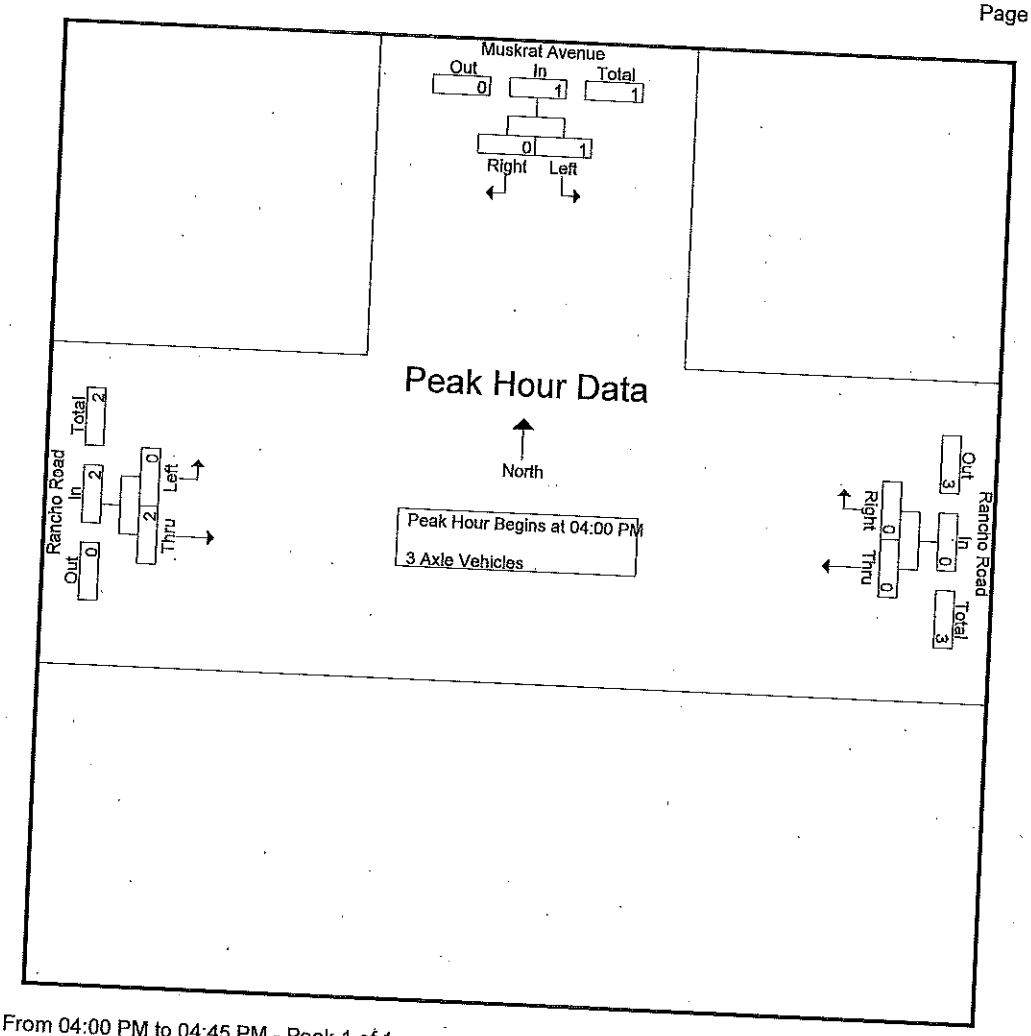

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	**2**	**2**
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	1	0	1	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	2	2
% App. Total	100	0		0	0		0	100	
PHF	.250	.000	.250	.000	.000	.000	.000	.250	.250

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- 4+ Axle Trucks

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	2	2	2
04:15 PM	0	0	0	2	0	2	0	2	2	4
04:30 PM	0	0	0	2	0	2	0	0	0	2
04:45 PM	0	0	0	3	0	3	0	3	3	6
Total	0	0	0	7	0	7	0	7	7	14
05:00 PM	0	0	0	1	0	1	0	0	0	1
05:15 PM	0	0	0	2	0	2	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	0	0	0	1	0	1	0	1	1	2
Total	0	0	0	4	0	4	0	3	3	7
Grand Total	0	0	0	11	0	11	0	10	10	21
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	52.4	0	52.4	0	47.6	47.6	

	Muskrat Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	2	2	2
04:15 PM	0	0	0	2	0	2	0	2	2	4
04:30 PM	0	0	0	2	0	2	0	0	0	2
04:45 PM	0	0	0	3	0	3	0	3	3	6
Total Volume	0	0	0	7	0	7	0	7	7	14
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.583	.000	.583	.000	.583	.583	.583

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City of Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLMURNPM
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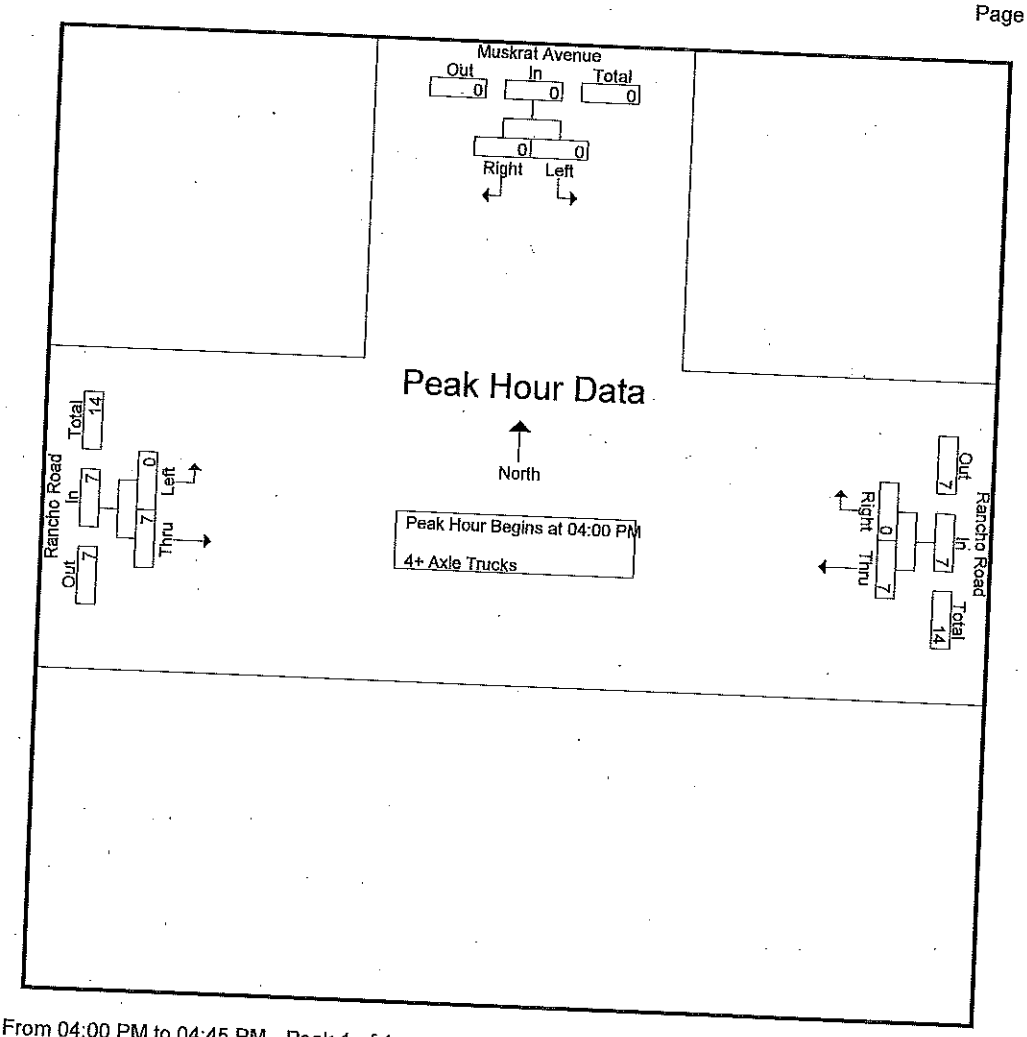

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	2	2
+15 mins.	0	0	0	2	0	2	0	2	2
+30 mins.	0	0	0	2	0	2	0	0	0
+45 mins.	0	0	0	3	0	3	0	3	3
Total Volume	0	0	0	7	0	7	0	7	7
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.583	.000	.583	.000	.583	.583

Location: Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road

Date: 10/27/2016
Day: Thursday

PEDESTRIANS

	North Leg Muskrat Avenue	East Leg Rancho Road	South Leg Muskrat Avenue	West Leg Rancho Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	1
8:15 AM	1	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	1

	North Leg Muskrat Avenue	East Leg Rancho Road	South Leg Muskrat Avenue	West Leg Rancho Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Adelanto
N/S: Muskrat Avenue
E/W: Rancho Road

Date: 10/27/2016
Day: Thursday

BICYCLES

	North Leg Muskrat Avenue	East Leg Rancho Road	South Leg Muskrat Avenue	West Leg Rancho Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Muskrat Avenue	East Leg Rancho Road	South Leg Muskrat Avenue	West Leg Rancho Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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File Name : ADLRAYUAM
Site Code : 05116575
Start Date : 10/27/2016
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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	2	2	18	2	20	0	0	0	22
07:15 AM	0	3	3	13	1	14	0	5	5	22
07:30 AM	6	0	6	10	0	10	0	1	1	17
07:45 AM	3	1	4	15	4	19	0	0	0	23
Total	9	6	15	56	7	63	0	6	6	84
08:00 AM	0	0	0	8	1	9	0	1	1	10
08:15 AM	3	0	3	7	0	7	0	1	1	11
08:30 AM	0	1	1	1	0	1	1	1	2	4
08:45 AM	0	0	0	3	2	5	0	1	1	6
Total	3	1	4	19	3	22	1	4	5	31
Grand Total	12	7	19	75	10	85	1	10	11	115
Apprch %	63.2	36.8		88.2	11.8		9.1	90.9		
Total %	10.4	6.1	16.5	65.2	8.7	73.9	0.9	8.7	9.6	
Passenger Vehicles	12	6	18	69	10	79	1	6	7	104
% Passenger Vehicles	100	85.7	94.7	92	100	92.9	100	60	63.6	90.4
Large 2 Axle Vehicles	0	0	0	3	0	3	0	1	1	4
% Large 2 Axle Vehicles	0	0	0	4	0	3.5	0	10	9.1	3.5
3 Axle Vehicles	0	1	1	2	0	2	0	0	0	3
% 3 Axle Vehicles	0	14.3	5.3	2.7	0	2.4	0	0	0	2.6
4+ Axle Trucks	0	0	0	1	0	1	0	3	3	4
% 4+ Axle Trucks	0	0	0	1.3	0	1.2	0	30	27.3	3.5

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	2	2	18	2	20	0	0	0	22
07:15 AM	0	3	3	13	1	14	0	5	5	22
07:30 AM	6	0	6	10	0	10	0	1	1	17
07:45 AM	3	1	4	15	4	19	0	0	0	23
Total Volume	9	6	15	56	7	63	0	6	6	84
% App. Total	60	40		88.9	11.1		0	100		
PHF	.375	.500	.625	.778	.438	.788	.000	.300	.300	.913

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUAM
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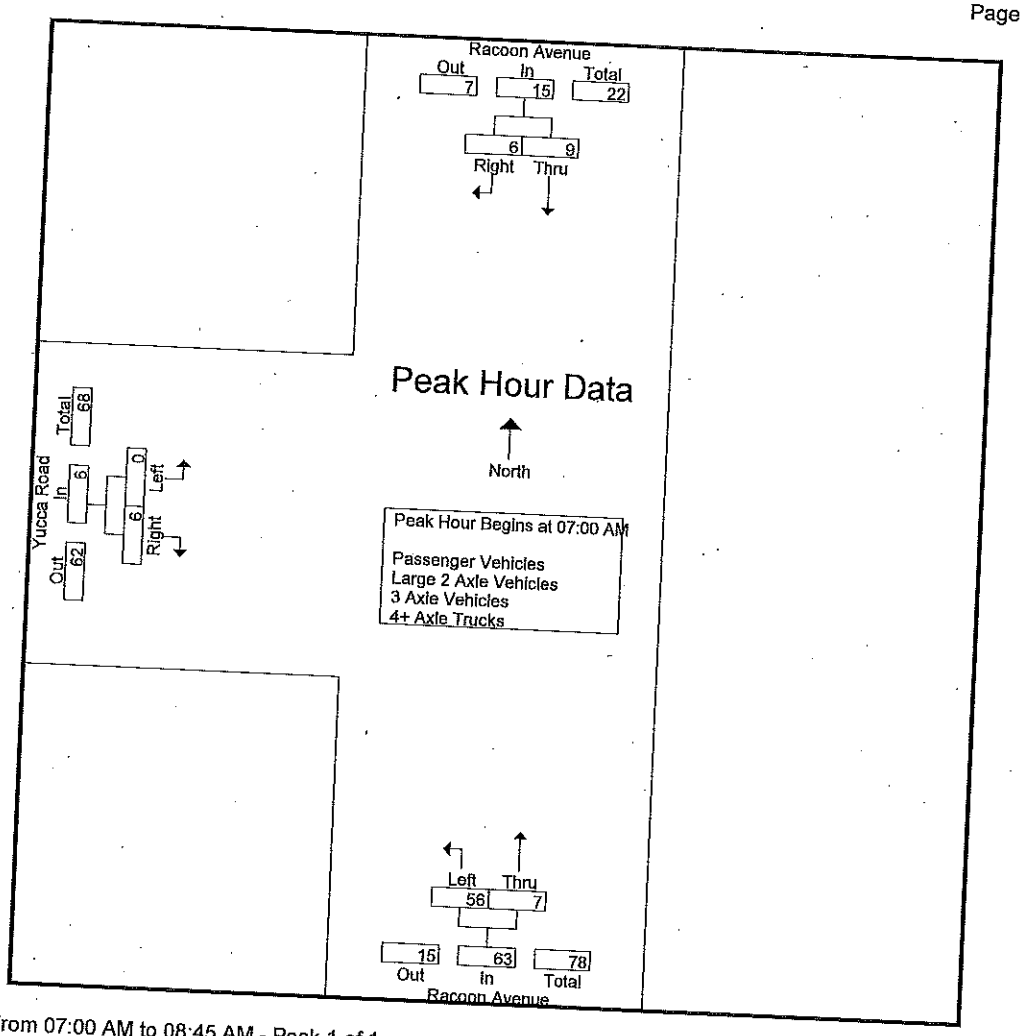

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:15 AM		
+0 mins.	0	2	2	18	2	20	0	5	5
+15 mins.	0	3	3	13	1	14	0	1	1
+30 mins.	6	0	6	10	0	10	0	0	0
+45 mins.	3	1	4	15	4	19	0	1	1
Total Volume	9	6	15	56	7	63	0	7	7
% App. Total	60	40		88.9	11.1		0	100	
PHF	.375	.500	.625	.778	.438	.788	.000	.350	.350

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	2	2	17	2	19	0	0	0	21
07:15 AM	0	2	2	11	1	12	0	5	5	19
07:30 AM	6	0	6	8	0	8	0	0	0	14
07:45 AM	3	1	4	14	4	18	0	0	0	22
Total	9	5	14	50	7	57	0	5	5	76
08:00 AM	0	0	0	8	1	9	0	0	0	9
08:15 AM	3	0	3	7	0	7	0	0	0	10
08:30 AM	0	1	1	1	0	1	1	1	2	4
08:45 AM	0	0	0	3	2	5	0	0	0	5
Total	3	1	4	19	3	22	1	1	2	28
Grand Total	12	6	18	69	10	79	1	6	7	104
Apprch %	66.7	33.3		87.3	12.7		14.3	85.7		
Total %	11.5	5.8	17.3	66.3	9.6	76	1	5.8	6.7	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	**2**	2	**17**	2	**19**	0	0	0	21
07:15 AM	0	2	2	11	1	12	0	**5**	**5**	19
07:30 AM	**6**	0	**6**	8	0	8	0	0	0	14
07:45 AM	3	1	4	14	**4**	18	0	0	0	**22**
Total Volume	9	5	14	50	7	57	0	5	5	76
% App. Total	64.3	35.7		87.7	12.3		0	100		
PHF	.375	.625	.583	.735	.438	.750	.000	.250	.250	.864

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUAM
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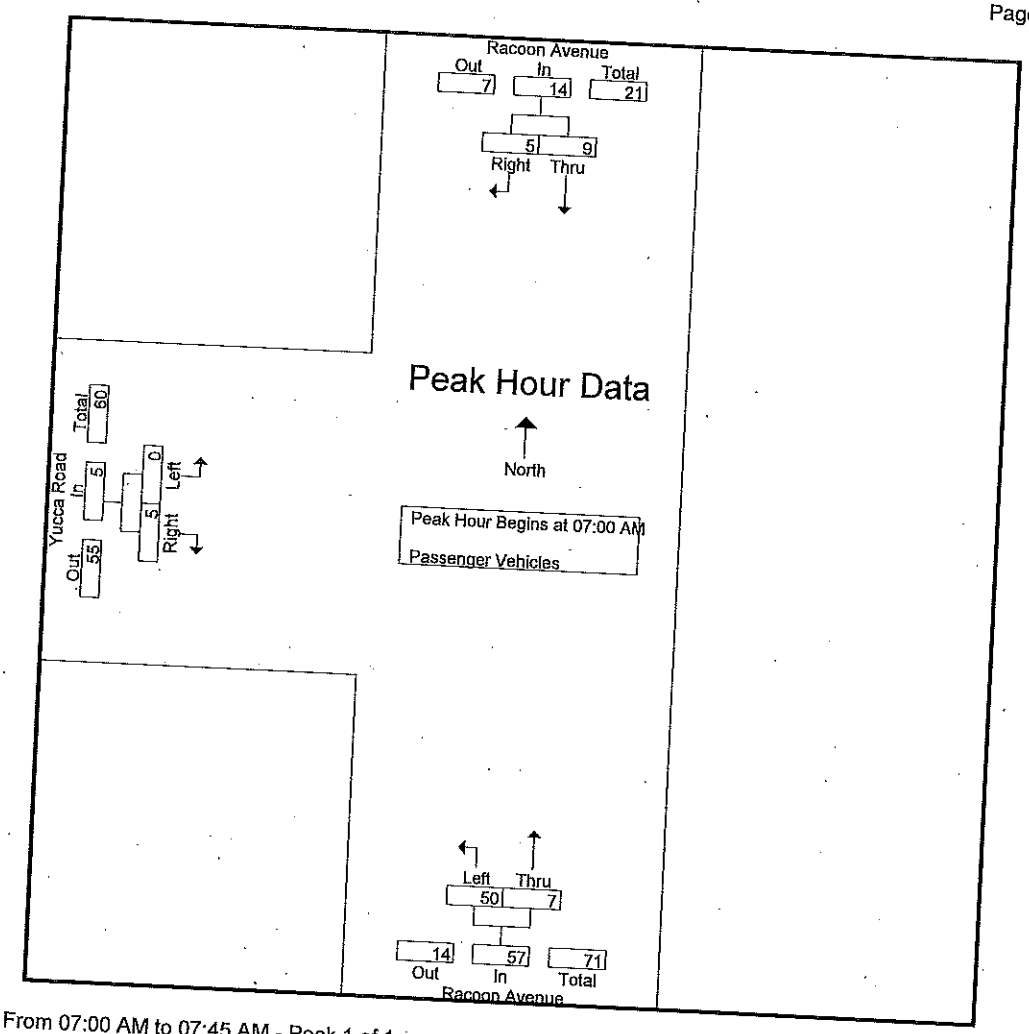

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	**2**	2	**17**	2	**19**	0	0	0
+15 mins.	0	2	2	11	1	12	0	**5**	**5**
+30 mins.	**6**	0	**6**	8	0	8	0	0	0
+45 mins.	3	1	4	14	**4**	18	0	0	0
Total Volume	9	5	14	50	7	57	0	5	5
% App. Total	64.3	35.7		87.7	12.3		0	100	
PHF	.375	.625	.583	.735	.438	.750	.000	.250	.250

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Large 2 Axle Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	3	0	3	0	1	1	4
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	3	0	3	0	1	1	4
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	75	0	75	0	25	25	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	1	1	2
07:45 AM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	3	0	3	0	1	1	4
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.750	.000	.750	.000	.250	.250	.500

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City of Adelanto
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File Name : ADLRAYUAM
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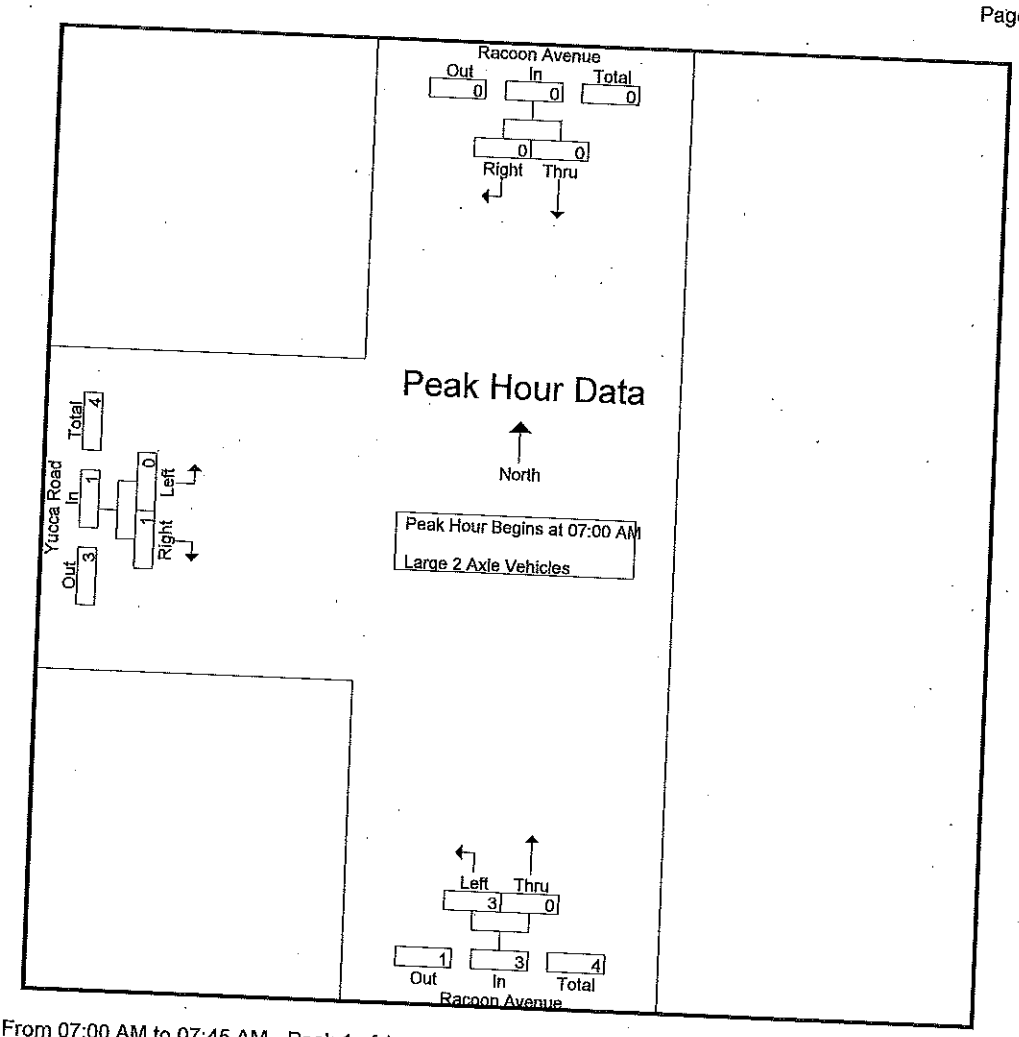

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	1	0	1	0	0	0
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	0	0	0	1	0	1	0	0	0
Total Volume	0	0	0	3	0	3	0	1	1
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.750	.000	.750	.000	.250	.250

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- 3 Axle Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	1	0	1	0	0	0	1
07:15 AM	0	1	1	1	0	1	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	2	0	2	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	1	2	0	2	0	0	0	3
Apprch %	0	100		100	0		0	0		
Total %	0	33.3	33.3	66.7	0	66.7	0	0	0	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	1	0	1	0	0	0	1
07:15 AM	0	1	1	1	0	1	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	2	0	0	0	3
% App. Total	0	100		100	0		0	0		
PHF	.000	.250	.250	.500	.000	.500	.000	.000	.000	.375

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City of Adelanto
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Weather: Clear

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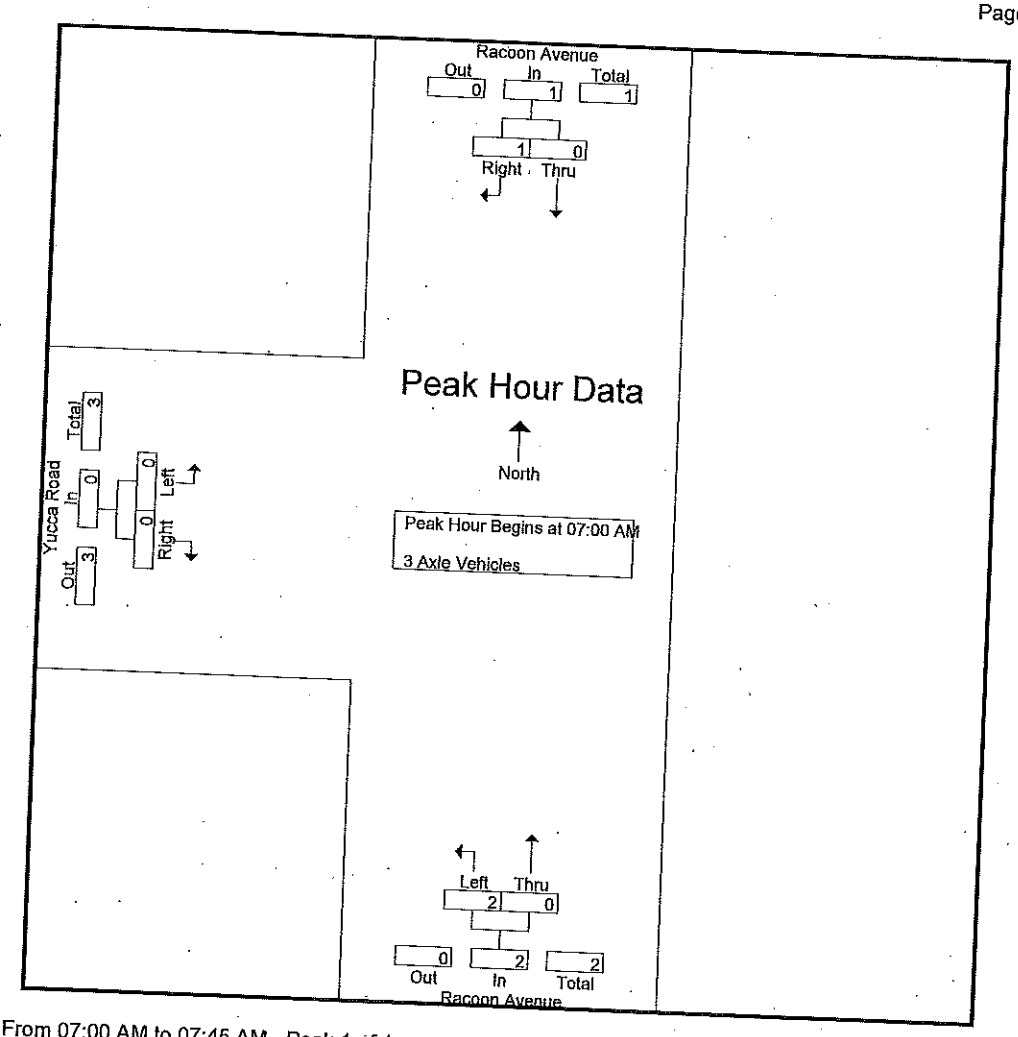

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	1	0	1	0	0	0
+15 mins.	0	1	1	1	0	1	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	2	0	2	0	0	0
% App. Total	0	100		100	0		0	0	
PHF	.000	.250	.250	.500	.000	.500	.000	.000	.000

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- 4+ Axle Trucks

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	1	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	1	1	1
08:15 AM	0	0	0	0	0	0	0	1	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	3	3	3
Grand Total	0	0	0	1	0	1	0	3	3	4
Apprch %	0	0		100	0		0	100		
Total %	0	0	0	25	0	25	0	75	75	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	0	0	1
% App. Total	0	0		100	0		0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000	.250

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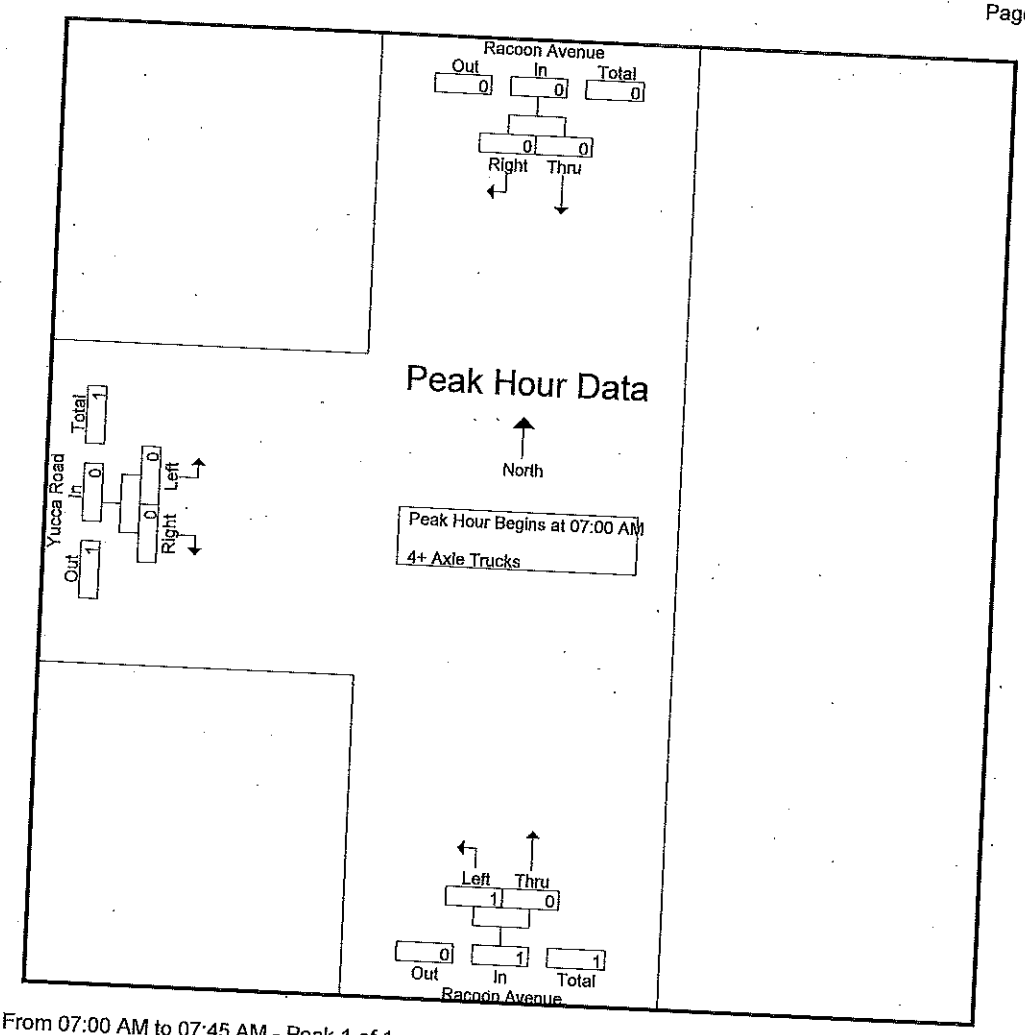

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	1	0	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	0	0
% App. Total	0	0		100	0		0	0	
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	1	4	5	0	10	10	15
04:15 PM	2	0	2	0	2	2	2	11	13	17
04:30 PM	0	0	0	1	3	4	0	14	14	18
04:45 PM	0	1	1	2	0	2	2	7	9	12
Total	2	1	3	4	9	13	4	42	46	62
05:00 PM	2	0	2	1	2	3	1	11	12	17
05:15 PM	1	0	1	1	0	1	4	6	10	12
05:30 PM	0	0	0	2	1	3	1	6	7	10
05:45 PM	1	0	1	0	1	1	2	2	4	6
Total	4	0	4	4	4	8	8	25	33	45
Grand Total	6	1	7	8	13	21	12	67	79	107
Apprch %	85.7	14.3		38.1	61.9		15.2	84.8		
Total %	5.6	0.9	6.5	7.5	12.1	19.6	11.2	62.6	73.8	
Passenger Vehicles	5	1	6	7	13	20	12	64	76	102
% Passenger Vehicles	83.3	100	85.7	87.5	100	95.2	100	95.5	96.2	95.3
Large 2 Axle Vehicles	1	0	1	1	0	1	0	1	1	3
% Large 2 Axle Vehicles	16.7	0	14.3	12.5	0	4.8	0	1.5	1.3	2.8
3 Axle Vehicles	0	0	0	0	0	0	0	1	1	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	1.5	1.3	0.9
4+ Axle Trucks	0	0	0	0	0	0	0	1	1	1
% 4+ Axle Trucks	0	0		0	0		0	1.5	1.3	0.9

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	2	0	2	0	2	2	2	11	13	17
04:30 PM	0	0	0	1	3	4	0	14	14	18
04:45 PM	0	1	1	2	0	2	2	7	9	12
05:00 PM	2	0	2	1	2	3	1	11	12	17
Total Volume	4	1	5	4	7	11	5	43	48	64
% App. Total	80	20		36.4	63.6		10.4	89.6		
PHF	.500	.250	.625	.500	.583	.688	.625	.768	.857	.889

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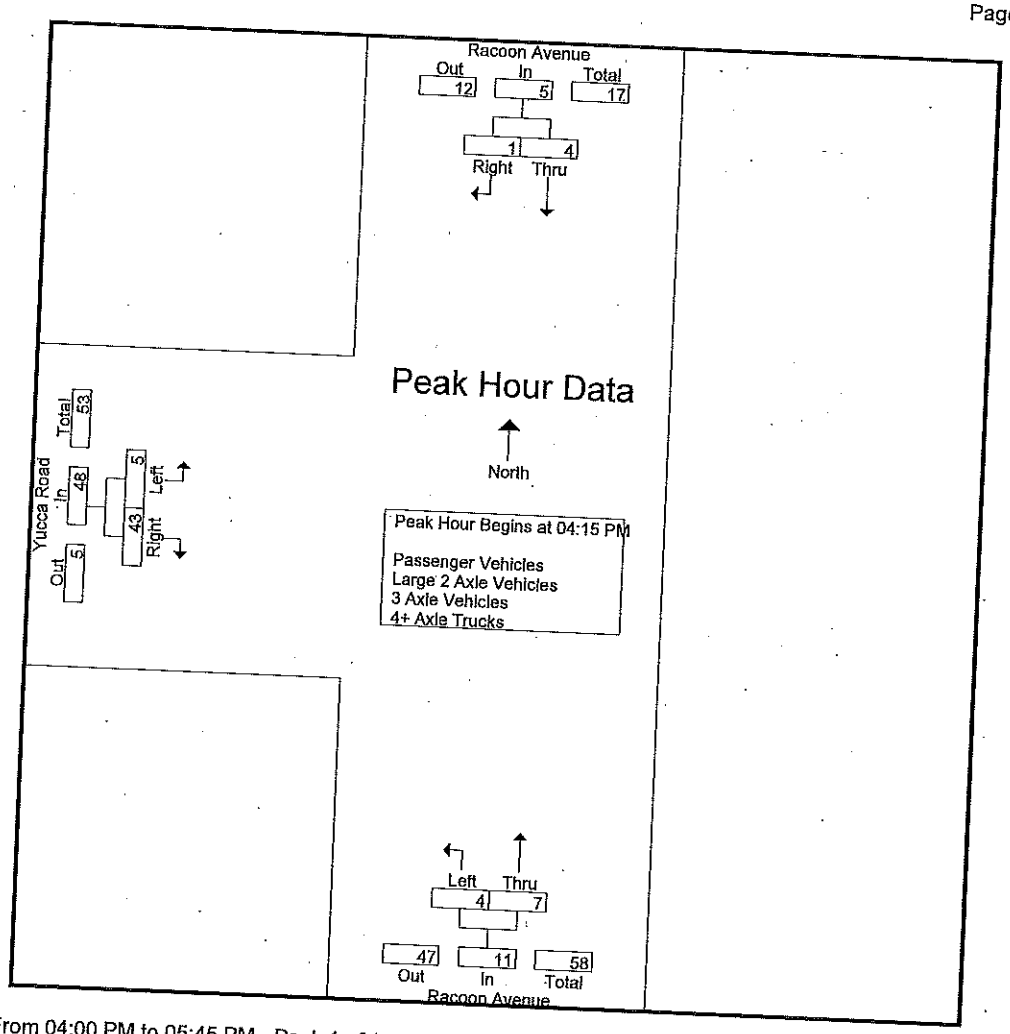

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			04:15 PM		
+0 mins.	**2**	0	**2**	1	**4**	**5**	**2**	11	13
+15 mins.	0	0	0	0	2	2	0	**14**	**14**
+30 mins.	0	**1**	1	1	3	4	2	7	9
+45 mins.	2	0	2	**2**	0	2	1	11	12
Total Volume	4	1	5	4	9	13	5	43	48
% App. Total	80	20		30.8	69.2		10.4	89.6	
PHF	.500	.250	.625	.500	.563	.650	.625	.768	.857

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	1	4	5	0	8	8	13
04:15 PM	2	0	2	0	2	2	2	11	13	17
04:30 PM	0	0	0	1	3	4	0	14	14	18
04:45 PM	0	1	1	1	0	1	2	6	8	10
Total	2	1	3	3	9	12	4	39	43	58
05:00 PM	2	0	2	1	2	3	1	11	12	17
05:15 PM	1	0	1	1	0	1	4	6	10	12
05:30 PM	0	0	0	2	1	3	1	6	7	10
05:45 PM	0	0	0	0	1	1	2	2	4	5
Total	3	0	3	4	4	8	8	25	33	44
Grand Total	5	1	6	7	13	20	12	64	76	102
Apprch %	83.3	16.7		35	65		15.8	84.2		
Total %	4.9	1	5.9	6.9	12.7	19.6	11.8	62.7	74.5	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	**2**	0	**2**	0	2	2	**2**	11	13	17
04:30 PM	0	0	0	**1**	**3**	**4**	0	**14**	**14**	**18**
04:45 PM	0	**1**	**1**	1	0	1	2	6	8	10
05:00 PM	2	0	2	1	2	3	1	11	12	17
Total Volume	4	1	5	3	7	10	5	42	47	62
% App. Total	.80	.20		30	70		10.6	89.4		
PHF	.500	.250	.625	.750	.583	.625	.625	.750	.839	.861

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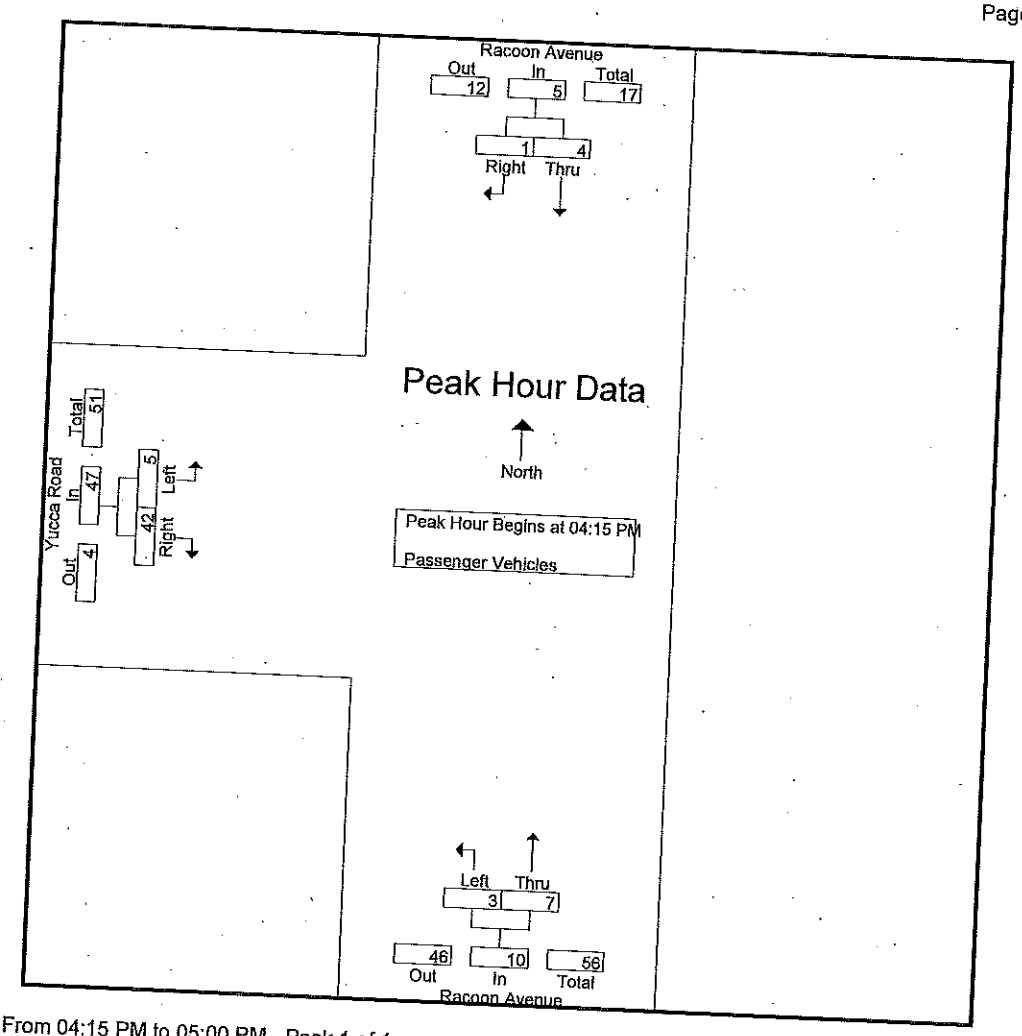

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	**2**	0	**2**	0	2	2	**2**	11	13
+15 mins.	0	0	0	**1**	**3**	**4**	0	**14**	**14**
+30 mins.	0	**1**	**1**	1	0	1	2	6	8
+45 mins.	2	0	2	1	2	3	1	11	12
Total Volume	4	1	5	3	7	10	5	42	47
% App. Total	80	20		30	70		10.6	89.4	
PHF	.500	.250	.625	.750	.583	.625	.625	.750	.839

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- Large 2 Axle Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	1	0	1	0	1	1	2
Total	0	0	0	1	0	1	0	1	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	1	0	1	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	0	0	1
Grand Total	1	0	1	1	0	1	0	1	1	3
Apprch %	100	0		100	0		0	100		
Total %	33.3	0	33.3	33.3	0	33.3	0	33.3	33.3	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	1	0	1	0	1	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	1	1	2
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250	.250

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUPM
Site Code : 05116575
Start Date : 10/27/2016
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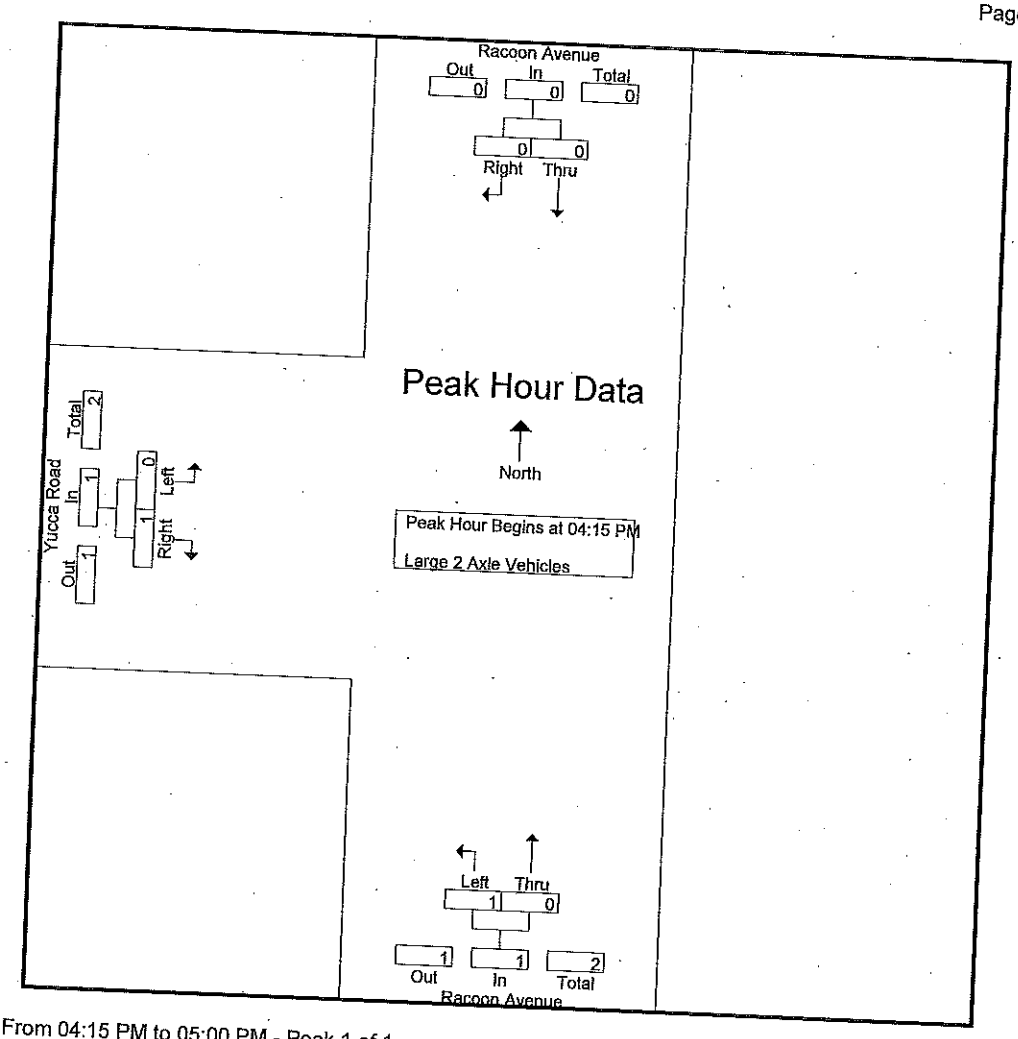

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	1	1
% App. Total	0	0		100	0		0	100	
PHF	.000	.000	.000	.250	.000	.250	.000	.250	.250

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File Name : ADLRAYUPM
Site Code : 05116575
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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- 3 Axle Vehicles

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	1	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	1	1	1
Apprch %	0	0		0	0		0	100		
Total %	0	0	0	0	0	0	0	100	100	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUPM
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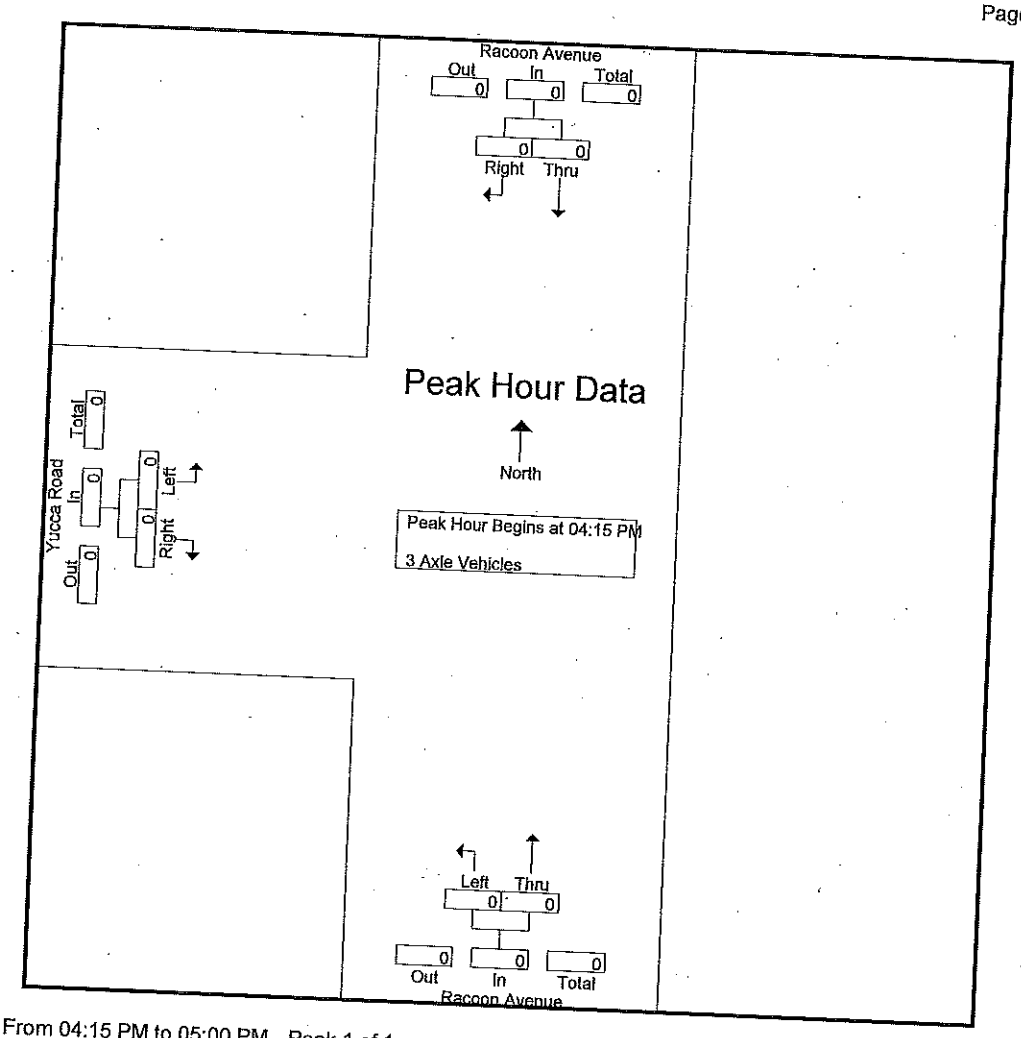

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : ADLRAYUPM
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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

Groups Printed- 4+ Axle Trucks

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	1	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	1	1	1
Apprch %	0	0		0	0		0	100		
Total %	0	0	0	0	0	0	0	100	100	

	Racoon Avenue Southbound			Racoon Avenue Northbound			Yucca Road Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Adelanto
N/S: Racoon Avenue
E/W: Yucca Road
Weather: Clear

File Name : ADLRAYUPM
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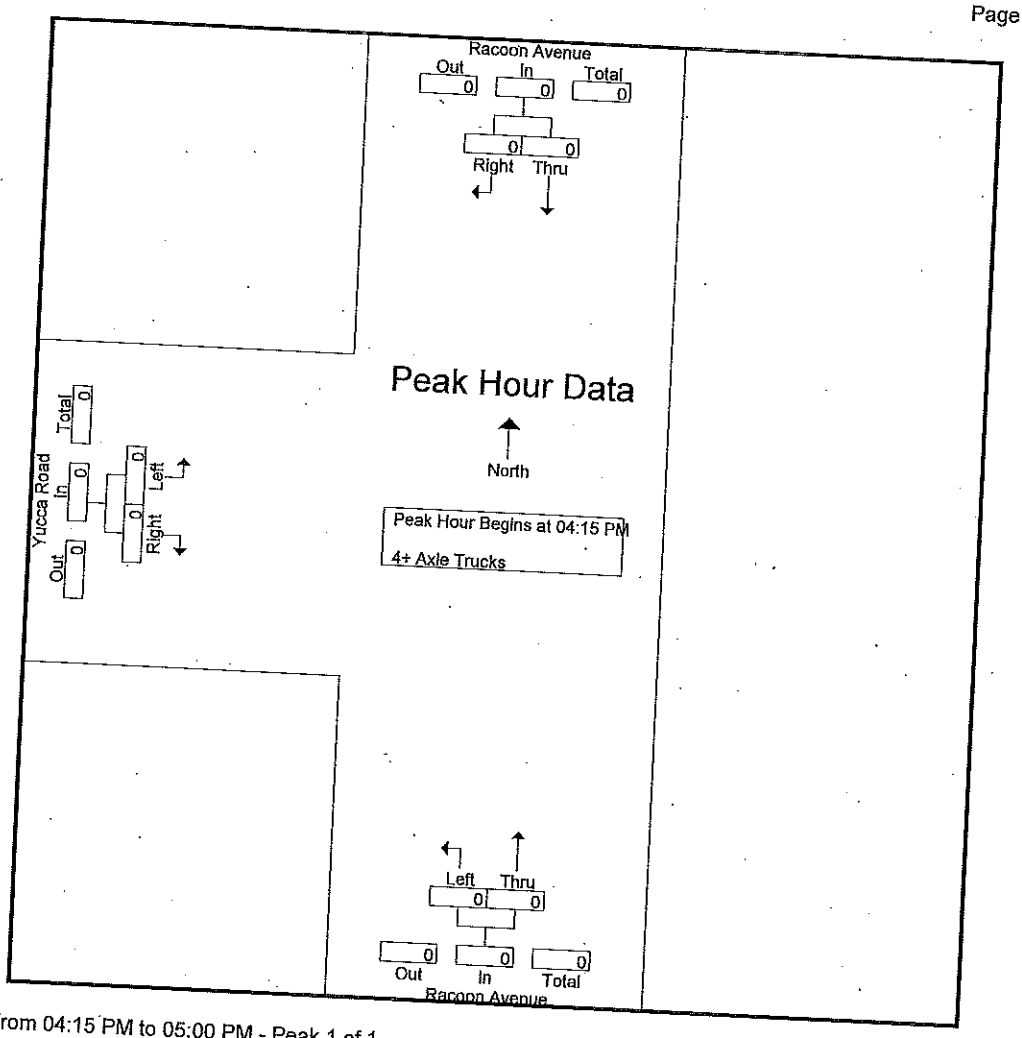

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Adelanto
N/S: Raccoon Avenue
E/W: Yucca Avenue

Date: 10/27/2016
Day: Thursday

PEDESTRIANS

	North Leg Raccoon Avenue	East Leg Yucca Avenue	South Leg Raccoon Avenue	West Leg Yucca Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Raccoon Avenue	East Leg Yucca Avenue	South Leg Raccoon Avenue	West Leg Yucca Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Adelanto
N/S: Raccoon Avenue
E/W: Yucca Avenue

Date: 10/27/2016
Day: Thursday

BICYCLES

	North Leg Raccoon Avenue	East Leg Yucca Avenue	South Leg Raccoon Avenue	West Leg Yucca Avenue	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Raccoon Avenue	East Leg Yucca Avenue	South Leg Raccoon Avenue	West Leg Yucca Avenue	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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File Name : ADLRARNAM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 1

City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			Int. Total
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	4	0	4	74	26	100	0	34	34	138
07:15 AM	6	0	6	31	15	46	0	18	18	70
07:30 AM	6	0	6	27	13	40	0	21	21	67
07:45 AM	4	0	4	43	19	62	0	22	22	88
Total	20	0	20	175	73	248	0	95	95	363
08:00 AM	5	1	6	33	9	42	0	34	34	82
08:15 AM	5	2	7	30	8	38	0	32	32	77
08:30 AM	4	0	4	25	7	32	0	32	32	68
08:45 AM	3	1	4	27	7	34	1	18	19	57
Total	17	4	21	115	31	146	1	116	117	284
Grand Total	37	4	41	290	104	394	1	211	212	647
Apprch %	90.2	9.8		73.6	26.4		0.5	99.5		
Total %	5.7	0.6	6.3	44.8	16.1	60.9	0.2	32.6	32.8	
Passenger Vehicles	27	3	30	268	101	369	1	168	169	568
% Passenger Vehicles	73	75	73.2	92.4	97.1	93.7	100	79.6	79.7	87.8
Large 2 Axle Vehicles	6	1	7	9	0	9	0	22	22	38
% Large 2 Axle Vehicles	16.2	25	17.1	3.1	0	2.3	0	10.4	10.4	5.9
3 Axle Vehicles	0	0	0	2	2	4	0	3	3	7
% 3 Axle Vehicles	0	0	0	0.7	1.9	1	0	1.4	1.4	1.1
4+ Axle Trucks	4	0	4	11	1	12	0	18	18	34
% 4+ Axle Trucks	10.8	0	9.8	3.8	1	3	0	8.5	8.5	5.3

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:00 AM

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			Int. Total
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	4	0	4	74	26	100	0	34	34	138
07:15 AM	6	0	6	31	15	46	0	18	18	70
07:30 AM	6	0	6	27	13	40	0	21	21	67
07:45 AM	4	0	4	43	19	62	0	22	22	88
Total Volume	20	0	20	175	73	248	0	95	95	363
% App. Total	100	0		70.6	29.4		0	100		
PHF	.833	.000	.833	.591	.702	.620	.000	.699	.699	.658

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNAM
Site Code : 05116575
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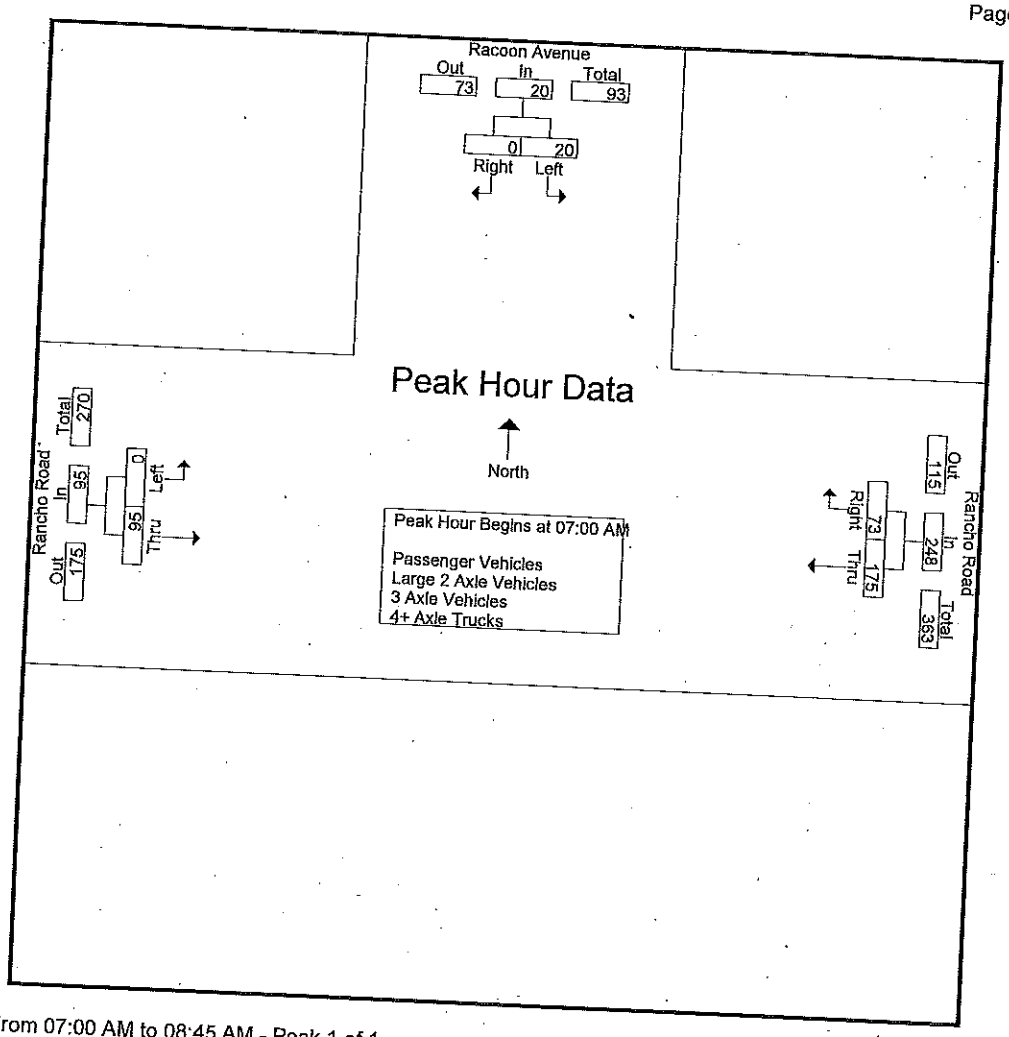

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM			07:00 AM			07:45 AM		
+0 mins.	**6**	0	6	**74**	**26**	**100**	0	22	22
+15 mins.	4	0	4	31	15	46	0	**34**	**34**
+30 mins.	5	1	6	27	13	40	0	32	32
+45 mins.	5	**2**	**7**	43	19	62	0	32	32
Total Volume	20	3	23	175	73	248	0	120	120
% App. Total	87	13		70.6	29.4		0	100	
PHF	.833	.375	.821	.591	.702	.620	.000	.882	.882

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File Name : ADLRARNAM
Site Code : 05116575
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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	3	0	3	72	25	97	0	28	28	128
07:15 AM	4	0	4	27	14	41	0	16	16	61
07:30 AM	5	0	5	25	12	37	0	20	20	62
07:45 AM	3	0	3	40	19	59	0	17	17	79
Total	15	0	15	164	70	234	0	81	81	330
08:00 AM	3	0	3	30	9	39	0	28	28	70
08:15 AM	3	2	5	28	8	36	0	21	21	62
08:30 AM	4	0	4	21	7	28	0	26	26	58
08:45 AM	2	1	3	25	7	32	1	12	13	48
Total	12	3	15	104	31	135	1	87	88	238
Grand Total	27	3	30	268	101	369	1	168	169	568
Apprch %	90	10		72.6	27.4		0.6	99.4		
Total %	4.8	0.5	5.3	47.2	17.8	65	0.2	29.6	29.8	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	3	0	3	**72**	**25**	**97**	0	**28**	**28**	**128**
07:15 AM	4	0	4	27	14	41	0	16	16	61
07:30 AM	**5**	0	**5**	25	12	37	0	20	20	62
07:45 AM	3	0	3	40	19	59	0	17	17	79
Total Volume	15	0	15	164	70	234	0	81	81	330
% App. Total	100	0		70.1	29.9		0	100		
PHF	.750	.000	.750	.569	.700	.603	.000	.723	.723	.645

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

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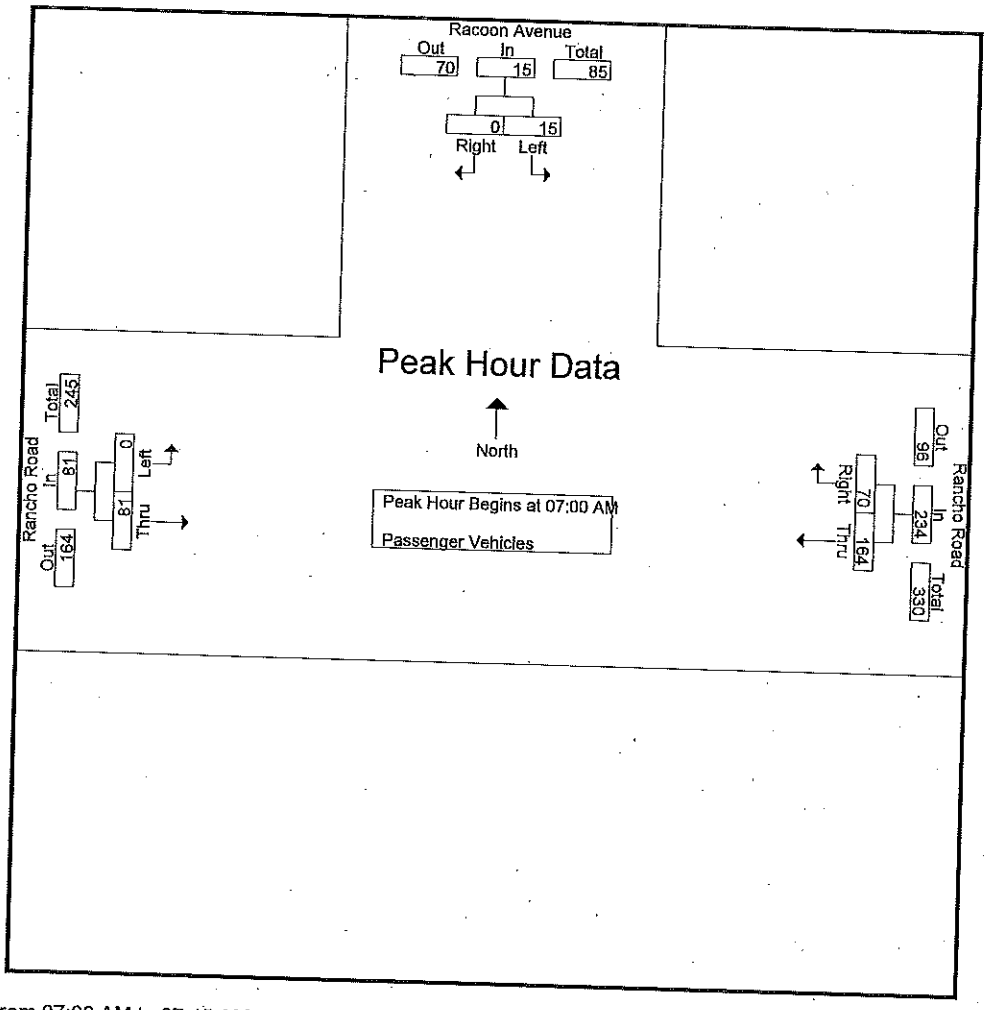

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	3	0	3	**72**	**25**	**97**	0	**28**	**28**
+15 mins.	4	0	4	27	14	41	0	16	16
+30 mins.	**5**	0	**5**	25	12	37	0	20	20
+45 mins.	3	0	3	40	19	59	0	17	17
Total Volume	15	0	15	164	70	234	0	81	81
% App. Total	100	0		70.1	29.9		0	100	
PHF	.750	.000	.750	.569	.700	.603	.000	.723	.723

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File Name : ADLRARNAM
Site Code : 05116575
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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Large 2 Axle Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	1	0	1	0	0	0	0	3	3	4
07:15 AM	2	0	2	1	0	1	0	2	2	5
07:30 AM	1	0	1	1	0	1	0	1	1	3
07:45 AM	1	0	1	3	0	3	0	3	3	7
Total	5	0	5	5	0	5	0	9	9	19
08:00 AM	1	1	2	1	0	1	0	2	2	5
08:15 AM	0	0	0	2	0	2	0	7	7	9
08:30 AM	0	0	0	1	0	1	0	2	2	3
08:45 AM	0	0	0	0	0	0	0	2	2	2
Total	1	1	2	4	0	4	0	13	13	19
Grand Total	6	1	7	9	0	9	0	22	22	38
Apprch %	85.7	14.3		100	0		0	100		
Total %	15.8	2.6	18.4	23.7	0	23.7	0	57.9	57.9	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	0	1	0	0	0	0	3	3	4
07:15 AM	2	0	2	1	0	1	0	2	2	5
07:30 AM	1	0	1	1	0	1	0	1	1	3
07:45 AM	1	0	1	3	0	3	0	3	3	7
Total Volume	5	0	5	5	0	5	0	9	9	19
% App. Total	100	0		100	0		0	100		
PHF	.625	.000	.625	.417	.000	.417	.000	.750	.750	.679

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City of Adelanto
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File Name : ADLRARNAM
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Start Date : 10/27/2016
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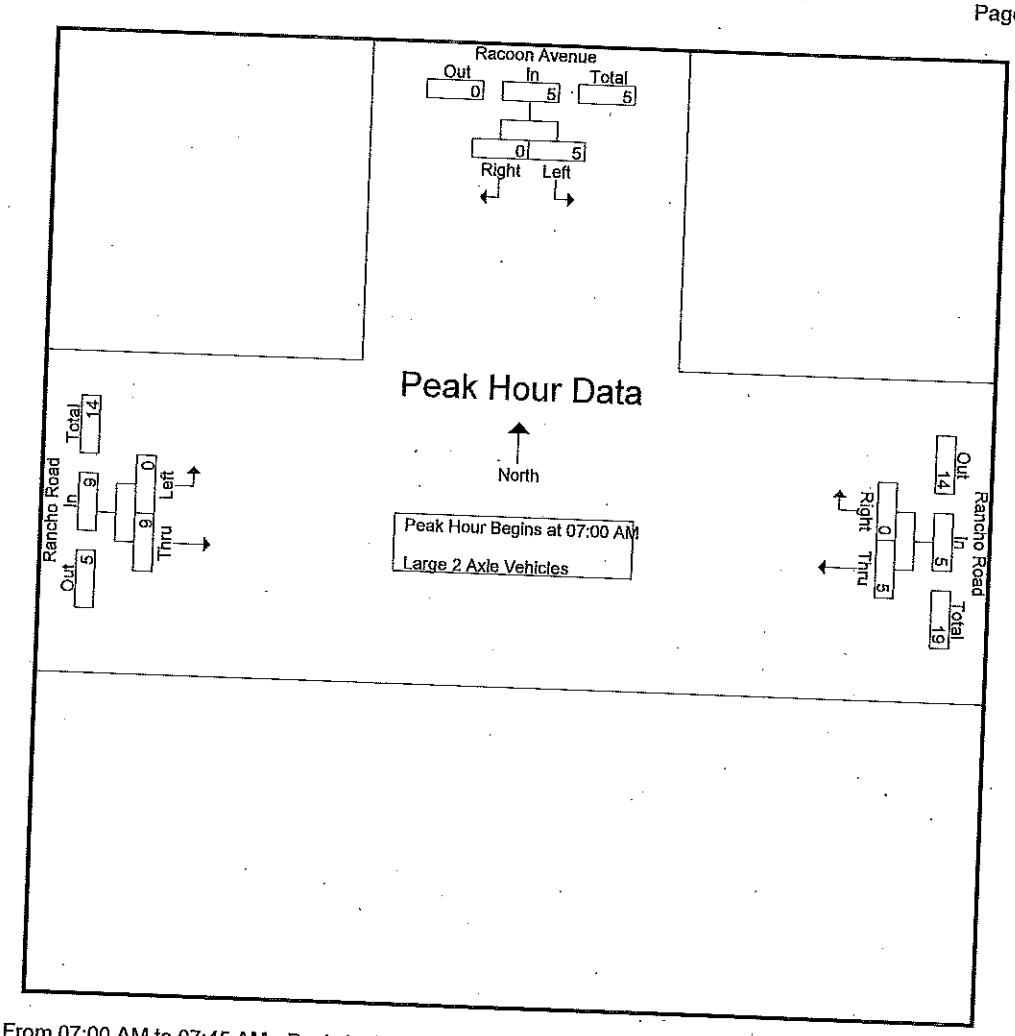

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	1	0	1	0	0	0	0	3	3
+15 mins.	2	0	2	1	0	1	0	2	2
+30 mins.	1	0	1	1	0	1	0	1	1
+45 mins.	1	0	1	3	0	3	0	3	3
Total Volume	5	0	5	5	0	5	0	9	9
% App. Total	100	0		100	0		0	100	
PHF	.625	.000	.625	.417	.000	.417	.000	.750	.750

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File Name : ADLRARNAM
Site Code : 05116575
Start Date : 10/27/2016
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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- 3 Axle Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	0	1	1	0	1	1	2
07:15 AM	0	0	0	0	1	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	1	2	3	0	2	2	5
08:00 AM	0	0	0	0	0	0	0	1	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	1	0	1	0	1	1	2
Total	0	0	0	1	0	1	0	1	1	2
Grand Total	0	0	0	2	2	4	0	3	3	7
Apprch %	0	0		50	50		0	100		
Total %	0	0	0	28.6	28.6	57.1	0	42.9	42.9	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	1	1	0	1	1	2
07:15 AM	0	0	0	0	1	1	0	0	0	1
07:30 AM	0	0	0	1	0	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	1	2	3	0	2	2	5
% App. Total	0	0		33.3	66.7		0	100		
PHF	.000	.000	.000	.250	.500	.750	.000	.500	.500	.625

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNAM
Site Code : 05116575
Start Date : 10/27/2016
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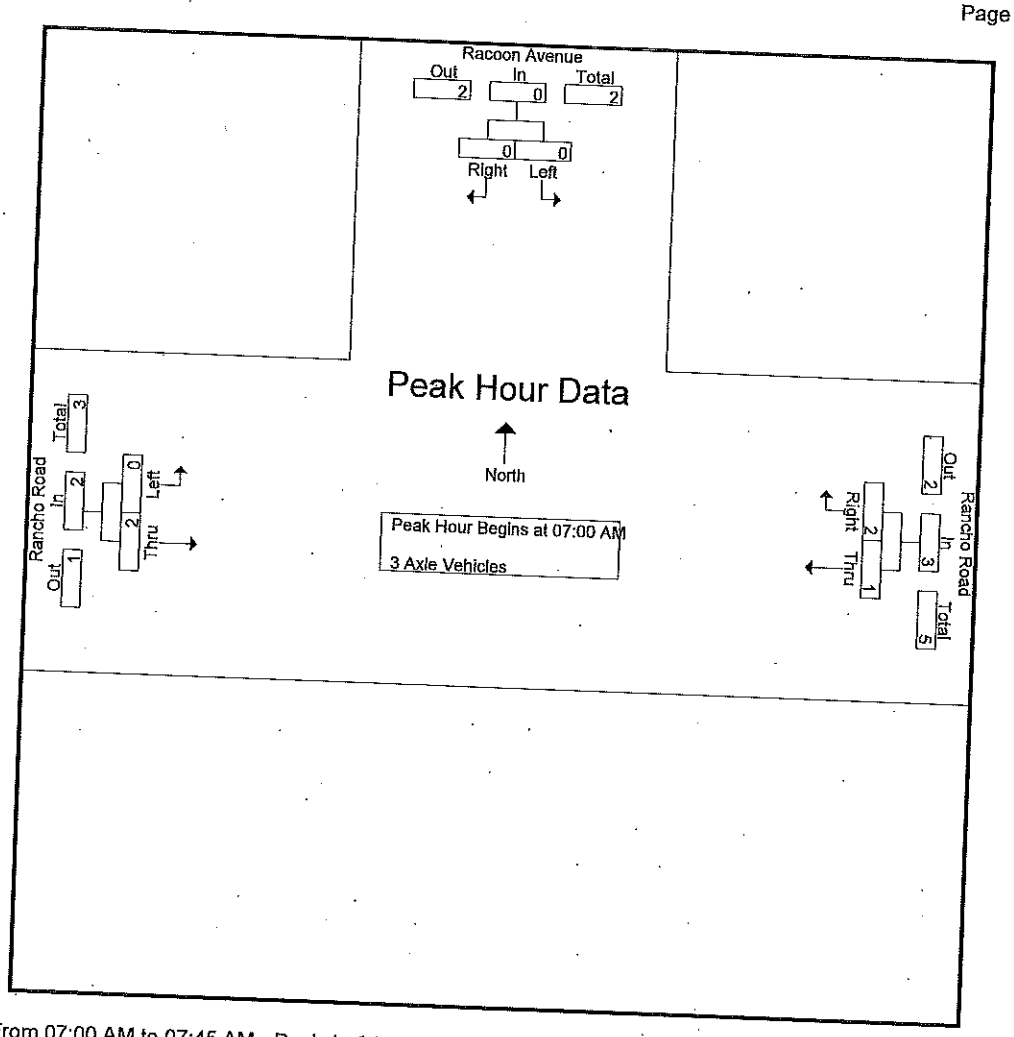

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	1	1	0	1	1
+15 mins.	0	0	0	0	1	1	0	0	0
+30 mins.	0	0	0	1	0	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	1	2	3	0	2	2
% App. Total	0	0		33.3	66.7		0	100	
PHF	.000	.000	.000	.250	.500	.750	.000	.500	.500

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File Name : ADLRARNAM
Site Code : 05116575
Start Date : 10/27/2016
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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- 4+ Axle Trucks

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	2	0	2	0	2	2	4
07:15 AM	0	0	0	3	0	3	0	0	0	3
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	5	1	6	0	3	3	9
08:00 AM	1	0	1	2	0	2	0	3	3	6
08:15 AM	2	0	2	0	0	0	0	4	4	6
08:30 AM	0	0	0	3	0	3	0	4	4	7
08:45 AM	1	0	1	1	0	1	0	4	4	6
Total	4	0	4	6	0	6	0	15	15	25
Grand Total	4	0	4	11	1	12	0	18	18	34
Apprch %	100	0		91.7	8.3		0	100		
Total %	11.8	0	11.8	32.4	2.9	35.3	0	52.9	52.9	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	2	0	2	0	2	2	4
07:15 AM	0	0	0	3	0	3	0	0	0	3
07:30 AM	0	0	0	0	1	1	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	5	1	6	0	3	3	9
% App. Total	0	0		83.3	16.7		0	100		
PHF	.000	.000	.000	.417	.250	.500	.000	.375	.375	.563

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNAM
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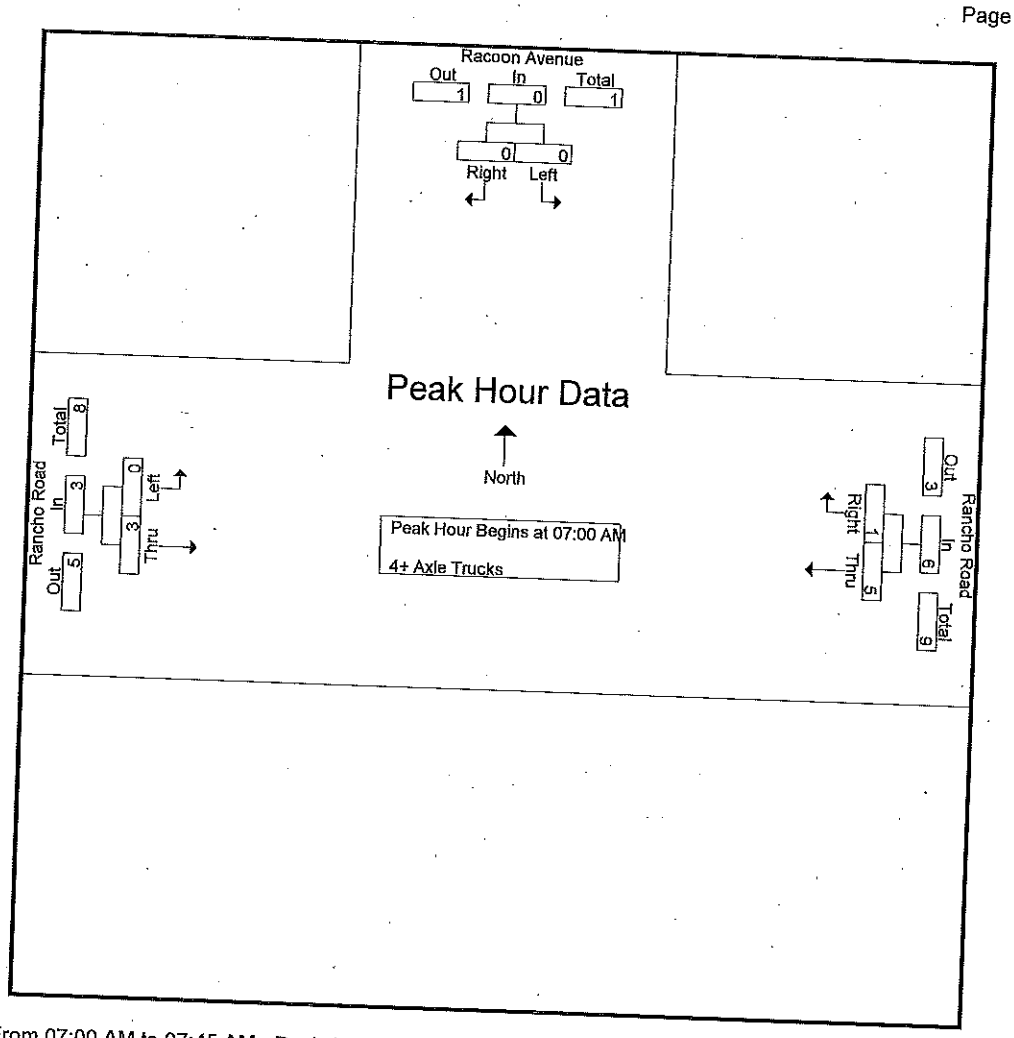

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	2	0	2	0	2	2
+15 mins.	0	0	0	3	0	3	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	5	1	6	0	3	3
% App. Total	0	0		83.3	16.7		0	100	
PHF	.000	.000	.000	.417	.250	.500	.000	.375	.375

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File Name : ADLRARNPM
Site Code : 05116575
Start Date : 10/27/2016
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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			Int. Total
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	20	2	22	22	2	24	3	72	75	121
04:15 PM	10	0	10	33	2	35	0	51	51	96
04:30 PM	17	1	18	22	3	25	1	63	64	107
04:45 PM	7	0	7	26	6	32	3	61	64	103
Total	54	3	57	103	13	116	7	247	254	427
05:00 PM	20	3	23	28	7	35	2	49	51	109
05:15 PM	14	0	14	20	6	26	0	37	37	77
05:30 PM	12	0	12	10	3	13	0	54	54	79
05:45 PM	3	0	3	25	3	28	0	32	32	63
Total	49	3	52	83	19	102	2	172	174	328
Grand Total	103	6	109	186	32	218	9	419	428	755
Apprch %	94.5	5.5		85.3	14.7		2.1	97.9		
Total %	13.6	0.8	14.4	24.6	4.2	28.9	1.2	55.5	56.7	
Passenger Vehicles	97	6	103	167	22	189	9	395	404	696
% Passenger Vehicles	94.2	100	94.5	89.8	68.8	86.7	100	94.3	94.4	92.2
Large 2 Axle Vehicles	4	0	4	6	9	15	0	11	11	30
% Large 2 Axle Vehicles	3.9	0	3.7	3.2	28.1	6.9	0	2.6	2.6	4
3 Axle Vehicles	1	0	1	2	1	3	0	3	3	7
% 3 Axle Vehicles	1	0	0.9	1.1	3.1	1.4	0	0.7	0.7	0.9
4+ Axle Trucks	1	0	1	11	0	11	0	10	10	22
% 4+ Axle Trucks	1	0	0.9	5.9	0	5	0	2.4	2.3	2.9

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			Int. Total
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	20	2	22	22	2	24	3	72	75	121
04:15 PM	10	0	10	33	2	35	0	51	51	96
04:30 PM	17	1	18	22	3	25	1	63	64	107
04:45 PM	7	0	7	26	6	32	3	61	64	103
Total Volume	54	3	57	103	13	116	7	247	254	427
% App. Total	94.7	5.3		88.8	11.2		2.8	97.2		
PHF	.675	.375	.648	.780	.542	.829	.583	.858	.847	.882

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNPM
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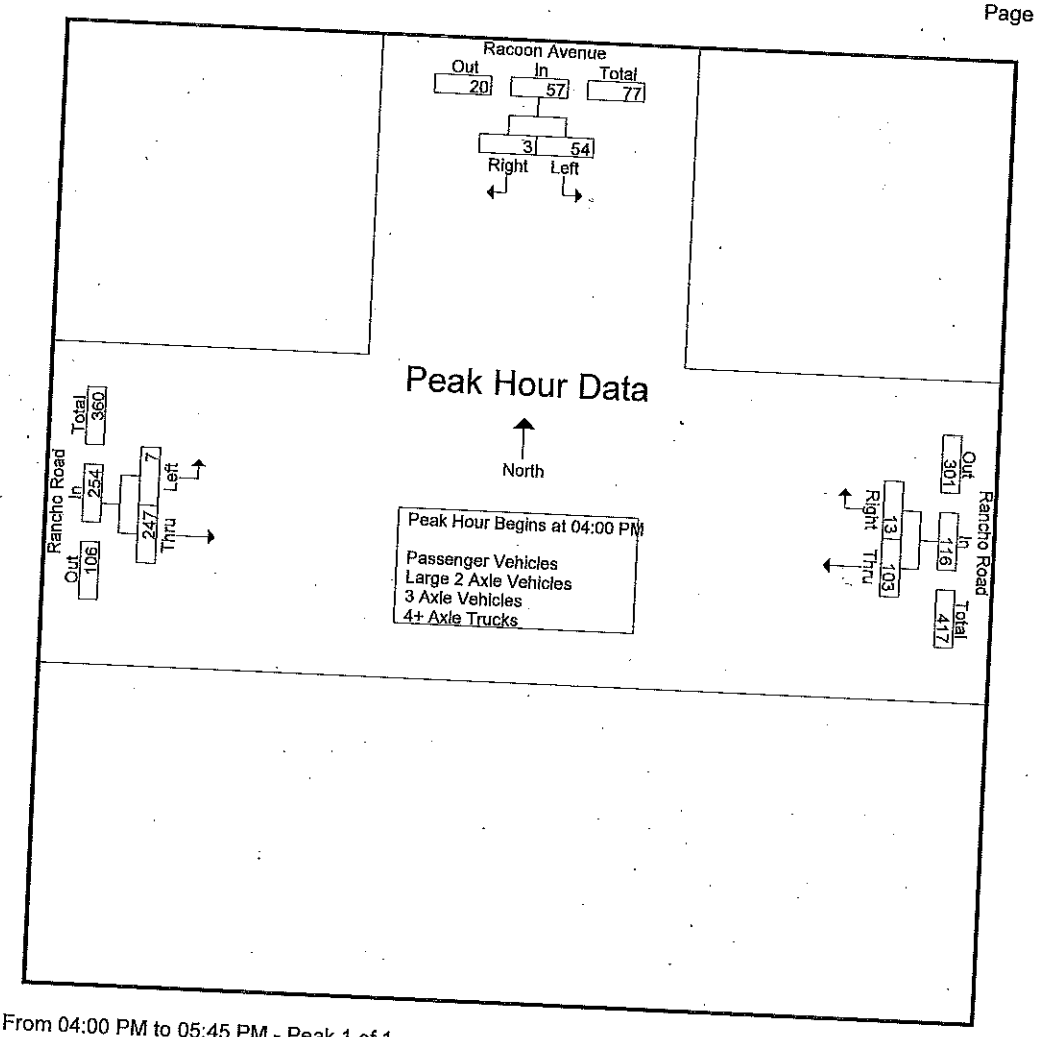

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM			04:15 PM			04:00 PM		
+0 mins.	17	1	18	**33**	2	**35**	**3**	**72**	**75**
+15 mins.	7	0	7	22	3	25	0	51	51
+30 mins.	**20**	**3**	**23**	26	6	32	1	63	64
+45 mins.	14	0	14	28	7	35	3	61	64
Total Volume	58	4	62	109	18	127	7	247	254
% App. Total	93.5	6.5		85.8	14.2		2.8	97.2	
PHF	.725	.333	.674	.826	.643	.907	.583	.858	.847

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File Name : ADLRARNPM
Site Code : 05116575
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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Passenger Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	18	2	20	22	2	24	3	69	72	116
04:15 PM	10	0	10	30	2	32	0	44	44	86
04:30 PM	16	1	17	19	3	22	1	61	62	101
04:45 PM	6	0	6	22	4	26	3	54	57	89
Total	50	3	53	93	11	104	7	228	235	392
05:00 PM	19	3	22	24	4	28	2	49	51	101
05:15 PM	14	0	14	18	3	21	0	37	37	72
05:30 PM	12	0	12	9	3	12	0	50	50	74
05:45 PM	2	0	2	23	1	24	0	31	31	57
Total	47	3	50	74	11	85	2	167	169	304
Grand Total	97	6	103	167	22	189	9	395	404	696
Apprch %	94.2	5.8		88.4	11.6		2.2	97.8		
Total %	13.9	0.9	14.8	24	3.2	27.2	1.3	56.8	58	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**18**	**2**	**20**	**22**	**2**	**24**	**3**	**69**	**72**	**116**
04:15 PM	10	0	10	30	2	32	0	44	44	86
04:30 PM	16	1	17	19	3	22	1	61	62	101
04:45 PM	6	0	6	22	4	26	3	54	57	89
Total Volume	50	3	53	93	11	104	7	228	235	392
% App. Total	94.3	5.7		89.4	10.6		3	97		
PHF	.694	.375	.663	.775	.688	.813	.583	.826	.816	.845

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNPM
Site Code : 05116575
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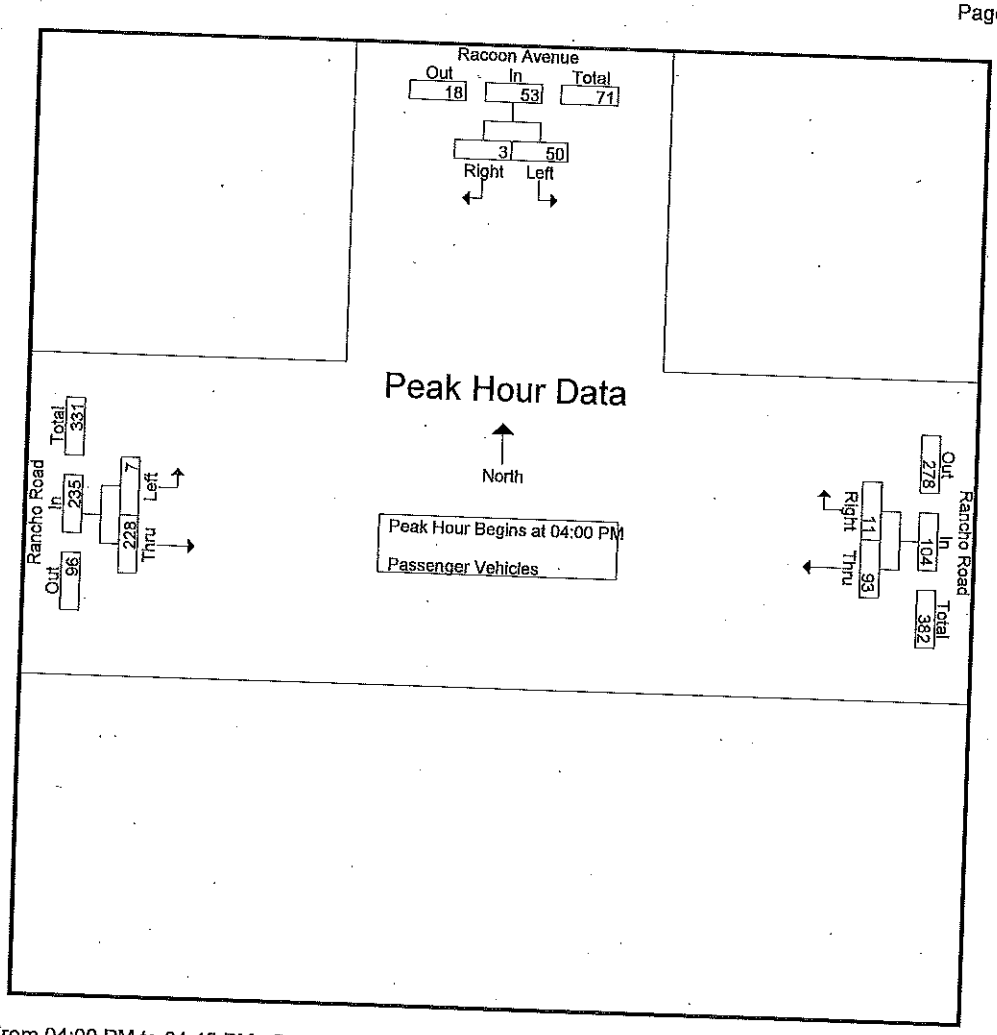

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	**18**	**2**	**20**	22	2	24	**3**	**69**	**72**
+15 mins.	10	0	10	**30**	2	**32**	0	44	44
+30 mins.	16	1	17	19	3	22	1	61	62
+45 mins.	6	0	6	22	4	26	3	54	57
Total Volume	50	3	53	93	11	104	7	228	235
% App. Total	94.3	5.7		89.4	10.6		3	97	
PHF	.694	.375	.663	.775	.688	.813	.583	.826	.816

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File Name : ADLRARNPM
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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- Large 2 Axle Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	1	0	3	3	4
04:30 PM	1	0	1	1	0	1	0	2	2	4
04:45 PM	1	0	1	1	2	3	0	4	4	8
Total	2	0	2	3	2	5	0	9	9	16
05:00 PM	1	0	1	2	2	4	0	0	0	5
05:15 PM	0	0	0	1	3	4	0	0	0	4
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	1	0	1	0	2	2	0	0	0	3
Total	2	0	2	3	7	10	0	2	2	14
Grand Total	4	0	4	6	9	15	0	11	11	30
Apprch %	100	0		40	60		0	100		
Total %	13.3	0	13.3	20	30	50	0	36.7	36.7	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	1	0	3	3	4
04:30 PM	1	0	1	1	0	1	0	2	2	4
04:45 PM	1	0	1	1	2	3	0	4	4	8
Total Volume	2	0	2	3	2	5	0	9	9	16
% App. Total	100	0		60	40		0	100		
PHF	.500	.000	.500	.750	.250	.417	.000	.563	.563	.500

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City of Adelanto
N/S: Racoon Avenue
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File Name : ADLRARNPM
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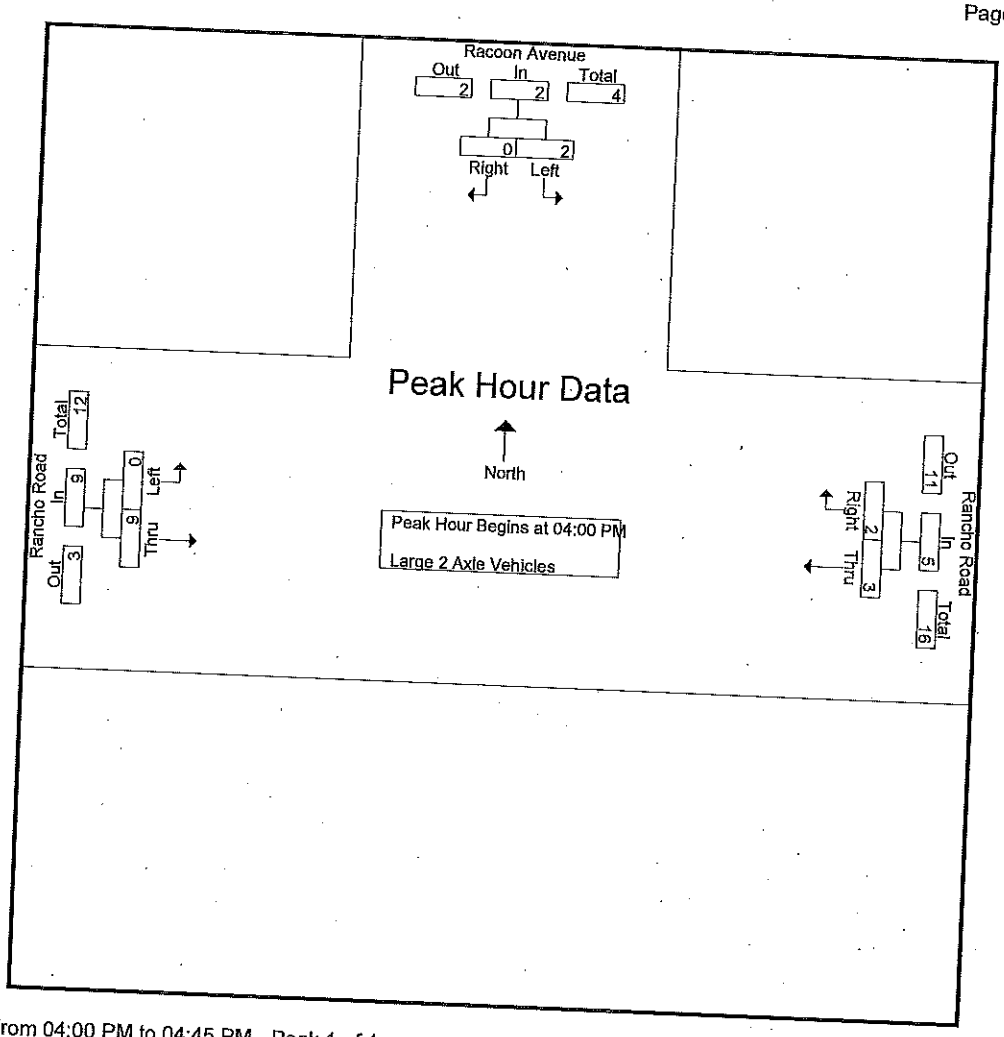

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	1	0	1	0	3	3
+30 mins.	1	0	1	1	0	1	0	2	2
+45 mins.	1	0	1	1	2	3	0	4	4
Total Volume	2	0	2	3	2	5	0	9	9
% App. Total	100	0		60	40		0	100	
PHF	.500	.000	.500	.750	.250	.417	.000	.563	.563

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- 3 Axle Vehicles

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			Int. Total
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	1	0	1	0	0	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	2	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	3	3	4
05:00 PM	0	0	0	0	1	1	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	1	0	1	0	0	0	1
05:45 PM	0	0	0	1	0	1	0	0	0	1
Total	0	0	0	2	1	3	0	0	0	3
Grand Total	1	0	1	2	1	3	0	3	3	7
Apprch %	100	0		66.7	33.3		0	100		
Total %	14.3	0	14.3	28.6	14.3	42.9	0	42.9	42.9	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			Int. Total
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	1	0	1	0	0	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	2	2	2
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	3	3	4
% App. Total	100	0		0	0		0	100		
PHF	.250	.000	.250	.000	.000	.000	.000	.375	.375	.500

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City of Adelanto
N/S: Racoon Avenue
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Weather: Clear

File Name : ADLRARNPM
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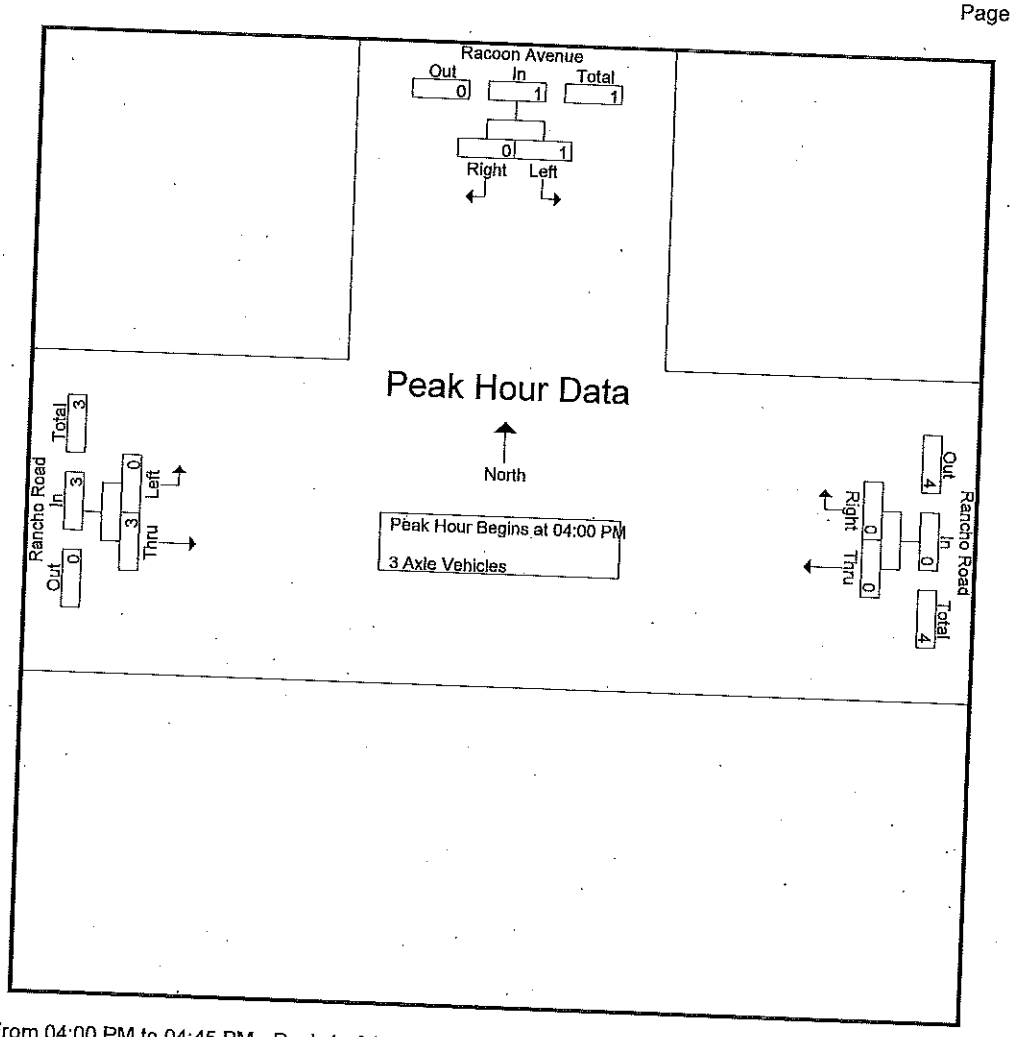

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	1	0	1	0	0	0	0	1	1
+15 mins.	0	0	0	0	0	0	0	2	2
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	3	3
% App. Total	100	0		0	0		0	100	
PHF	.250	.000	.250	.000	.000	.000	.000	.375	.375

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City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

Groups Printed- 4+ Axle Trucks

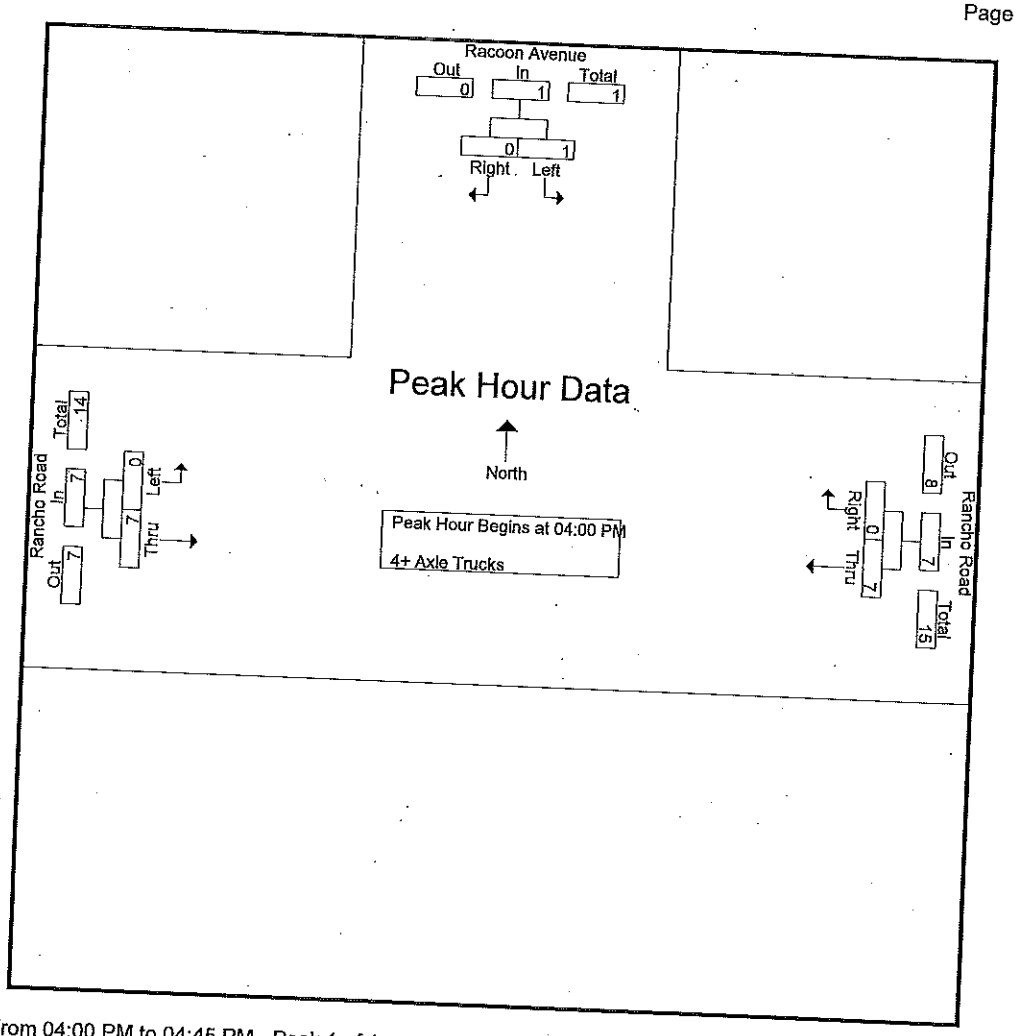
	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	1	0	1	0	0	0	0	2	2	3
04:15 PM	0	0	0	2	0	2	0	2	2	4
04:30 PM	0	0	0	2	0	2	0	0	0	2
04:45 PM	0	0	0	3	0	3	0	3	3	6
Total	1	0	1	7	0	7	0	7	7	15
05:00 PM	0	0	0	2	0	2	0	0	0	2
05:15 PM	0	0	0	1	0	1	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	2	2	2
05:45 PM	0	0	0	1	0	1	0	1	1	2
Total	0	0	0	4	0	4	0	3	3	7
Grand Total	1	0	1	11	0	11	0	10	10	22
Apprch %	100	0		100	0		0	100		
Total %	4.5	0	4.5	50	0	50	0	45.5	45.5	

	Racoon Avenue Southbound			Rancho Road Westbound			Rancho Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	1	0	1	0	0	0	0	2	2	3
04:15 PM	0	0	0	2	0	2	0	2	2	4
04:30 PM	0	0	0	2	0	2	0	0	0	2
04:45 PM	0	0	0	3	0	3	0	3	3	6
Total Volume	1	0	1	7	0	7	0	7	7	15
% App. Total	100	0		100	0		0	100		
PHF	.250	.000	.250	.583	.000	.583	.000	.583	.583	.625

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Adelanto
N/S: Racoon Avenue
E/W: Rancho Road
Weather: Clear

File Name : ADLRARNPM
Site Code : 05116575
Start Date : 10/27/2016
Page No : 2



Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	**1**	0	**1**	0	0	0	0	2	2
+15 mins.	0	0	0	2	0	2	0	2	2
+30 mins.	0	0	0	2	0	2	0	0	0
+45 mins.	0	0	0	**3**	0	**3**	0	**3**	**3**
Total Volume	1	0	1	7	0	7	0	7	7
% App. Total	100	0		100	0		0	100	
PHF	.250	.000	.250	.583	.000	.583	.000	.583	.583

Location: Adelanto
N/S: Raccoon Avenue
E/W: Rancho Road

Date: 10/27/2016
Day: Thursday

PEDESTRIANS

	North Leg Raccoon Avenue	East Leg Rancho Road	South Leg Raccoon Avenue	West Leg Rancho Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Raccoon Avenue	East Leg Rancho Road	South Leg Raccoon Avenue	West Leg Rancho Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Adelanto
N/S: Raccoon Avenue
E/W: Rancho Road

Date: 10/27/2016
Day: Thursday

BICYCLES

	North Leg Raccoon Avenue	East Leg Rancho Road	South Leg Raccoon Avenue	West Leg Rancho Road	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Raccoon Avenue	East Leg Rancho Road	South Leg Raccoon Avenue	West Leg Rancho Road	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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APPENDIX 3.2:

EXISTING (2016) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	6	4	53	14	7	8	1	3	2	0
Future Vol, veh/h	0	9	6	4	53	14	7	8	1	3	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	13	9	6	77	20	10	12	1	4	3	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	22	0	0	117	126	17	123	121	87
Stage 1	-	-	-	-	-	-	17	17	-	99	99	-
Stage 2	-	-	-	-	-	-	100	109	-	24	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1509	-	-	1607	-	-	864	768	1068	856	773	977
Stage 1	-	-	-	-	-	-	1008	885	-	912	817	-
Stage 2	-	-	-	-	-	-	911	809	-	999	881	-
Platoon blocked, %		-	-									
Mov Cap-1 Maneuver	1509	-	-	1607	-	-	859	765	1068	842	770	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	859	765	-	842	770	-
Stage 1	-	-	-	-	-	-	1008	885	-	912	814	-
Stage 2	-	-	-	-	-	-	904	806	-	985	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	9.5	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	819	1509	-	-	1607	-	-	812
HCM Lane V/C Ratio	0.028	-	-	-	0.004	-	-	0.009
HCM Control Delay (s)	9.5	0	-	-	7.2	0	-	9.5
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	Y	
Traffic Vol, veh/h	5	98	155	28	9	5
Future Vol, veh/h	5	98	155	28	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	148	235	42	14	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	235	0	-	0	399	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1344	-	-	-	565	809
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1344	-	-	-	562	809
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	631
HCM Lane V/C Ratio	0.006	-	-	-	0.034
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	64	7	9	7
Future Vol, veh/h	0	13	64	7	9	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	70	8	10	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	162	14	18	0	-	0
Stage 1	14	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	834	1072	1612	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	797	1072	1612	-	-	-
Mov Cap-2 Maneuver	797	-	-	-	-	-
Stage 1	1014	-	-	-	-	-
Stage 2	845	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	6.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1612	-	1072	-	-
HCM Lane V/C Ratio	0.044	-	0.013	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	↰	↱
Traffic Vol, veh/h	0	108	189	77	23	0
Future Vol, veh/h	0	108	189	77	23	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	164	286	117	35	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	286	0	-	0	450	286
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1288	-	-	-	571	758
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1288	-	-	-	571	758
Mov Cap-2 Maneuver	-	-	-	-	571	-
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1288	-	-	-	571	-
HCM Lane V/C Ratio	-	-	-	-	0.061	-
HCM Control Delay (s)	0	-	-	-	11.7	0
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	35	7	1	4	2	8	4	4	10	17	6
Future Vol, veh/h	5	35	7	1	4	2	8	4	4	10	17	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	46	9	1	5	3	11	5	5	13	22	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	55	0	0	88	75	51	78	77	7
Stage 1	-	-	-	-	-	-	64	64	-	9	9	-
Stage 2	-	-	-	-	-	-	24	11	-	69	68	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1625	-	-	1563	-	-	902	819	1023	916	817	1081
Stage 1	-	-	-	-	-	-	952	846	-	1017	892	-
Stage 2	-	-	-	-	-	-	999	890	-	946	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1625	-	-	1563	-	-	873	815	1023	903	813	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	873	815	-	903	813	-
Stage 1	-	-	-	-	-	-	948	843	-	1013	891	-
Stage 2	-	-	-	-	-	-	966	889	-	932	839	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1	9.1	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	890	1625	-	-	1563	-	-	879
HCM Lane V/C Ratio	0.024	0.004	-	-	0.001	-	-	0.049
HCM Control Delay (s)	9.1	7.2	0	-	7.3	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	
Traffic Vol, veh/h	2	227	115	7	41	5
Future Vol, veh/h	2	227	115	7	41	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	258	131	8	47	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	131	0	-	0	394	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1467	-	-	-	569	924
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	747	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1467	-	-	-	568	924
Mov Cap-2 Maneuver	-	-	-	-	568	-
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	746	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1467	-	-	-	593
HCM Lane V/C Ratio	0.002	-	-	-	0.088
HCM Control Delay (s)	7.5	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection						
Int Delay, s/veh	6.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	44	6	7	4	1
Future Vol, veh/h	5	44	6	7	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	49	7	8	4	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	26	5	6	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	995	1084	1628	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	991	1084	1628	-	-	-
Mov Cap-2 Maneuver	991	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1628	-	1074	-	-
HCM Lane V/C Ratio	0.004	-	0.051	-	-
HCM Control Delay (s)	7.2	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	7	269	119	14	58	3
Future Vol, veh/h	7	269	119	14	58	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	306	135	16	66	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	135	0	-	0	457	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1462	-	-	-	565	919
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	739	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1462	-	-	-	561	919
Mov Cap-2 Maneuver	-	-	-	-	561	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1462	-	-	-	561	919
HCM Lane V/C Ratio	0.005	-	-	-	0.117	0.004
HCM Control Delay (s)	7.5	0	-	-	12.3	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0

APPENDIX 3.3:

EXISTING (2016) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2016) Conditions - Weekday AM Peak Hour**

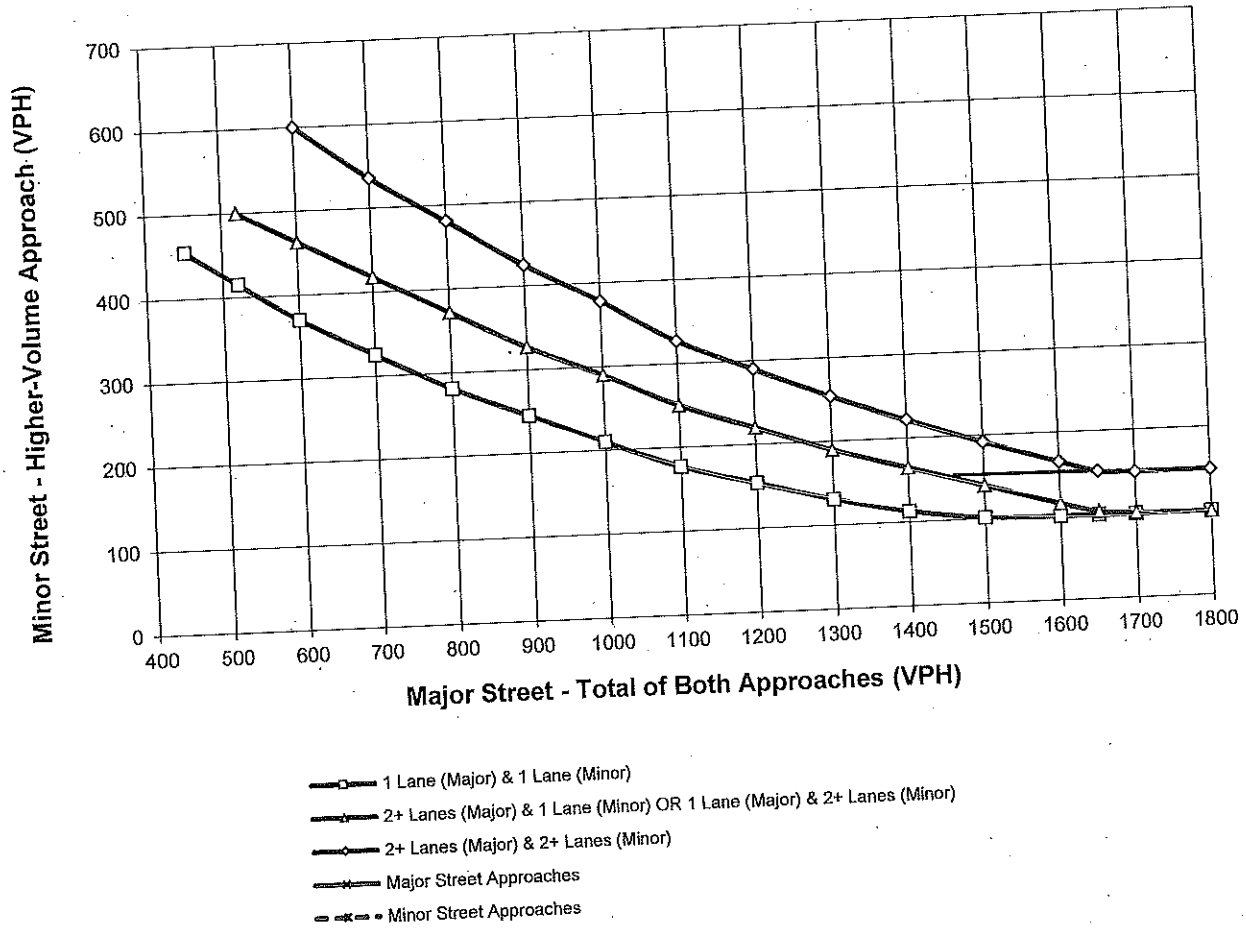
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **86**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **16**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

California MUTCD 2014 Edition
(FHWA's MUTCD 2009, as amended for use in California)

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2016) Conditions - Weekday PM Peak Hour**

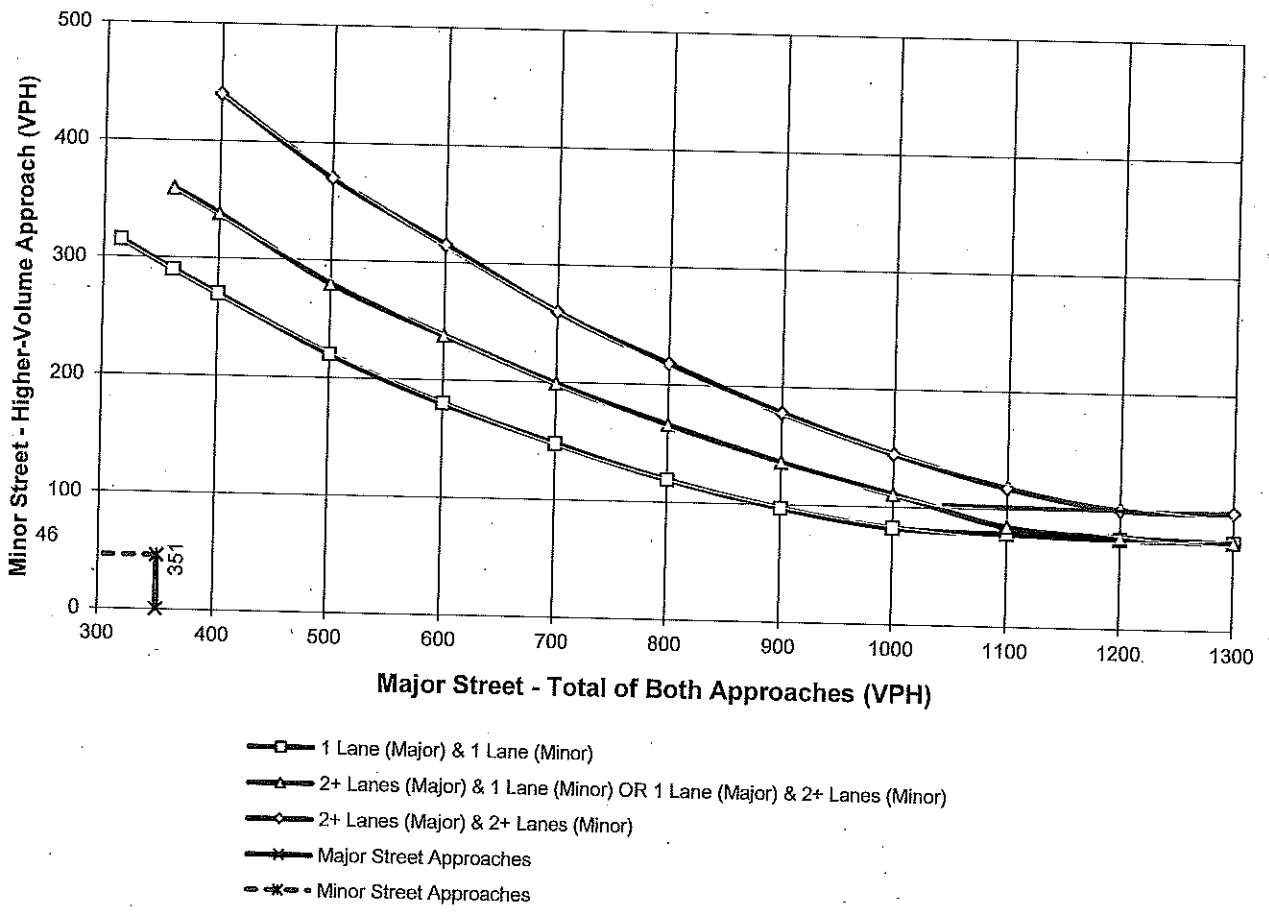
Major Street Name = **Rancho Road**

Total of Both Approaches (VPH) = **351**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **46**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

URBAN CROSSROADS

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2016) Conditions - Weekday PM Peak Hour**

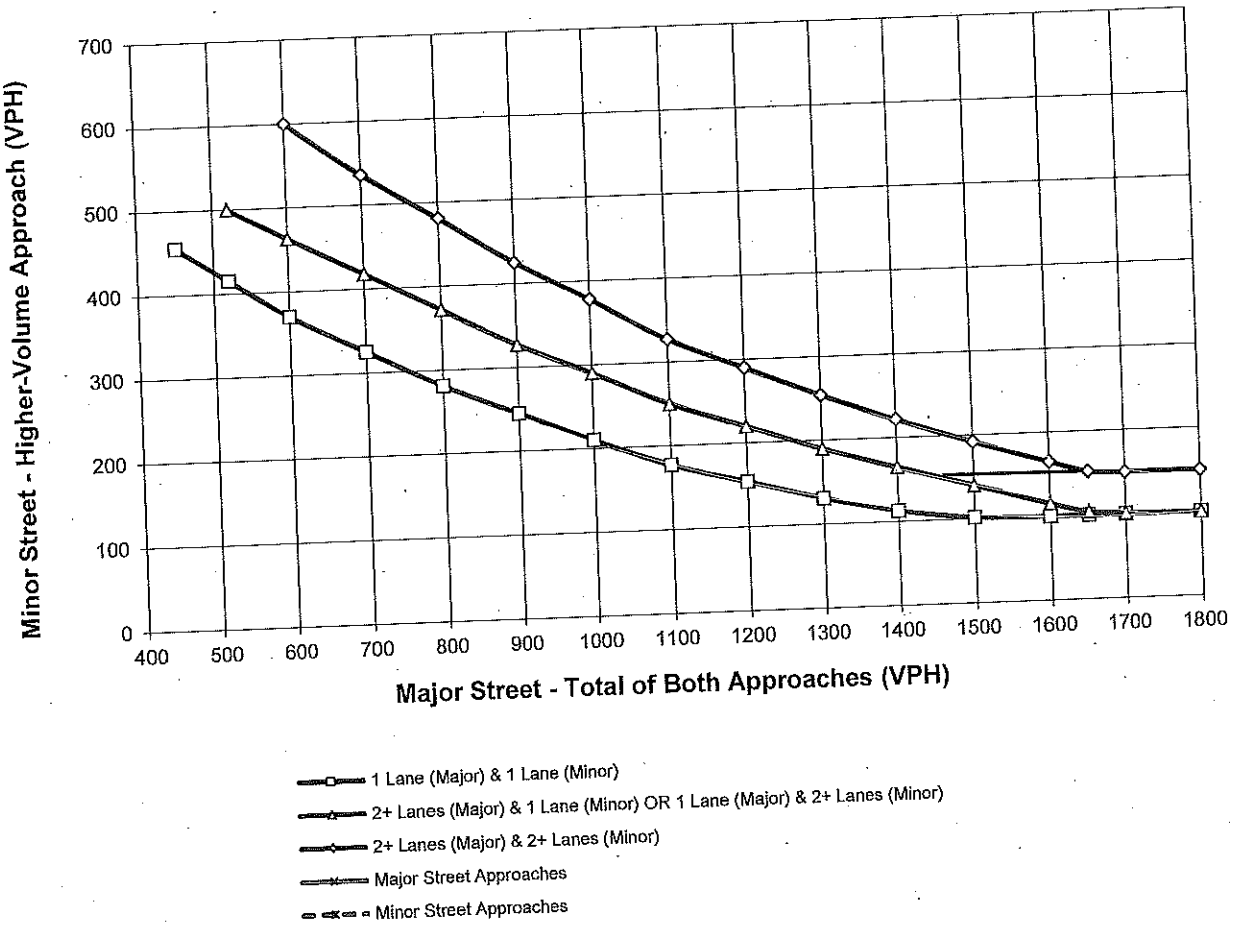
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **49**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **13**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

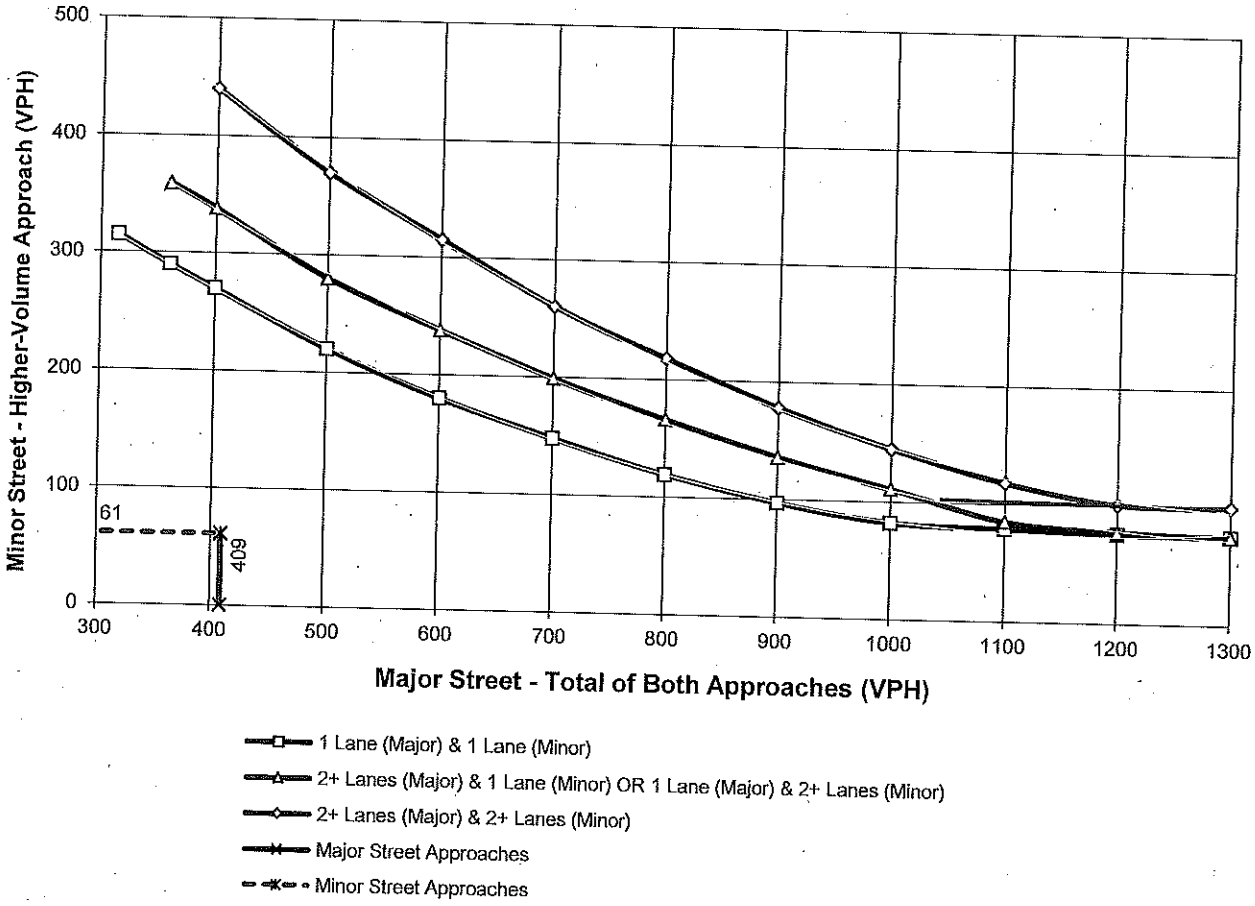
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2016) Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road**
Total of Both Approaches (VPH) = **409**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Raccoon Avenue**
High Volume Approach (VPH) = **61**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 5.1:

E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	22	13	0	5
Future Vol, veh/h	5	0	22	13	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	0	24	14	0	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	36	31	0	0	38	0
Stage 1	31	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	982	1049	-	-	1585	-
Stage 1	997	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	982	1049	-	-	1585	-
Mov Cap-2 Maneuver	982	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	1023	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	982	1585	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	6	5	53	14	7	21	4	3	7	0
Future Vol, veh/h	0	9	6	5	53	14	7	21	4	3	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	13	9	7	77	20	10	30	6	4	10	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	22	0	0	124	129	17	137	123	87
Stage 1	-	-	-	-	-	-	17	17	-	101	101	-
Stage 2	-	-	-	-	-	-	107	112	-	36	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1509	-	-	1607	-	-	855	765	1068	838	771	977
Stage 1	-	-	-	-	-	-	1008	885	-	910	815	-
Stage 2	-	-	-	-	-	-	903	807	-	985	881	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1509	-	-	1607	-	-	843	761	1068	805	767	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	843	761	-	805	767	-
Stage 1	-	-	-	-	-	-	1008	885	-	910	811	-
Stage 2	-	-	-	-	-	-	887	803	-	946	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	9.7	9.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	807	1509	-	-	1607	-	-	778
HCM Lane V/C Ratio	0.057	-	-	-	0.005	-	-	0.019
HCM Control Delay (s)	9.7	0	-	-	7.2	0	-	9.7
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	↰	
Traffic Vol, veh/h	6	98	155	42	14	6
Future Vol, veh/h	6	98	155	42	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	148	235	64	21	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	235	0	-	0	402	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1344	-	-	-	562	809
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	840	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1344	-	-	-	559	809
Mov Cap-2 Maneuver	-	-	-	-	559	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	834	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	616
HCM Lane V/C Ratio	0.007	-	-	-	0.049
HCM Control Delay (s)	7.7	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑		Y	
Traffic Vol, veh/h	3	13	71	23	8	1
Future Vol, veh/h	3	13	71	23	8	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	14	77	25	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	102	0	-	0	111	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1503	-	-	-	891	973
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1503	-	-	-	889	973
Mov Cap-2 Maneuver	-	-	-	-	889	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	1005	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1503	-	-	-	898
HCM Lane V/C Ratio	0.002	-	-	-	0.011
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	19	82	7	9	12
Future Vol, veh/h	2	19	82	7	9	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	21	90	8	10	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	204	16	23	0	-	0
Stage 1	16	-	-	-	-	-
Stage 2	188	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	789	1069	1605	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	745	1069	1605	-	-	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	801	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	6.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1605	-	1026	-	-
HCM Lane V/C Ratio	0.056	-	0.022	-	-
HCM Control Delay (s)	7.4	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	0	113	203	95	29	0
Future Vol, veh/h	0	113	203	95	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	171	308	144	44	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	308	0	-	0	479	308
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1264	-	-	-	549	737
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1264	-	-	-	549	737
Mov Cap-2 Maneuver	-	-	-	-	549	-
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1264	-	-	-	549	-
HCM Lane V/C Ratio	-	-	-	-	0.08	-
HCM Control Delay (s)	0	-	-	-	12.1	0
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	0	11	8	0	32
Future Vol, veh/h	12	0	11	8	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	13	0	12	9	0	35

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	51	16	0	0	21	0
Stage 1	16	-	-	-	-	-
Stage 2	35	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	963	1069	-	-	1608	-
Stage 1	1012	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	963	1069	-	-	1608	-
Mov Cap-2 Maneuver	963	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	993	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	963	1608	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	35	7	4	4	2	8	12	6	10	29	6
Future Vol, veh/h	5	35	7	4	4	2	8	12	6	10	29	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	46	9	5	5	3	11	16	8	13	38	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	55	0	0	104	82	51	93	85	7
Stage 1	-	-	-	-	-	-	64	64	-	17	17	-
Stage 2	-	-	-	-	-	-	40	18	-	76	68	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1625	-	-	1563	-	-	881	812	1023	895	809	1081
Stage 1	-	-	-	-	-	-	952	846	-	1008	885	-
Stage 2	-	-	-	-	-	-	980	884	-	938	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1625	-	-	1563	-	-	838	806	1023	870	803	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	838	806	-	870	803	-
Stage 1	-	-	-	-	-	-	948	843	-	1004	882	-
Stage 2	-	-	-	-	-	-	928	881	-	910	839	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	2.9	9.4	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	858	1625	-	-	1563	-	-	847
HCM Lane V/C Ratio	0.04	0.004	-	-	0.003	-	-	0.07
HCM Control Delay (s)	9.4	7.2	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	Y	
Traffic Vol, veh/h	3	227	115	16	55	6
Future Vol, veh/h	3	227	115	16	55	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	258	131	18	63	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	131	0	-	0	396	131
Stage 1	-	-	-	-	131	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1467	-	-	-	613	924
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1467	-	-	-	612	924
Mov Cap-2 Maneuver	-	-	-	-	612	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1467	-	-	-	633
HCM Lane V/C Ratio	0.002	-	-	-	0.11
HCM Control Delay (s)	7.5	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑		Y	
Traffic Vol, veh/h	2	49	7	14	22	3
Future Vol, veh/h	2	49	7	14	22	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	53	8	15	24	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	73	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	58	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1605	-	-	-	936	1070
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	970	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1605	-	-	-	935	1070
Mov Cap-2 Maneuver	-	-	-	-	935	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	969	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1605	-	-	-	949
HCM Lane V/C Ratio	0.001	-	-	-	0.029
HCM Control Delay (s)	7.2	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	7.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	61	17	7	4	4
Future Vol, veh/h	10	61	17	7	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	69	19	8	4	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	53	7	9	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	960	1081	1624	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	948	1081	1624	-	-	-
Mov Cap-2 Maneuver	948	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	5.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1624	-	1060	-	-
HCM Lane V/C Ratio	0.012	-	0.075	-	-
HCM Control Delay (s)	7.2	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	7	283	128	25	75	3
Future Vol, veh/h	7	283	128	25	75	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	322	145	28	85	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	145	0	-	0	483	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	338	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1450	-	-	-	546	908
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	727	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1450	-	-	-	542	908
Mov Cap-2 Maneuver	-	-	-	-	542	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	722	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1450	-	-	-	542	908
HCM Lane V/C Ratio	0.005	-	-	-	0.157	0.004
HCM Control Delay (s)	7.5	0	-	-	12.9	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

APPENDIX 5.2:

E+P CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST ___ CO ___ RTE ___ PM ___

Jurisdiction: City of Adelanto

Major Street: Muskrat Avenue

Minor Street: Driveway 1

TRAFFIC CONDITIONS

CALC BA DATE E+P

CHK BA DATE 11/02/16

Critical Approach Speed (Major) 25 mph

Critical Approach Speed (Minor) 15 mph

Major Street Approach Lanes = 1 lane

Minor Street Approach Lanes = 1 lane

Major Street Future ADT = 798 vpd

Minor Street Future ADT = 131 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

or

In built up area of isolated community of < 10,000 population ..... [ ]

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN XX RURAL

CONDITION A - Minimum Vehicular Volume

Satisfied ___ Not Satisfied XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 798	1 131
2 +	1
2 +	2 +
1	2 +

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied ___ Not Satisfied XX

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1 798	1 131
2 +	1
2 +	2 +
1	2 +

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied ___ Not Satisfied XX

No one condition satisfied, but following conditions fulfilled 80% of more ..... A 5% B 7%

2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Conditions - Weekday AM Peak Hour**

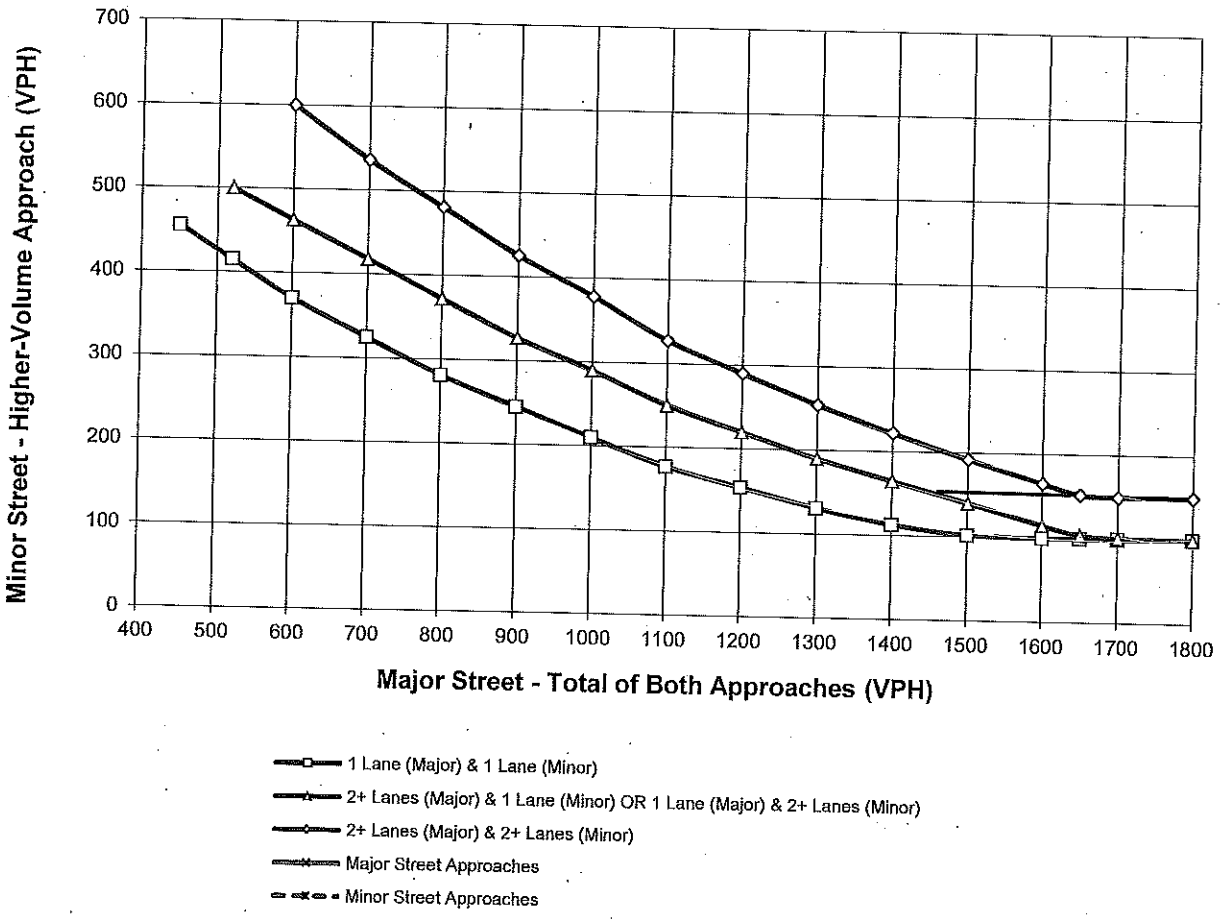
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **87**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **32**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

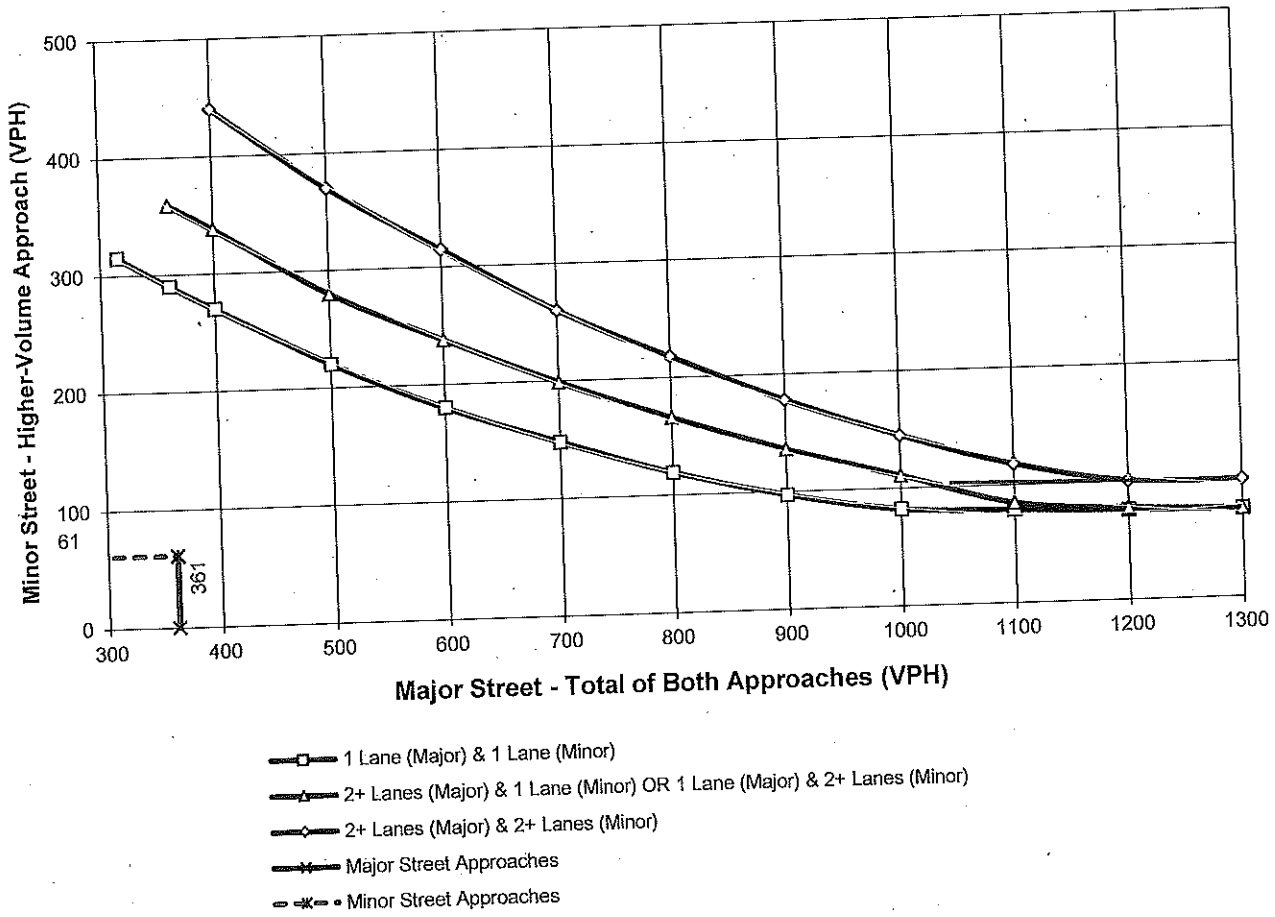
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road**
Total of Both Approaches (VPH) = **361**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Muskrat Avenue**
High Volume Approach (VPH) = **61**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST ___ CO ___ RTE ___ PM ___

Jurisdiction: **City of Adelanto**
Major Street: **Yucca Road**
Minor Street: **Driveway 2**

TRAFFIC CONDITIONS — **E+P**
CALC BA DATE 11/02/16
CHK BA DATE 11/02/16
Critical Approach Speed (Major) 25 mph
Critical Approach Speed (Minor) 15 mph

Major Street Approach Lanes = **1** lane
Minor Street Approach Lanes **1** lane
Major Street Future ADT = **1,155** vpd
Minor Street Future ADT = **292** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....
or
In built up area of isolated community of < 10,000 population .....

URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT	
XX	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
CONDITION A - Minimum Vehicular Volume	Urban / Rural	Urban / Rural
Satisfied / Not Satisfied: XX		
Number of lanes for moving traffic on each approach: Major Street / Minor Street		
1 **1,155** / *1* **292**	8,000 / 5,600	2,400 / 1,680
2 + / *1*	9,600 / 6,720	2,400 / 1,680
2 + / *2* +	9,600 / 6,720	3,200 / 2,240
1 / *2* +	8,000 / 5,600	3,200 / 2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)	Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)
Satisfied / Not Satisfied: XX	Urban / Rural	Urban / Rural
Number of lanes for moving traffic on each approach: Major Street / Minor Street		
1 **1,155** / *1* **292**	12,000 / 8,400	1,200 / 850
2 + / *1*	14,400 / 10,080	1,200 / 850
2 + / *2* +	14,400 / 10,080	1,600 / 1,120
1 / *2* +	12,000 / 8,400	1,600 / 1,120
Combination of CONDITIONS A + B		
Satisfied / Not Satisfied: XX		
No one condition satisfied, but following conditions fulfilled 80% of more ..... A: **12%** B: **10%**	2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

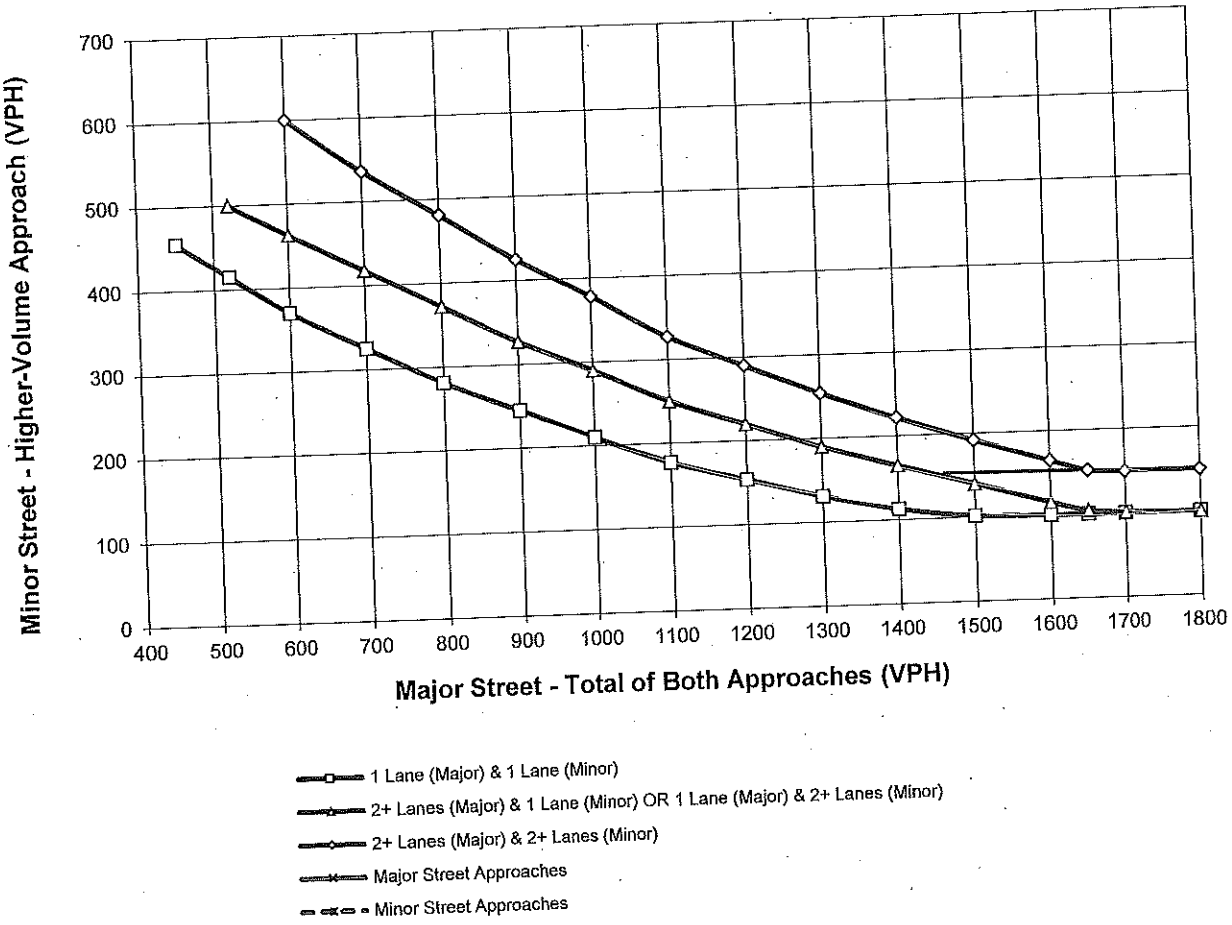
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **71**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **24**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

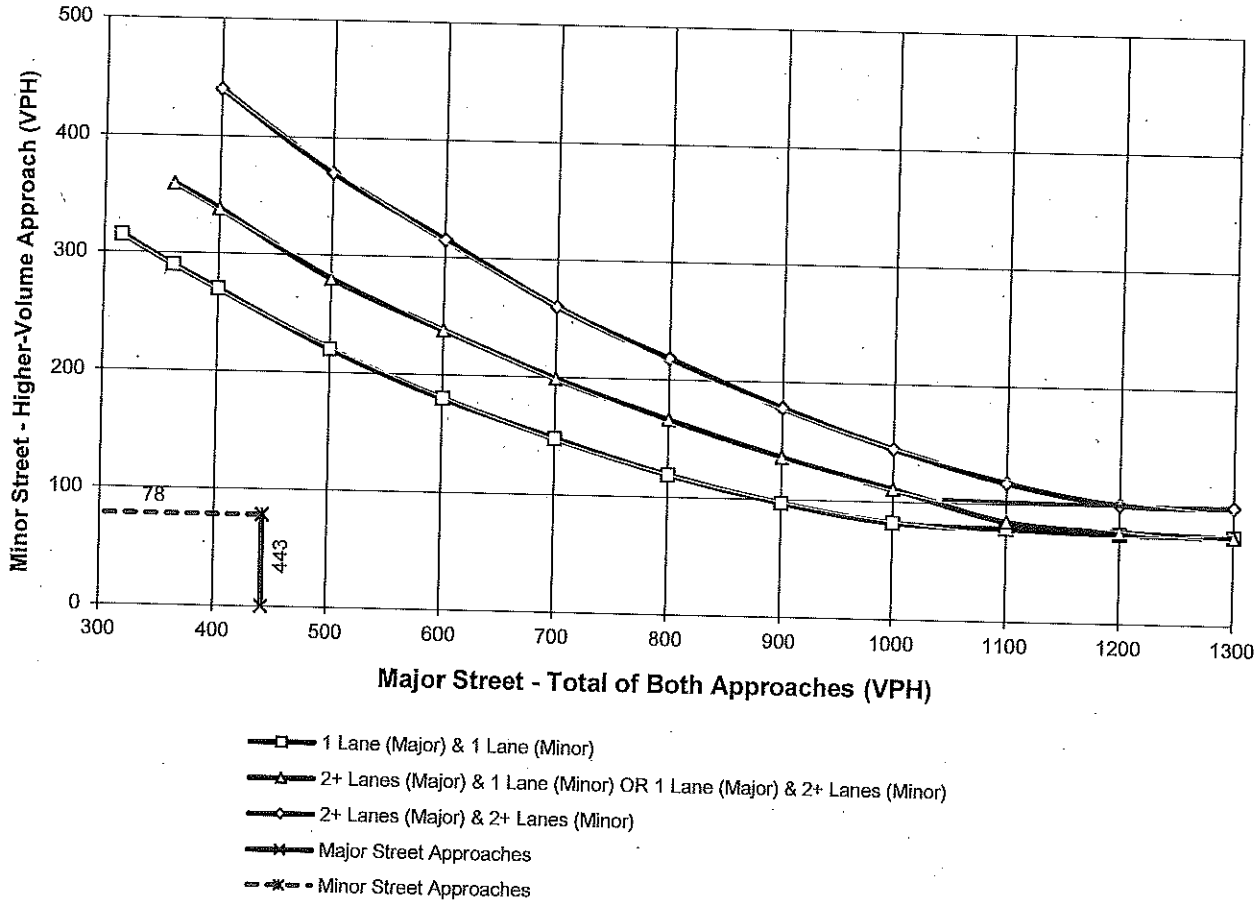
Major Street Name = **Rancho Road**

Total of Both Approaches (VPH) = **443**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Raccoon Avenue**

High Volume Approach (VPH) = **78**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 6.1:

OPENING YEAR (2018) CUMULATIVE WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection													
Int Delay, s/veh	2.1												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	6	4	55	15	7	8	1	3	2	0
Future Vol, veh/h	0	9	6	4	55	15	7	8	1	3	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	13	9	6	80	22	10	12	1	4	3	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	101	0	0	22	0	0	121	130	17	126	124	91
Stage 1	-	-	-	-	-	-	17	17	-	102	102	-
Stage 2	-	-	-	-	-	-	104	113	-	24	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1504	-	-	1607	-	-	859	764	1068	852	770	972
Stage 1	-	-	-	-	-	-	1008	885	-	909	815	-
Stage 2	-	-	-	-	-	-	907	806	-	999	881	-
Platoon blocked, %		-	-			-						
Mov Cap-1 Maneuver	1504	-	-	1607	-	-	854	761	1068	838	767	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	854	761	-	838	767	-
Stage 1	-	-	-	-	-	-	1008	885	-	909	812	-
Stage 2	-	-	-	-	-	-	900	803	-	985	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	9.6	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	814	1504	-	-	1607	-	-	808
HCM Lane V/C Ratio	0.028	-	-	-	0.004	-	-	0.009
HCM Control Delay (s)	9.6	0	-	-	7.2	0	-	9.5
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	↰	
Traffic Vol, veh/h	5	104	163	30	9	5
Future Vol, veh/h	5	104	163	30	9	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	158	247	45	14	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	247	0	-	0	420	247
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1331	-	-	-	594	797
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	590	797
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	650
HCM Lane V/C Ratio	0.006	-	-	-	0.033
HCM Control Delay (s)	7.7	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	13	67	7	10	7
Future Vol, veh/h	0	13	67	7	10	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	74	8	11	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	170	15	19	0	-	0
Stage 1	15	-	-	-	-	-
Stage 2	155	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	825	1070	1611	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	878	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	787	1070	1611	-	-	-
Mov Cap-2 Maneuver	787	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	6.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1611	-	1070	-	-
HCM Lane V/C Ratio	0.046	-	0.013	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	↰	↱
Traffic Vol, veh/h	0	114	199	81	24	0
Future Vol, veh/h	0	114	199	81	24	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	173	302	123	36	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	302	0	-	0	475	302
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1270	-	-	-	552	742
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1270	-	-	-	552	742
Mov Cap-2 Maneuver	-	-	-	-	552	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1270	-	-	-	552	-
HCM Lane V/C Ratio	-	-	-	-	0.066	-
HCM Control Delay (s)	0	-	-	-	12	0
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-

Intersection													
Int Delay, s/veh	4.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	37	7	1	4	2	8	4	4	10	17	6
Future Vol, veh/h	5	37	7	1	4	2	8	4	4	10	17	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	49	9	1	5	3	11	5	5	13	22	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	58	0	0	90	77	53	81	80	7
Stage 1	-	-	-	-	-	-	66	66	-	9	9	-
Stage 2	-	-	-	-	-	-	24	11	-	72	71	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1625	-	-	1559	-	-	900	817	1020	912	814	1081
Stage 1	-	-	-	-	-	-	950	844	-	1017	892	-
Stage 2	-	-	-	-	-	-	999	890	-	943	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1625	-	-	1559	-	-	871	813	1020	899	810	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	871	813	-	899	810	-
Stage 1	-	-	-	-	-	-	946	841	-	1013	891	-
Stage 2	-	-	-	-	-	-	966	889	-	929	837	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1	9.2	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	888	1625	-	-	1559	-	-	876
HCM Lane V/C Ratio	0.024	0.004	-	-	0.001	-	-	0.05
HCM Control Delay (s)	9.2	7.2	0	-	7.3	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	
Traffic Vol, veh/h	2	239	122	7	43	5
Future Vol, veh/h	2	239	122	7	43	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	272	139	8	49	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	139	0	-	0	415	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	276	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1457	-	-	-	551	915
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1457	-	-	-	550	915
Mov Cap-2 Maneuver	-	-	-	-	550	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1457	-	-	-	574
HCM Lane V/C Ratio	0.002	-	-	-	0.095
HCM Control Delay (s)	7.5	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection						
Int Delay, s/veh	6.9					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	46	6	7	4	1
Future Vol, veh/h	5	46	6	7	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	52	7	8	4	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	26	5	6	0	-	0
Stage 1	5	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	995	1084	1628	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	991	1084	1628	-	-	-
Mov Cap-2 Maneuver	991	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	3.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1628	-	1074	-	-
HCM Lane V/C Ratio	0.004	-	0.053	-	-
HCM Control Delay (s)	7.2	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	↱
Traffic Vol, veh/h	7	284	125	15	61	3
Future Vol, veh/h	7	284	125	15	61	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	323	142	17	69	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	142	0	-	0	481	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1453	-	-	-	548	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1453	-	-	-	544	911
Mov Cap-2 Maneuver	-	-	-	-	544	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	721	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1453	-	-	-	544	911
HCM Lane V/C Ratio	0.005	-	-	-	0.127	0.004
HCM Control Delay (s)	7.5	0	-	-	12.6	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0

APPENDIX 6.2:

OPENING YEAR (2018) CUMULATIVE WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	0	23	14	0	5
Future Vol, veh/h	5	0	23	14	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	0	25	15	0	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	38	33	0	0	40	0
Stage 1	33	-	-	-	-	-
Stage 2	5	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	979	1046	-	-	1583	-
Stage 1	995	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	979	1046	-	-	1583	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	1023	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	979	1583	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	9	6	5	55	15	7	22	4	3	7	0
Future Vol, veh/h	0	9	6	5	55	15	7	22	4	3	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	69	69	69	69	69	69	69	69	69	69
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	13	9	7	80	22	10	32	6	4	10	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	101	0	0	22	0	0	127	133	17	141	127	91
Stage 1	-	-	-	-	-	-	17	17	-	105	105	-
Stage 2	-	-	-	-	-	-	110	116	-	36	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1504	-	-	1607	-	-	851	761	1068	833	767	972
Stage 1	-	-	-	-	-	-	1008	885	-	906	812	-
Stage 2	-	-	-	-	-	-	900	803	-	985	881	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1504	-	-	1607	-	-	839	757	1068	799	763	972
Mov Cap-2 Maneuver	-	-	-	-	-	-	839	757	-	799	763	-
Stage 1	-	-	-	-	-	-	1008	885	-	906	808	-
Stage 2	-	-	-	-	-	-	884	799	-	944	881	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	9.8	9.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	802	1504	-	-	1607	-	-	773
HCM Lane V/C Ratio	0.06	-	-	-	0.005	-	-	0.019
HCM Control Delay (s)	9.8	0	-	-	7.2	0	-	9.7
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	
Traffic Vol, veh/h	6	104	163	44	14	6
Future Vol, veh/h	6	104	163	44	14	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	158	247	67	21	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	247	0	-	0	423	247
Stage 1	-	-	-	-	247	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1331	-	-	-	591	797
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	587	797
Mov Cap-2 Maneuver	-	-	-	-	587	-
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	853	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	637
HCM Lane V/C Ratio	0.007	-	-	-	0.048
HCM Control Delay (s)	7.7	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	
Traffic Vol, veh/h	3	13	75	24	8	1
Future Vol, veh/h	3	13	75	24	8	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	14	82	26	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	116	95
Stage 1	-	-	-	-	95	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1495	-	-	-	885	967
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	883	967
Mov Cap-2 Maneuver	-	-	-	-	883	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	1005	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1495	-	-	-	892
HCM Lane V/C Ratio	0.002	-	-	-	0.011
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	20	86	7	10	13
Future Vol, veh/h	2	20	86	7	10	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	22	95	8	11	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	215	18	25	0	-	0
Stage 1	18	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	778	1066	1603	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	731	1066	1603	-	-	-
Mov Cap-2 Maneuver	731	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	791	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	6.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1603	-	1023	-	-
HCM Lane V/C Ratio	0.059	-	0.024	-	-
HCM Control Delay (s)	7.4	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↱	↰	↱
Traffic Vol, veh/h	0	119	214	100	30	0
Future Vol, veh/h	0	119	214	100	30	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	180	324	152	45	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	324	0	-	0	504	324
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1247	-	-	-	531	722
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	856	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1247	-	-	-	531	722
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	856	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1247	-	-	-	531	-
HCM Lane V/C Ratio	-	-	-	-	0.086	-
HCM Control Delay (s)	0	-	-	-	12.4	0
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	0	11	8	0	34
Future Vol, veh/h	13	0	11	8	0	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	0	12	9	0	37

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	53	16	0	0	21	0
Stage 1	16	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	960	1069	-	-	1608	-
Stage 1	1012	-	-	-	-	-
Stage 2	991	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	960	1069	-	-	1608	-
Mov Cap-2 Maneuver	960	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	991	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	960	1608	-
HCM Lane V/C Ratio	-	-	0.015	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	37	7	4	4	2	8	13	6	10	30	6
Future Vol, veh/h	5	37	7	4	4	2	8	13	6	10	30	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	76	76	76	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	49	9	5	5	3	11	17	8	13	39	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	58	0	0	107	84	53	96	88	7
Stage 1	-	-	-	-	-	-	66	66	-	17	17	-
Stage 2	-	-	-	-	-	-	41	18	-	79	71	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1625	-	-	1559	-	-	877	810	1020	891	806	1081
Stage 1	-	-	-	-	-	-	950	844	-	1008	885	-
Stage 2	-	-	-	-	-	-	979	884	-	935	840	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1625	-	-	1559	-	-	833	804	1020	865	800	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	833	804	-	865	800	-
Stage 1	-	-	-	-	-	-	946	841	-	1004	882	-
Stage 2	-	-	-	-	-	-	926	881	-	905	837	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	2.9	9.4	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	853	1625	-	-	1559	-	-	842
HCM Lane V/C Ratio	0.042	0.004	-	-	0.003	-	-	0.072
HCM Control Delay (s)	9.4	7.2	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↱	↰	
Traffic Vol, veh/h	3	239	122	17	58	6
Future Vol, veh/h	3	239	122	17	58	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	272	139	19	66	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	139	0	-	0	417	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	278	-
Critical Hdwy	4.1	-	-	-	7.1	6.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	6.1	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1457	-	-	-	550	915
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	733	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1457	-	-	-	549	915
Mov Cap-2 Maneuver	-	-	-	-	549	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	732	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1457	-	-	-	570
HCM Lane V/C Ratio	0.002	-	-	-	0.128
HCM Control Delay (s)	7.5	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		Y	
Traffic Vol, veh/h	2	51	7	15	23	3
Future Vol, veh/h	2	51	7	15	23	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	55	8	16	25	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	24	0	-	0	76	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	60	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1604	-	-	-	932	1069
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1604	-	-	-	931	1069
Mov Cap-2 Maneuver	-	-	-	-	931	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	967	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1604	-	-	-	945
HCM Lane V/C Ratio	0.001	-	-	-	0.03
HCM Control Delay (s)	7.2	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	64	17	7	4	4
Future Vol, veh/h	11	64	17	7	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	72	19	8	4	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	53	7	9	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	960	1081	1624	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	948	1081	1624	-	-	-
Mov Cap-2 Maneuver	948	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	5.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1624	-	1059	-	-
HCM Lane V/C Ratio	0.012	-	0.08	-	-
HCM Control Delay (s)	7.2	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↑	↱	↰	↱
Traffic Vol, veh/h	7	299	135	26	79	3
Future Vol, veh/h	7	299	135	26	79	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	60
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	340	153	30	90	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	153	0	-	0	509	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1440	-	-	-	528	898
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1440	-	-	-	524	898
Mov Cap-2 Maneuver	-	-	-	-	524	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	708	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1440	-	-	-	524	898
HCM Lane V/C Ratio	0.006	-	-	-	0.171	0.004
HCM Control Delay (s)	7.5	0	-	-	13.3	9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

APPENDIX 6.3:

OPENING YEAR (2018) CUMULATIVE WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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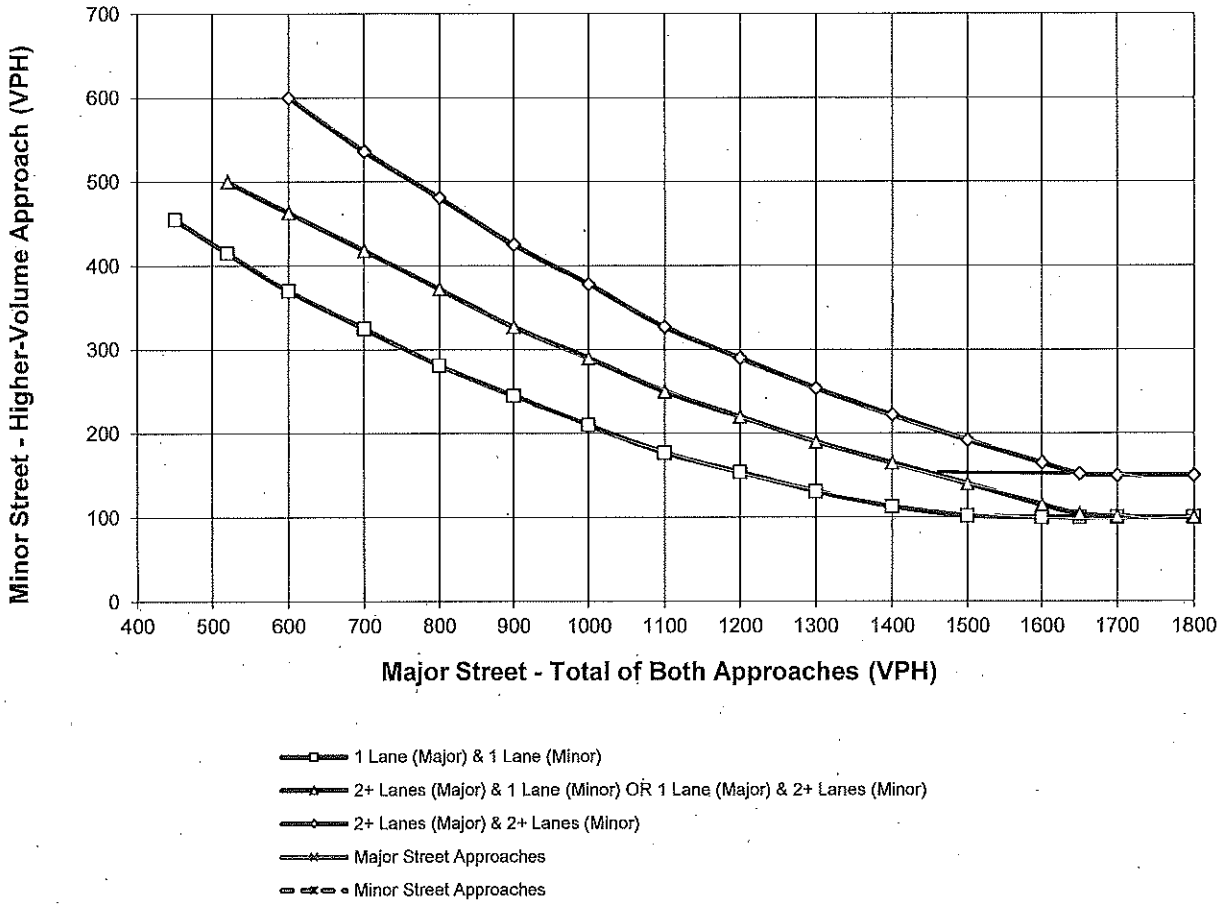
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year (2018) Without Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Yucca Road**
Total of Both Approaches (VPH) = **89**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Muskrat Avenue**
High Volume Approach (VPH) = **16**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

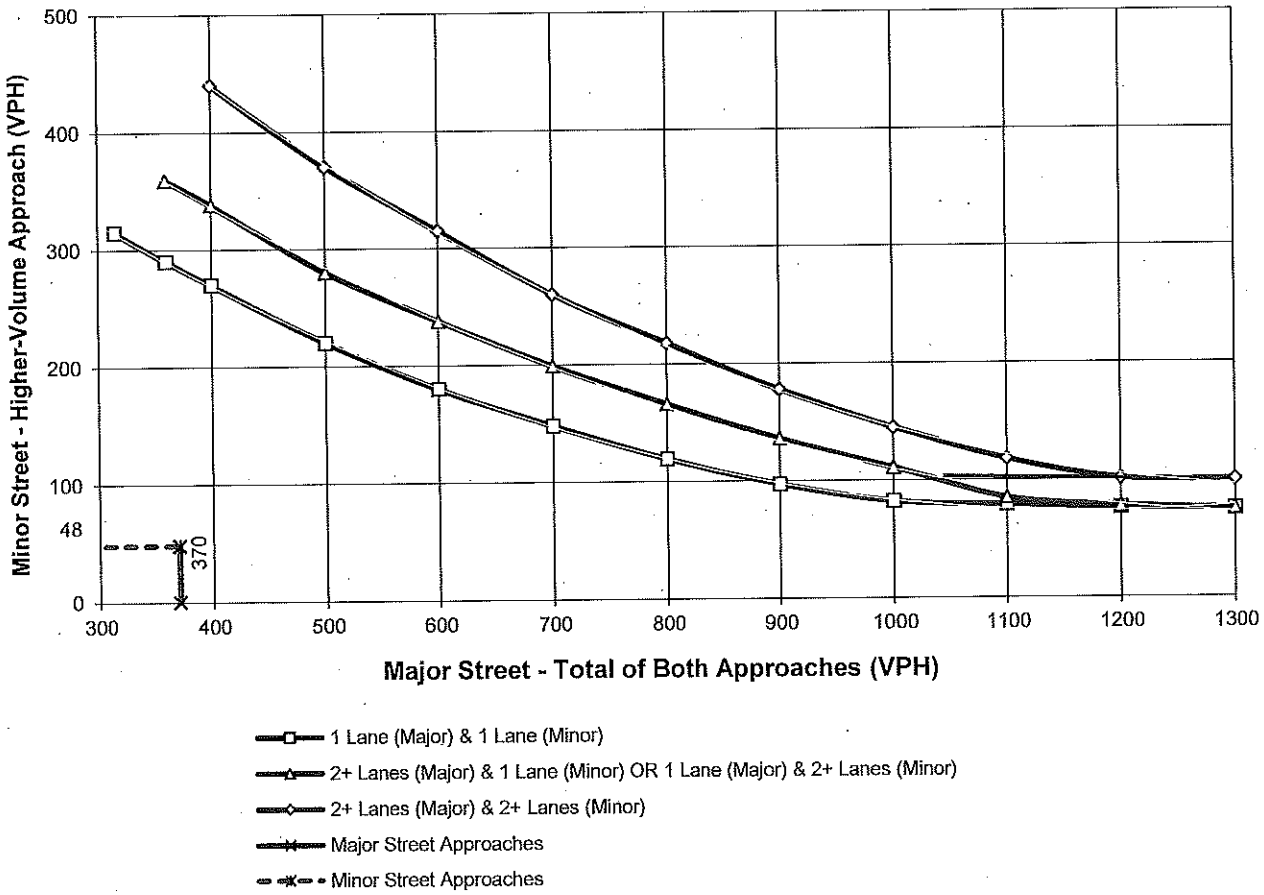
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Opening Year (2018) Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road** — Total of Both Approaches (VPH) = **370**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Muskrat Avenue** — High Volume Approach (VPH) = **48**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

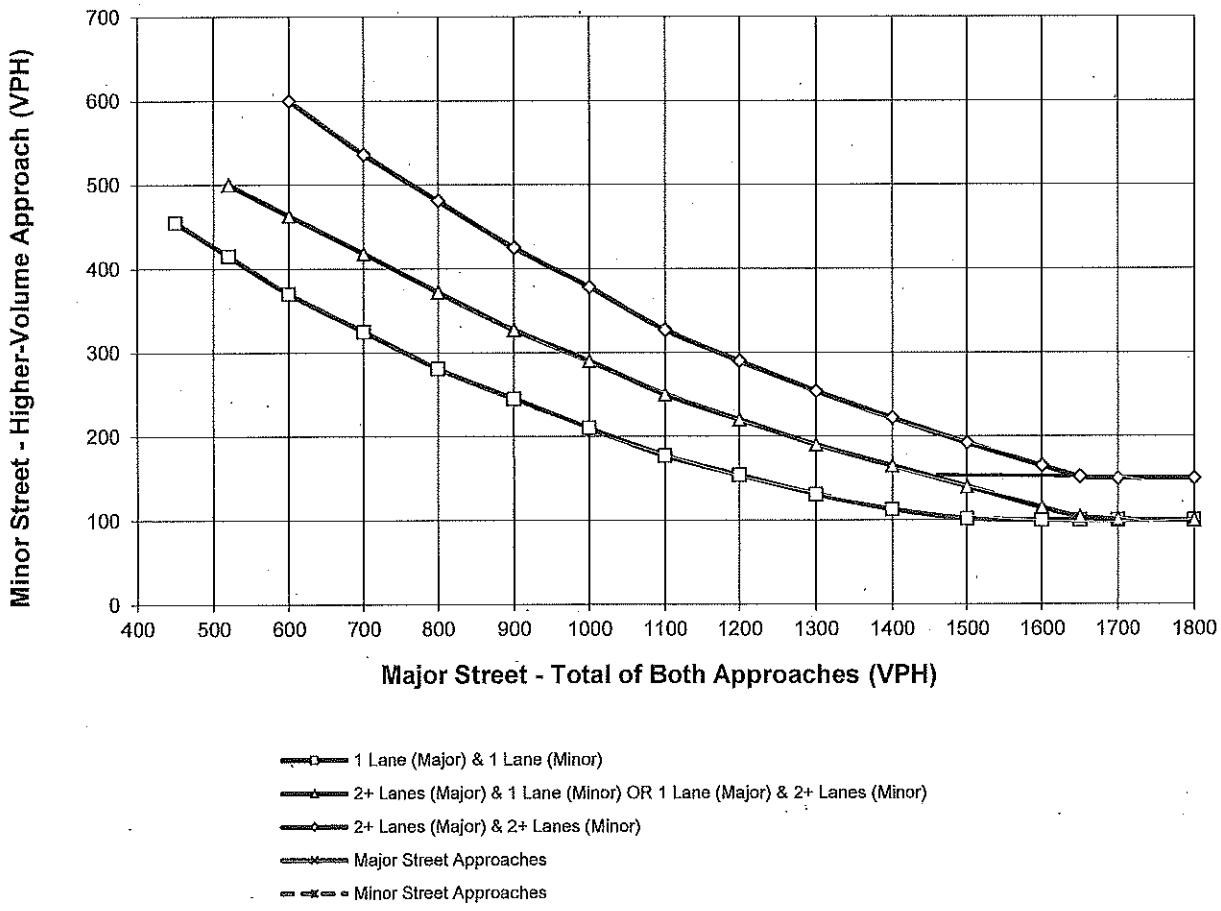
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year (2018) Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Yucca Road**
Total of Both Approaches (VPH) = **51**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Raccoon Avenue**
High Volume Approach (VPH) = **13**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

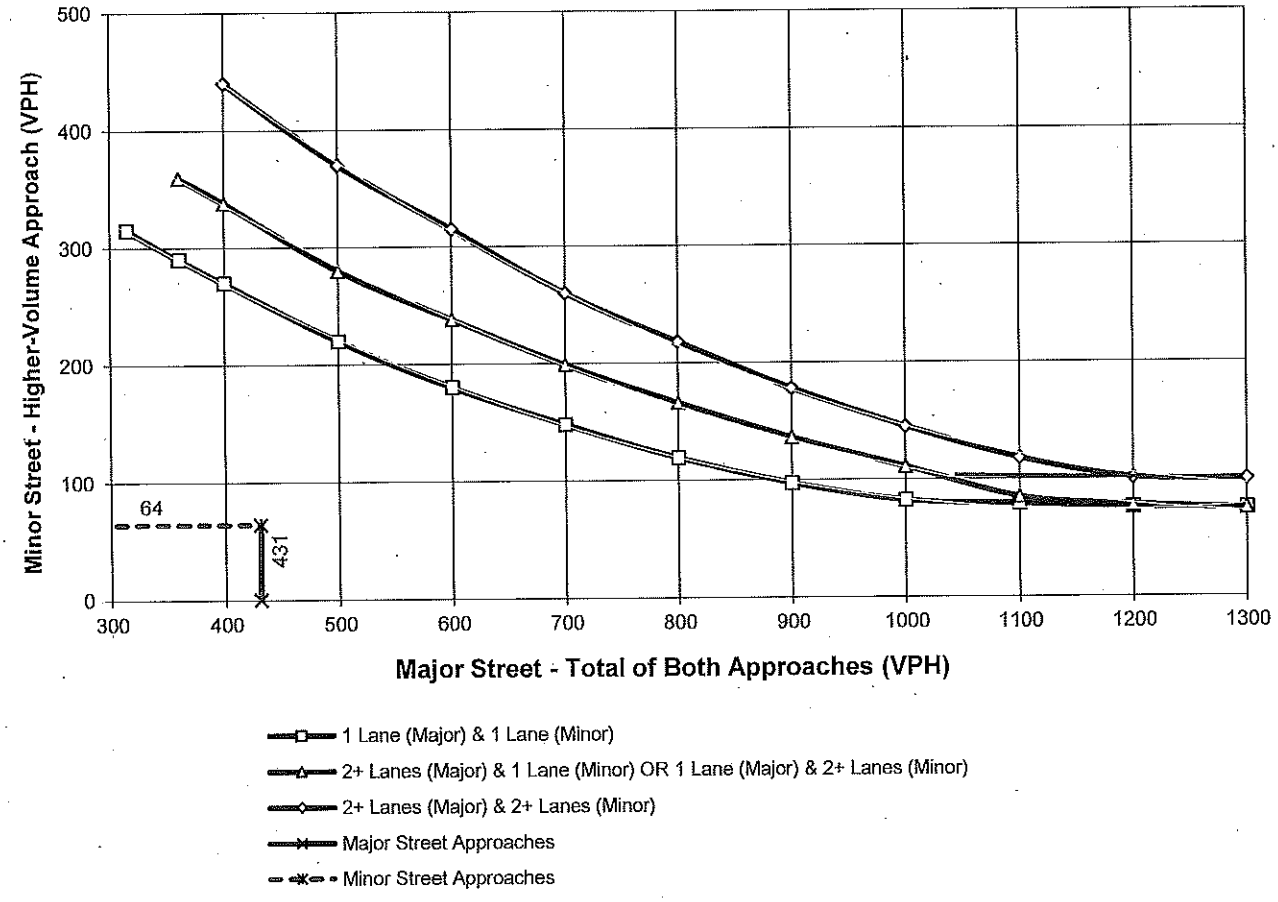
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Opening Year (2018) Without Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road** — Total of Both Approaches (VPH) = **431**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Raccoon Avenue** — High Volume Approach (VPH) = **64**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 6.4:

OPENING YEAR (2018) CUMULATIVE WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST ___ CO ___ RTE ___ PM ___ TRAFFIC CONDITIONS g Year (2018) With

CALC BA DATE 11/02/16

Jurisdiction: **City of Adelanto** CHK BA DATE 11/02/16

Major Street: **Muskrat Avenue** Critical Approach Speed (Major) 25 mph

Minor Street: **Driveway 1** Critical Approach Speed (Minor) 15 mph

Major Street Approach Lanes = **1** lane Minor Street Approach Lanes **1** lane

Major Street Future ADT = **844** vpd Minor Street Future ADT = **139** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population ..... [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL	Minimum Requirements EADT			
XX				
CONDITION A - Minimum Vehicular Volume	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **844** / *1* **139**	8,000	5,600	2,400	1,680
2 + / *1*	9,600	6,720	2,400	1,680
2 + / *2 +*	9,600	6,720	3,200	2,240
1 / *2 +*	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied / Not Satisfied XX				
Number of lanes for moving traffic on each approach				
Major Street / Minor Street	Urban	Rural	Urban	Rural
1 **844** / *1* **139**	12,000	8,400	1,200	850
2 + / *1*	14,400	10,080	1,200	850
2 + / *2 +*	14,400	10,080	1,600	1,120
1 / *2 +*	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B				
Satisfied / Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more ..... A 6% B 7%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year (2018) With Project Conditions - Weekday AM Peak Hour**

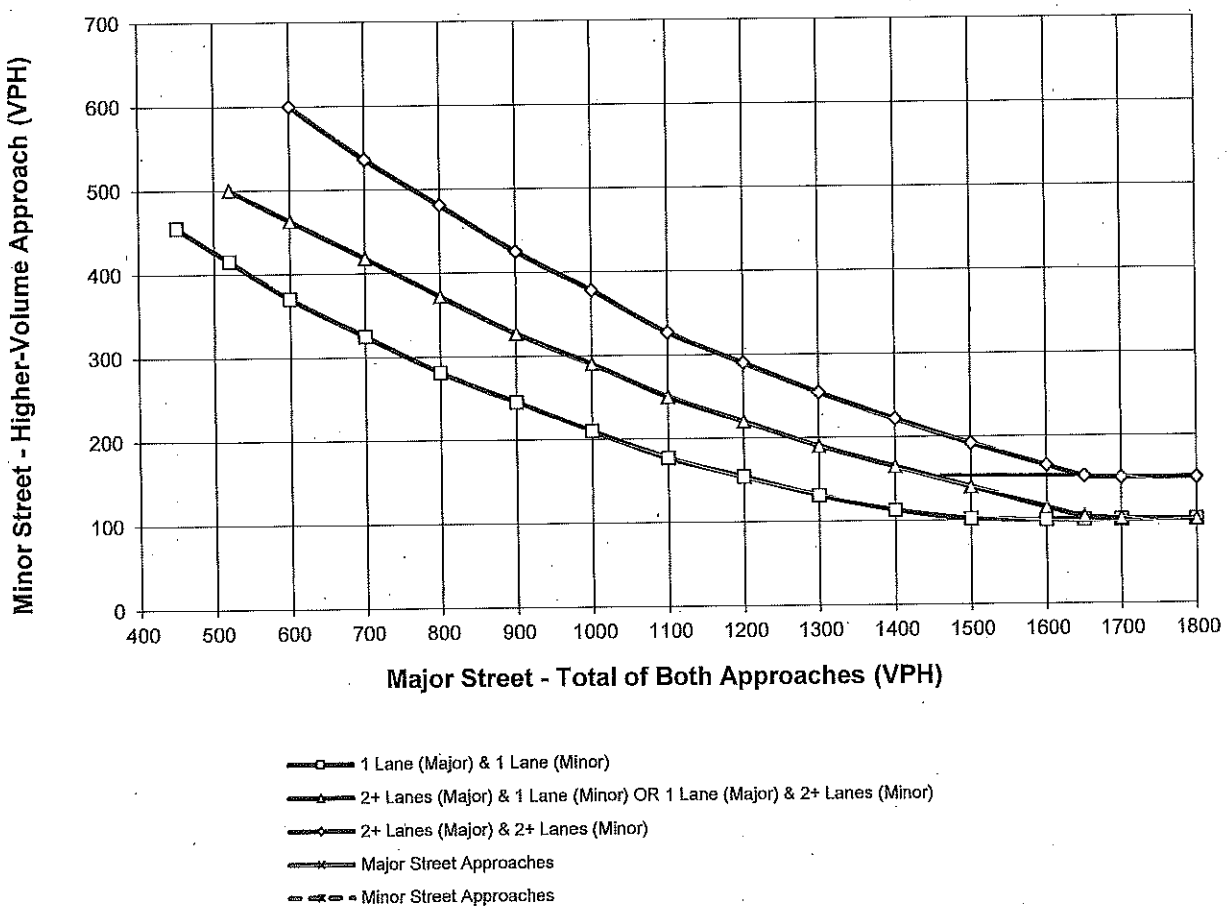
Major Street Name = **Yucca Road**

Total of Both Approaches (VPH) = **90**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Muskrat Avenue**

High Volume Approach (VPH) = **33**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

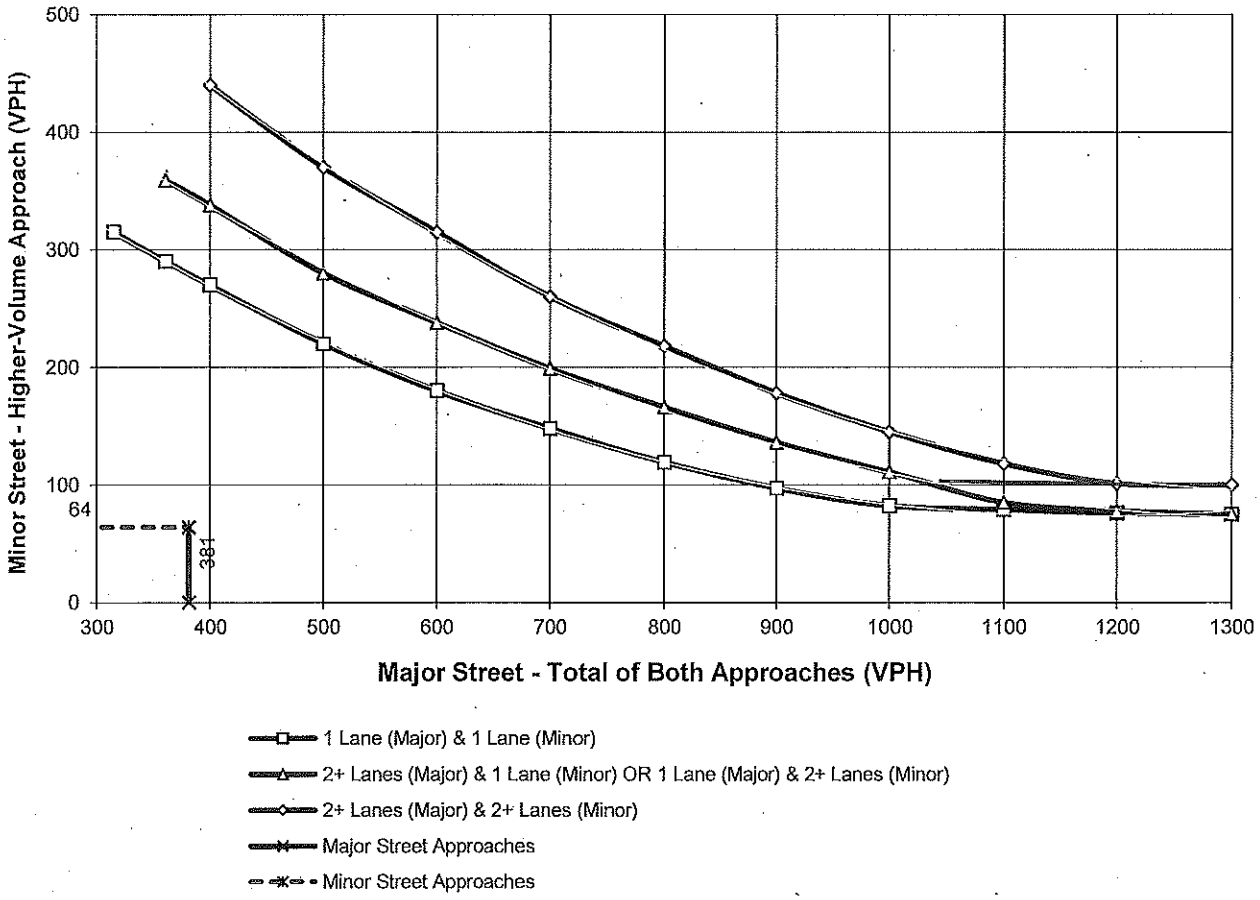
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Opening Year (2018) With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road** — Total of Both Approaches (VPH) = **381**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Muskrat Avenue** — High Volume Approach (VPH) = **64**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST ___ CO ___ RTE ___ PM ___

TRAFFIC CONDITIONS — g Year (2018) With

CALC BA DATE 11/02/16

CHK BA DATE 11/02/16

Jurisdiction: **City of Adelanto**

Major Street: **Yucca Road**

Minor Street: **Driveway 2**

Critical Approach Speed (Major) 25 mph

Critical Approach Speed (Minor) 15 mph

Major Street Approach Lanes = **1** lane

Minor Street Approach Lanes **1** lane

Major Street Future ADT = **1,221** vpd

Minor Street Future ADT = **309** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ..... [ ]

or **URBAN (U)**

In built up area of isolated community of < 10,000 population ..... [ ]

(Based on Estimated Average Daily Traffic - See Note)

URBAN / RURAL		Minimum Requirements EADT			
XX					
CONDITION A - Minimum Vehicular Volume		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach					
Major Street	Minor Street				
1 **1,221**	*1* **309**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2 +*	9,600	6,720	3,200	2,240
1	*2 +*	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Satisfied	Not Satisfied XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach					
Major Street	Minor Street				
1 **1,221**	*1* **309**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2 +*	14,400	10,080	1,600	1,120
1	*2 +*	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more	A **13%** B **10%**				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

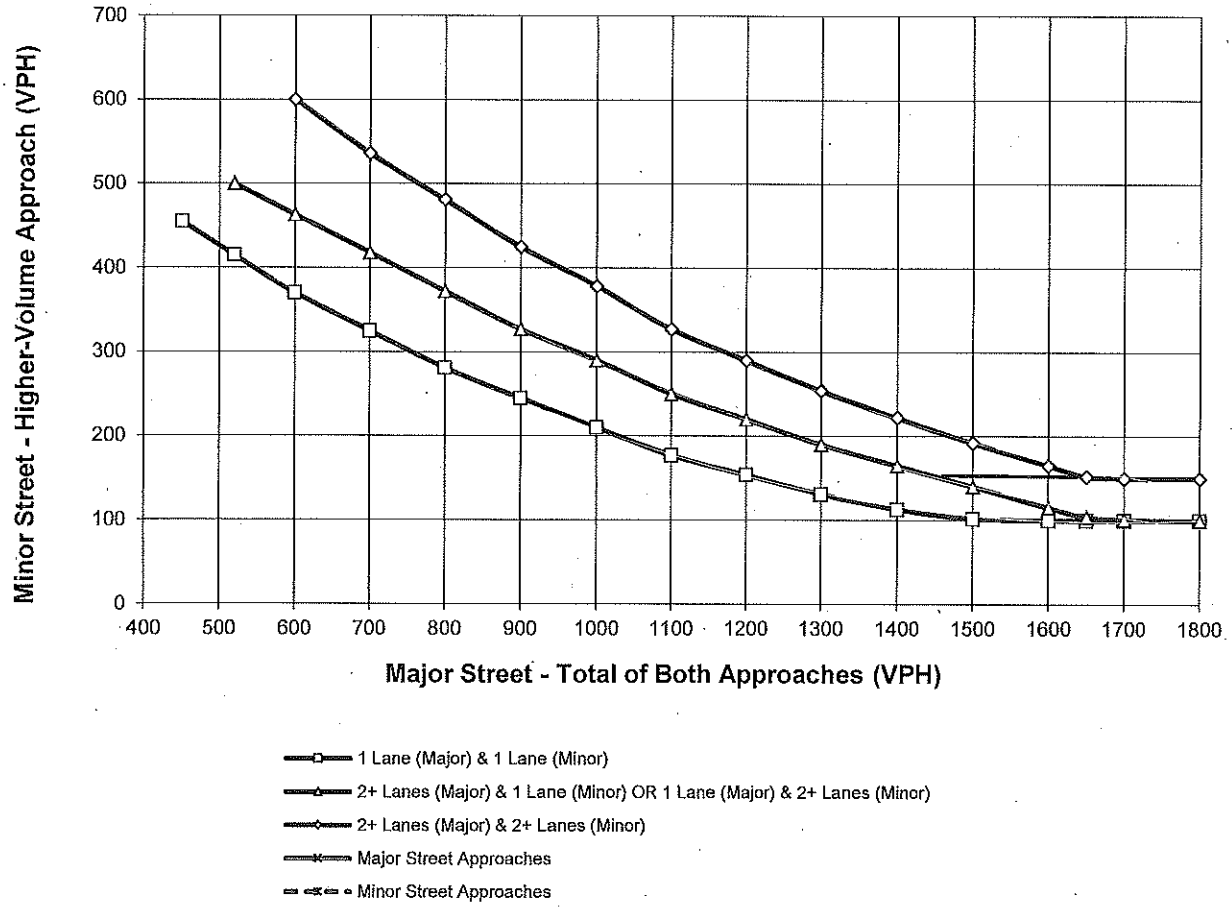
Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Opening Year (2018) With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Yucca Road**
Total of Both Approaches (VPH) = **75**
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Raccoon Avenue**
High Volume Approach (VPH) = **24**
Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

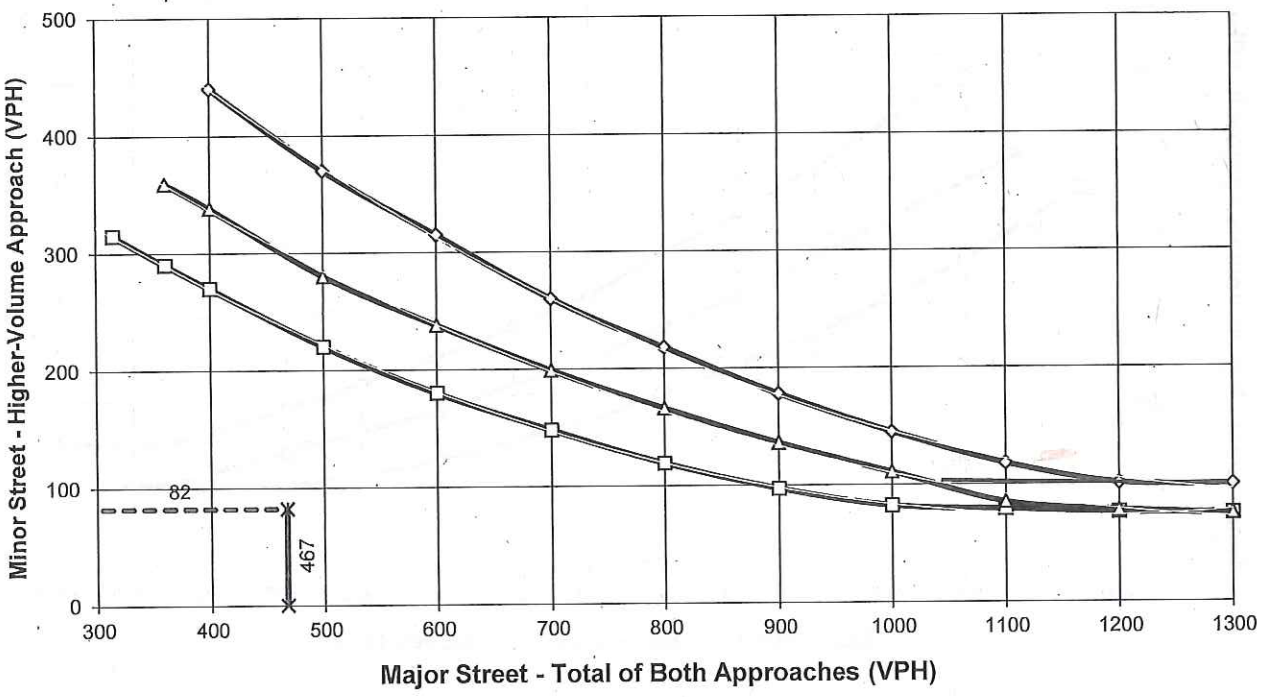
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Opening Year (2018) With Project Conditions - Weekday PM Peak Hour**

Major Street Name = **Rancho Road**
Total of Both Approaches (VPH) = **467**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Raccoon Avenue**
High Volume Approach (VPH) = **82**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane