# CITY OF DIXON

# SOUTHPARK

## DRAFT
## ENVIRONMENTAL IMPACT REPORT

July 1994

HARLAND BARTHOLOMEW & ASSOCIATES, INC.
PARSONS ENVIRONMENTAL SERVICES

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# 1 SUMMARY AND COMPREHENSIVE EVALUATION

## 1.1 PURPOSE OF THE EIR

The SWD Land Company, a joint venture of the Schulze family and Walker, Donant and Company, is proposing the development and construction of a 212.5-acre, mixed use development located adjacent to the City of Dixon, California. The project, known as the Southpark Planned Development (Southpark), would consist of a variety of housing units, two parks with a connecting Promenade Parkway, a mini-shopping plaza, an elementary school site and a site for the Maine Prairie Continuation High School.

The project site is currently designated agricultural by Solano County and is under Williamson Act contract until 1998. The City of Dixon has designated the project site with land uses that are consistent with the projects proposed land uses. Because land use on the project site is currently administered by the County, entitlements including annexation, a general plan amendment, and prezoning by the City of Dixon are required.

Prior to these actions, environmental documentation of project impacts is required pursuant to the California Environmental Quality Act (CEQA), (Public Resources Code Section 21000 et seq.), and the CEQA Guidelines (California Administrative Code Section 15000 et seq.). The purpose of this Environmental Impact Report (EIR) is to analyze the environmental effects of implementation of the project, to indicate means by which to avoid or reduce possible environmental degradation, and to identify alternatives which would avoid or reduce any significant adverse effects of the project. Environmental effects of the project which must be addressed include the significant, adverse effects of the project, growth-inducing effects of the project, effects found to be less than significant, and significant cumulative effects of past, present and reasonably anticipated future projects.

This document is being circulated for public review and comment to determine its adequacy. Once the adequacy of the document has been established it may then be used as a decision-making tool in the project approval process.

Since the Southpark Planned Development is intended to provide a program to guide the phased development of a variety of residential and other uses over a number of years, specific engineering of the project is unnecessary at this time. Instead, engineered plans for the components of each phase will be prepared according to the proposed construction sequence, but may be altered due to changes in the economy or housing trends. Accordingly, the approach to environmental documentation for the project is to provide a level of analysis for each component of the project that is commensurate with the level of detail provided by the description for that component.

Assuming Southpark is approved, as each phase is developed, the Lead Agency is required to examine the components that are associated with that phase of development and to determine whether potential effects have been fully analyzed in this EIR. If proposed components would have no effects beyond those analyzed, the Lead Agency could assert that these components are part of the environmental review which had been approved earlier and no further CEQA environmental documentation would be required. If a proposed component would have effects that were not analyzed in this program EIR, a new initial study would need to be prepared and additional focused environmental documentation would be submitted to the Lead Agency. This approach provides an opportunity to reduce the cost of CEQA compliance while achieving a high level of environmental protection.

## 1.2 ORGANIZATION OF THE EIR

This EIR presents information on the Southpark Planned Development and its anticipated effects should it be implemented. The document is organized into the chapters described below.

### Chapter 1 - Summary and Comprehensive Evaluation

The summary and comprehensive evaluation provides a brief summary of the proposed project and the anticipated environmental consequences of its development.

### Chapter 2 - Project and Alternatives Descriptions

This chapter describes the technical, economic and environmental characteristics of the proposed project and project alternatives.

### Chapter 3 - Environmental Setting, Impacts, and Mitigation

This chapter describes the environmental setting, impact evaluation criteria, impacts, and proposed mitigation measures associated with each environmental issue. The environmental setting is a description of the existing environmental conditions, especially as they relate to the various impact analyses. The impact evaluation criteria are based on the relevant State, Federal, and local environmental standards (i.e., water quality, air quality, etc.) and other criteria by which a change in the environment can be assessed. This chapter identifies potential impacts associated with implementation of the project. For the purposes of this document an impact is defined to be any measurable change in existing environmental conditions. The significance of the impact is defined as follows:

- Significant and Unavoidable – a substantial or potentially substantial adverse change in the environment for which no mitigation is available to reduce the impact to a less-than-significant level;
- Significant – a substantial or potentially adverse change in the environment which can be reduced to a less-than-significant level through available mitigation; and
- Less than Significant – an impact that would not cause a substantial adverse change in the environment and for which mitigation measures are not required.

Each impact analysis consists of an evaluation of a potential or expected change in the environment which would result from implementation of the project, an assessment of the magnitude of the impact, and mitigation, if any is available, which would reduce the impact to a level that is less than significant.

### Chapter 4 - Cumulative Impacts

This chapter describes changes in the environment which would result from the incremental impacts of the project when added to the effects of other closely related past, present, or foreseeable future projects. The chapter also provides mitigation measures which would reduce the cumulative impacts to a level that is less than significant. Cumulative impacts are defined as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. These impacts can result from individually minor, but collectively significant, projects taking place over a period of time. The cumulative impact analysis assesses cumulative environmental degradation as the sum of its component parts. The discussion is to be guided by standards of practicability and reasonableness.

### Chapter 5 - Alternatives Analysis

This chapter provides an analysis of alternatives to the proposed project which could attain the basic objectives of the project while eliminating or reducing identified adverse impacts to acceptable levels.

### Chapter 6 - References

This chapter identifies references that were used in preparing the EIR.

## 1.3 THE PROJECT AND THE ALTERNATIVES

The project and alternatives to the project that are evaluated in the EIR include the No Project Alternative, Southpark Planned Development, Reduced Density Development Alternative, and the Increased Density Development Alternative. A comparative land use summary for these alternatives is provided in Table 1.3-1.

**Table 1.3-1**

Land Use Summary for Project Alternatives

| Land Use | No Project Alternatives | Reduced Density Development Alternative | Southpark | Increased Density Development Alternative |
|---|---|---|---|---|
| Agriculture | 212.5 acres | 0 acres | 0 acres | 0 acres |
| Residential | 0 units | 747 units | 951 units | 1,200 units |
| Commercial | 0 acres | 3.7 acres | 3.7 acres | 3.7 acres |
| School Sites | 0 acres | 12.5 acres | 12.5 acres | 12.5 acres |
| Parks | 0 acres | 16.4 acres | 16.4 acres | 16.4 acres |
| Roads | 0 acres | 8.8 acres | 8.8 acres | 8.8 acres |

Source: Harland Bartholomew & Associates, 1994

The project and alternatives to the project are described in greater detail in Chapter 2 - Project and Alternatives Descriptions. The analysis of impacts associated with development of the project alternatives is provided in Chapter 5 - Alternatives Analysis.

## 1.4 PROCESSING OF THE EIR

The tentative schedule for processing this EIR is provided in Table 1.4-1.

## Table 1.4-1

Tentative Processing Schedule

| Activity | Date |
|---|---|
| Draft EIR Circulation (45 days) | July 8, 1994 |
| City of Dixon Planning Commission Meeting | August 16, 1994 |
| 45-day Circulation Completed | August 23, 1994 |
| Final EIR Released | (30-45 days after end of circulation period) |
| City of Dixon Planning Commission Meeting | October 1994 |
| Dixon City Council Meeting | November 1994 |
| Document Certified and Complete | November 1994 |

Source: Harland Bartholomew & Associates, 1994

### CEQA Process

Pursuant to the California Environmental Quality Act (CEQA), discretionary decisions by public agencies regarding non-exempt public and private projects are subject to environmental review. The purpose of an environmental impact report (EIR) is to identify the significant effects of the project on the environment, to identify alternatives to the project, and to indicate the manner in which significant effects can be mitigated or avoided. Each public agency is required to mitigate or avoid the significant environmental effects of projects it approves or carries out whenever it is feasible to do so. If the significant effects can not be avoided or mitigated, the City must make findings of overriding consideration to approve the project.

### Initial Evaluation

During preliminary review of the project, the Lead Agency (City of Dixon) conducted an evaluation to determine if the project could have a significant effect on the environment. The CEQA Initial Environmental Checklist which was prepared during this evaluation is provided in Appendix A. The Environmental Checklist identifies potential significant effects which may result from implementation of the project and as such the City determined that an EIR must be prepared.

### Notice of Preparation

On February 15, 1991, a Notice of Preparation (NOP), State Clearinghouse No. 91023085, was distributed to responsible and interested agencies. The NOP informed the agencies that an EIR would be prepared for the Southpark annexation, general plan amendment and prezoning. The agencies or organizations which responded to the NOP (Appendix B) include the following:

- Yolo/Solano Air Pollution Control District;
- City of Dixon Department of Parks and Recreation;
- State of California Department of Conservation; and
- Solano County Local Agency Formation Commission.

### Public Comment Period

The Draft EIR is being circulated for 45 days to allow public agencies and interested individuals to review and comment on the document. The Draft EIR is available during this period at the following locations:

- City of Dixon
  Community Development Department
  600 East A Street
  Dixon, California 95620

- Harland Bartholomew and Associates
  2233 Watt Avenue, Suite 330
  Sacramento, California 95825

- Dixon City Library
  135 East B Street
  Dixon, California 95620

Public Agencies and interested individuals are encouraged submit comments on the Draft EIR for consideration and inclusion in the Final EIR. Comments are to be sent to:

- James Louie
  City of Dixon
  600 East A Street
  Dixon, California 95620

To facilitate a clear understanding of the comments, please provide a separate sentence or paragraph for each comment and note the page and chapter of the EIR to which the comment is directed. This approach to the commenting on the document will help facilitate the response to comments and preparation of the Final EIR.

### Final EIR

At the end of the public review period, written responses will be prepared for all comments received during the circulation period. The comments and responses will then be included in the Final EIR and will be considered by the Lead Agency prior to certification of the adequacy of the EIR.

### City of Dixon Certification

Prior to approval of the project, the City of Dixon must certify that the EIR has been completed in compliance with CEQA and must make one or more of the following findings for each significant impact that is identified:

- that changes or alterations have been required in, or incorporated into the project, that avoid or substantially lessen the significant effect;
- that the Lead Agency lacks jurisdiction to make the change, but that another agency does have such authority; or
- that specific economic, social or other considerations make unfeasible the mitigation measures or project alternatives identified in the Final EIR.

These findings must be supported by substantial evidence in the administrative record, which includes the NOP, comments on the NOP, Draft EIR, comments on the Draft EIR, Final EIR, and comments received during public testimony.

### Responsible Agencies

Other agencies which may use this document in approving portions of the project include, but are not limited to:

- Solano County Local Area Formation Commission; and
- California Department of Fish and Game.

## 1.5 DOCUMENTS INCORPORATED BY REFERENCE

The following documents are incorporated by reference into this Environmental Impact Report pursuant to Section 15150 of the California Environmental Quality Act Guidelines. Copies of these documents are available for review at the City of Dixon Community Development Department or at the respective adopting agencies.

- Southpark Planned Development. SWD Land Company, June 1993.
- City of Dixon General Plan. City of Dixon Planning Department, 1993.
- City of Dixon Zoning Ordinance. City of Dixon Planning Department, July 1991.
- 1991 Zoning Map. City of Dixon Planning Department.
- Final Report, Dixon Storm Drainage Master Plan--Phase II. Brown and Caldwell, February 1991. Prepared for City of Dixon Department of Public Works.
- Initial Study Report. Wastewater Treatment Plant Expansion Project. Dewante And Stowell, October 1991. CEQA - Prepared for City of Dixon Department of Public Works.
- Twenty Year Facilities Master Plan. Dixon Unified School District. Shilts Consultants, Inc., November 1992.

In addition to the above documents, several other sources of information were used for background data. These information sources are footnoted when used and are referenced in Chapter 6 of this Environmental Impact Report.

## 1.6 PROJECT ISSUES

An initial evaluation of the project by the City of Dixon and comments received in response to the Notice of Preparation have identified several issues which are evaluated and discussed in the EIR. These issues are:

- the loss of approximately 212.5 acres of prime farmland currently under Williamson Act contract;
- the potential loss of high value foraging habitat for Swainson's hawk (a species which is listed by the State of California as "Threatened");
- increased trip generation on State Highway 113 and other local roadways and associated impacts to the circulation network;
- the exposure of future residents to significant levels of noise;
- significant cumulative air quality impacts due to mobile emissions from increased trip generation; and
- increased need for utilities, municipal services and other infrastructure.

## 1.7 SUMMARY OF IMPACTS

Table 1.7-1 was created by listing each environmental impact identified in Chapters 3 and 4 of this document. Each impact statement is accompanied by a list of mitigation measures, if available, which are recommended to reduce the impact to a level which is less than significant. Following the entry of each impact and its associated mitigation measures, the level of significance after mitigation is identified.

## Table 1.7-1

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| **SOILS AND GEOLOGY** | | | |
| Alteration of Site Topography and Surface Geologic Features | L | No mitigation is required. | L |
| High Potential for Shrink/Swell of On-site Soils | S | For each development phase, the project applicant shall provide a site-specific geologic assessment that identifies the shrink/swell potential for that portion of the site. If shrink/swell potential is detected, appropriate measures shall be identified by a registered geologist or geotechnical engineer and incorporated into the design of the development. These design features shall be a condition of issuance of the grading permit. Implementation of these design features would reduce shrink-swell impacts to a level that is less than significant. | L |
| Erosion of Soils as a Result of Construction Activities | PS | The following mitigation measures shall be implemented to reduce potential erosion impacts to a level that is less than significant.<br>• Prior to the issuance of a grading permit, the City Public Works Department shall approve drainage and stormwater runoff control systems and their component facilities to insure that they are non-erosive in design;<br>• During construction, the applicant shall not leave disturbed areas exposed during the rainy season or for more than seven continuous days if not actively under construction;<br>• Areas disturbed by construction activity shall be revegetated immediately following construction to reduce the hazard of erosion;<br>• Construction machinery shall be operated and stored only within construction areas and one designated parking area; and<br>• Existing vegetation shall be retained in all other parts of the project area. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

# Table 1.7-1 (Continued)

## Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Permanent Disruption, Displacement, Compaction and Overcovering of On-site Soils | SU | No mitigation is available to reduce the impact to a level that is less than significant. | SU |
| **HYDROLOGY AND DRAINAGE** | | | |
| Increased Runoff Due to the Creation of Impervious Surfaces | S | The project applicant, in coordination with the City of Dixon Public Works Department, shall prepare a site drainage plan which incorporates storm drains, lateral and trunk drainage lines, and other facilities as necessary to ensure adequate drainage of surface runoff at the Southpark site. This plan shall be reviewed and approved by the City of Dixon Public Work Department prior to issuance of a grading permit.<br><br>As a condition of the issuance of the grading permit, the project applicant shall contribute a fair share of the costs of design, siting, and construction of Detention Basin C. A fair share of the total costs (i.e., percentage of total cost) shall be based upon the percentage of the developed portion of Area C that is represented by the developed portion of the Southpark site. Detention Basin C shall be designed to have sufficient capacity to allow the City to meet its obligation to discharge no more than 77 cfs to the DRCD drainage system.<br><br>Implementation of these mitigation measures would reduce this impact to a level that is less than significant. | L |
| Addition of Urban Pollutants to Surface Runoff | PS | The following mitigation measures are adapted from the Master Drainage Plan EIR to reduce the significance of urban pollutants in the surface drainage system. However, because surface water quality data are unavailable and no water quality monitoring has been implemented by the City, the effect of urban pollutants to surface water resources cannot be quantitatively analyzed. Therefore, this impact remains potentially significant after mitigation. | PS |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Addition of Urban Pollutants to Surface Runoff (continued) | | An Erosion and Sediment Control Plan, using Best Management Practices, shall be prepared by the project applicant and approved by the City of Dixon Public Works Department prior to the issuance of a grading permit. The plan shall detail the specific measures necessary to reduce the potential for soil erosion during grading and construction activities.<br><br>These measures may include:<br>• Limiting the amount of motorized traffic on the project site during construction to minimize loss of existing protective vegetation and reduce soil disturbance;<br>• Performing construction activities in the late spring and early summer to allow maximum revegetation prior to heavy runoff;<br>• Landscaping with selected native or non-native plants conducive to erosion protection; and<br>• Application of mulches or other surface protection materials to minimize the exposed soil surface.<br><br>As a condition of the grading permit, the project applicant shall obtain a NPDES (National Pollutant Discharge Elimination System) construction stormwater permit from the Regional Water Quality Control Board.<br><br>The City of Dixon shall design and construct Detention Basin C to include an intake basin for the purpose of reducing scour. This design will increase the ability of the detention facility to retain urban runoff pollutants. | |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

# Table 1.7-1 (Continued)

## Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Addition of Urban Pollutants to Surface Runoff (continued) | | As a condition of issuance of the grading permit, the project applicant shall contribute a fair share of the costs for the on-going maintenance of Detention Basin C to the Dixon Enterprise Fund when that fund is formed. A fair share of the on-going costs shall be based upon the percentage of the developed portion of Area C that is represented by the developed portion of the Southpark site. Maintenance shall include periodic monitoring of the sediments in the detention facility. If the sediments are found to contain hazardous materials, the sediments shall be dredged and disposed of at an appropriate hazardous waste facility. | |
| Contamination of Groundwater from Urban Surface Water Pollutants | PS | The following mitigation measures has been adapted from the Draft Environmental Impact Report for the Dixon Master Drainage Plan (Brown and Caldwell, 1989) to reduce the potential for groundwater contamination to a level that is less than significant.<br>The City of Dixon Public Works Department shall site Detention Basin C in a location where groundwater will be sufficiently separated from the lowest point of excavation in the basin. This siting would minimize the possibility of groundwater surfacing in the basin and coming into direct contact with basin sediments that may contain hazardous constituents. | L |
| Reduction of Groundwater Recharge | L | No mitigation is required. | L |
| **VEGETATION** | | | |
| Loss of Native and Non-native Vegetation | L | No mitigation is required. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| **WILDLIFE** | | | |
| Potential Loss of Burrowing Owls and Burrowing Owl Habitat | PS | Prior to issuance of a grading permit, a DFG-approved raptor biologist shall survey all potential burrowing owl habitat and record the presence of individual burrowing owls, sign of burrowing owls (i.e. fecal whitewash at the entrance to burrows, etc.) and all burrows that are in use by individuals.<br>No grading shall then be allowed during the nesting season (April-July) within 125 feet of any nest burrow identified by the DFG-approved raptor biologist.<br>Prior to grading within burrowing owl habitat in which individual owls have been identified by the DFG-approved raptor biologist, all individual burrowing owls will be trapped or carefully excavated and relocated to a DFG-approved location. All trapping shall be supervised by the DFG-approved raptor biologist. Implementation of these measures would reduce potential burrowing owl impacts to a level that is less than significant. | L |
| Loss of Wildlife Habitat Provided by Agricultural Land | L | No mitigation is required. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| **TRAFFIC AND CIRCULATION** | | | |
| Intersection Meets Peak Hour Warrant for Signalization | S | Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of constructing a traffic signal at the intersection of First Street and A Street. Since signalization and other intersection turn lane improvements have been identified at this location as part of the traffic analysis for the Final Draft General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the Final Draft General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce impacts associated with the need for intersection signalization to a level that is less than significant. | L |
| Signalized Intersection Level of Service Less than D | S | Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of adding separate right turn lanes at the east and west approaches to the intersection of First Street and A Street. Since similar improvements have been identified at this location as part of the traffic analysis for the Final Draft General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce impacts associated with signalized intersection level of service to a level that is less than significant. | L |
| Unsignalized Intersections Level of Service Less than E | L | No mitigation is required | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Street Segment Level of Service Less than D | S | Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of adding separate right turn lanes at the east and west approaches to the intersection of First Street and A Street. Since similar improvements have been identified at this location as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the street segment level of service impact to a level that is less than significant. | L |
| Inadequate Parking or Internal Circulation | L | No mitigation is required. | L |
| Inadequate Provisions for Bicycle, Pedestrian, or Transit Access | L | No mitigation is required. | L |
| Potential Increase in Traffic Hazards | L | No mitigation is required. | L |
| **AIR QUALITY** | | | |
| Generation of Construction Related Air Pollutant Emissions | PS | To reduce emissions during construction to a level that is less than significant, the following measures shall be implemented during all phases of project development:<br>• Dust emission shall be controlled by application of water. Water shall be applied using watering trucks, or sprinklers, as often as is necessary to keep the exposed soils damp;<br>• Construction equipment shall be maintained and tuned at the interval recommended by the manufacturers to minimize exhaust emissions;<br>• Equipment idling shall be kept to a minimum when equipment is not in use; | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Generation of Construction Related Air Pollutant Emissions (continued) | | • Areas exposed by construction activities shall be paved or covered to prevent erosion as soon as practical within the needs of the construction project; and<br>• The construction contractor shall post a publicly visible sign on the project site during construction operations which specifies the telephone number and person/agency to contact for complaints and/or inquires on dust generation and other air quality problems resulting from project construction. | |
| Generation Of Long-Term $PM_{10}$ Emissions | S | The City of Dixon shall implement the following measures to reduce long-term $PM_{10}$ emissions to less than significant levels:<br>• Require alternative means of residential heating other than wood burning units lacking catalytic converters; and<br>• Implement the circulation improvements contained in the Final Draft General Plan Environmental Assessment to provide adequate traffic circulation in order to reduce congestion and therefore air emissions. | L |
| Generation of Ozone Precursor Emissions | SU | As part of project development, Southpark shall include on-site amenities that promote use of forms of transportation that are alternatives to the use of the automobile. Such amenities include bicycle parking spaces at the multi-family and commercial sites, and adequate road width for on-street bicycle lanes and off-street bike paths.<br>The City of Dixon shall implement the Circulation Plan contained in the 1993 City of Dixon General Plan to provide adequate traffic circulation in order to reduce congestion and air emissions. | SU |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Generation of Ozone Precursor Emissions (continued) | | Prior to issuance of any tract of a parcel map, the project proponent shall dedicate the necessary right-of-way for a future bus turn out southbound on the First Street project frontage. The City of Dixon shall coordinate with the project proponent regarding the specific location and design requirements.<br>These mitigation measures would lessen the impact, but would not reduce the impact to less than significant, Therefore, the impact would remain significant and unavoidable. | |
| Generation of Carbon Monoxide Emissions From Project-Induced Motor Vehicle Traffic | L | No mitigation is required. | L |
| **NOISE** | | | |
| First Street Traffic Noise Effects on Southpark Commercial Uses | L | No mitigation is required. | L |
| First Street Traffic Noise Effects on Southpark Multi-Family Residential Uses | S | Sound attenuation in the form of a wall can reduce the estimated noise level to 65 dB at the multi-family residential uses. Based on preliminary assumptions regarding the type of multi-family housing unit and location of the wall, the attenuation would be accomplished with the following geometric description:<br>• 4 foot sound attenuation wall, berm or combination that equals the required height;<br>• Roadway and building pads are at the same elevation;<br>• Wall or berm is located 25 feet from the First Street centerline; and | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| First Street Traffic Noise Effects on Southpark Multi-Family Residential Uses (Continued) | | • Housing units are located a minimum of 50 feet from First Street centerline.<br>Prior to issuance of a building permit, the project proponent shall comply with the sound attenuation provisions listed above or provide additional sound analysis based on further refinement of the project description. Implementation of these measures would reduce First Street traffic noise impacts on Southpark multi-family residential uses to a level that is less than significant. | |
| Parkway Boulevard Traffic Noise Effects on Southpark Multi-Family Residential Uses | L | No mitigation is required. | L |
| Parkway Boulevard Traffic Noise Effects on Southpark Single-Family Residential Uses | L | No mitigation is required. | L |
| Railroad Noise Effects on Southpark Single-Family Residential Uses | S | Sound attenuation in the form of a wall can reduce the estimated noise level to 65 dB at the single-family residential uses located adjacent to the railroad tracks. Based on preliminary assumptions regarding the type of single-family housing unit and location of the wall, sound attenuation would be accomplished with the following geometric description:<br>• 12.5 foot sound attenuation wall, berm or combination that equals the required height;<br>• Railroad base is six feet above building pad elevation; | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Railroad Noise Effects on Southpark Single-Family Residential Uses (Continued) | | • Only single-story housing units are allowed in the orchard lots;<br>• Wall is located 60 feet from the railroad; and<br>• Housing units are located a minimum of 185 feet from the railroad.<br>Adherence with the Uniform Building Code during project construction would reduce interior noise an additional 20 dB. The resultant interior noise level of 45 dB would meet the standard for interior noise per state regulations (State Office of Noise Control).<br>Prior to issuance of a building permit, the project proponent shall comply with the sound attenuation provisions listed above or provide additional sound analysis based on further refinement of the project description. Compliance with these measures would reduce noise impacts from the adjacent railroad to a less than significant level. | |
| **LAND USE** | | | |
| Project Consistency with General Plan and Zoning Designations | S | The City of Dixon shall annex the project site, and shall amend the Dixon Zoning Ordinance to be consistent with the proposed land uses. This measure would reduce the impact to a level that is less than significant. | L |
| Conversion of 212.5 Acres of Prime Farmland to Non-agricultural Uses | SU | No mitigation is available to reduce this impact to a level that is less than significant. | SU |
| Non-Renewal of a 212.5-acre Williamson Act Contract | L | No mitigation is required. | L |
| Conflicts Between Southpark Land Uses and Adjoining Agricultural Uses | PS | The City shall ensure that all property buyers are informed of Chapter 2A of the County Code and its provisions prior to the final sale of any property within the Southpark project site. This measure would reduce the impact to a level that is less than significant. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Conflicts Between Proposed Development and Existing SID Easements | PS | The project applicant shall consult with the Solano Irrigation District prior to the siting and construction of all buildings, roads, parks and other facilities which intersect or lie adjacent to the existing SID easement to ensure that the project does not conflict with the terms and conditions of the SID easement. This measure would reduce the impact to a level that is less than significant. | L |
| Conflicts Between Proposed Development and Existing Mineral Rights Easements | PS | The City of Dixon shall require the preparation of a noise analysis prior to the approval of a natural gas extraction facility on either of the mineral rights easements located within the Southpark site. This noise analysis shall quantify projected noise levels from all proposed natural gas extraction facilities. The analysis shall then propose mitigation, such as a compressor housing, to reduce noise impacts in surrounding residential areas to a level that is less than significant. | L |
| **POPULATION AND HOUSING** | | | |
| Substantial Residential Growth of the City | L | No mitigation is required. | L |
| Increase in the Housing Vacancy Rate in the City | L | No mitigation is required. | L |
| Disruption or Division of the Physical Arrangement of the City | L | No mitigation is required. | L |
| Compliance with the Housing Distribution Goals of the ABAG Housing Needs Plan | L | No mitigation is required. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| **PUBLIC SERVICES AND UTILITIES** | | | |
| Increased Demand for Water | S | As a condition of the issuance of a grading permit, the project applicant shall be required to build a 12-inch water main. Future attachers to the line would reimburse the applicant. The applicant shall also contribute a fair share of the costs of constructing a new 1,500 gpm deepwell, booster pump station (2,000 gpm), and a 500,000 gallon storage tank. A fair share of the costs shall be based upon the percentage of the area served by the new facilities that is represented by the developed portion of the Southpark site. Implementation of this measure would reduce the impacts to a level that is less than significant. | L |
| Increased Need for Wastewater Treatment | L | No mitigation is required. | L |
| Effect of Increased Amount of Wastewater on Existing 27-inch Main | S | The project applicant shall contribute a fair share of the costs of an area wide assessment, or fee, which may be established to fund the construction of the proposed 36-inch trunk. A fair share of the costs shall be based upon the percentage of the area served by the new facilities that is represented by the developed portion of the Southpark site. Implementation of this measure will reduce the impact to a level that is less than significant. | L |
| Increased Amount of Solid Waste Disposal to B&J Landfill | L | No mitigation is required. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

# Table 1.7-1 (Continued)

## Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Increased Demand for Police Services | S | The City shall provide for the hiring of four officers in order to maintain acceptable police service levels. General funds from property taxes would provide for the hiring of new personnel. The City shall also impose an impact fee for the potential incremental increase of the need for new police officers. The project applicant shall be responsible for paying its fair share for additional staff and equipment to serve the project site. Implementation of this measure would reduce the impacts to a level that is less than significant. | L |
| Increased Demand for Fire Protection Services | S | The City shall provide for the hiring of professional firemen and the recruiting of volunteer firemen in order to maintain acceptable fire protection service levels. General funds from property taxes would provide for the hiring of new personnel. The City shall also impose an impact fee for the potential incremental increased need for new firemen. Prior to recordation of a final map or issuance of a grading permit, the project applicant shall <u>either</u> dedicate land for a fire station and provide financial contributions toward equipment and personnel <u>or</u> shall participate in the establishment of an assessment district in which all property owners in the area would dedicate funds towards the establishment of adequate fire protection facilities. An AB 1600 fire protection impact fee shall be collected to offset the developer's portion of a new station and one-third of a ladder truck. Implementation of these measures would reduce the impacts to a level that is less than significant. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Increased Demand for School Services | S | The project applicant shall meet with the Dixon Unified School District to determine the mitigation required based on the one-time school impact mitigation fee of $5.42 per square foot for new residential development and $0.28 per square foot for commercial development as referred to in the Dixon Unified School District Twenty Year Facility Master Plan. Other mitigation options include participating in a Community Services District or the provision of a school site in lieu of fees. (It should be noted that the applicant has proposed to donate land in the Northeast corner of the project site for a continuation high school.) | L |
| Increased Demand for Park and Recreation Services | L | No mitigation is required. | L |
| Proposed Northern Park Site Located Adjacent to Proposed School Site | S | The project applicant shall alter the design of the area under question. In order to provide a physical separation between the proposed northern park site and the proposed school site, alternate designs would include: a roadway, a landscaped walking path and/or bike path, a wall or fence with breaks to allow for ingress and egress to and from the school site. Implementation of this measure would reduce the impact to a level that is less than significant. | L |
| Increased Demand for Natural Gas and Electricity | L | No mitigation is required. | L |
| **HUMAN HEALTH AND SAFETY** | | | |
| Exposure of Southpark Population to Localized Flooding | PS | Drainage facilities for the proposed project shall be designed such that all new development within the Southpark Planned Development is constructed at a minimum of one foot above the 100-year base flood elevation. Implementation of this measure would reduce the impacts to a level that is less than significant. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

# Table 1.7-1 (Continued)

## Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Exposure of Southpark Population to Seismic Hazards | S | All structures shall be engineered to meet the Uniform Building Code construction standards for Seismic Zone 4. Implementation of this measure would reduce the impacts to a level that is less than significant. | L |
| Exposure of Southpark Population to Hazardous Chemicals | PS | If an Area Plan has not been adopted prior to issuance of building permits, the applicant, in coordination with the City of Dixon, shall develop an evacuation plan that addresses a potential hazardous wastes or materials spill on the SPTCo railroad line. Implementation of this measure would reduce the impacts to a level that is less than significant. | L |
| Potential for Improper Disposal of Hazardous Wastes at the Project Site | L | No mitigation is required. | L |
| **VISUAL RESOURCES** | | | |
| Replacement of Open Space With Urban Land Uses | PS | Project plans shall provide for the undergrounding of all utilities that are visible from public rights-of-way. A landscaping program designed with an emphasis toward the South First Street (Highway 113) entrance to the City of Dixon shall be included in these plans. Prior to the issuance of any building permits, the project proponent shall submit these plans to the City Planning Department for approval. The Planning Department will make a determination as to whether project landscaping conforms to the City of Dixon's landscaping requirement as found in the Zoning Ordinance (Section 12.26). Implementation of these mitigation measures would reduce visual impacts from Southpark to a level that is less than significant. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Introduction of New Sources of Night Lighting | PS | As lighting plans are formulated, design of lighting for specific building projects shall be guided by the following principles:<br>• avoid interference with reasonable use of adjoining properties;<br>• minimize on-site glare; provide adequate on-site lighting;<br>• limit height of pole lighting to avoid excessive illumination;<br>• provide lighting structures which are compatible with landscape design along roadways and commercial structures;<br>• use trees to screen lighting;<br>• outdoor lighting shall be hooded and directed downward to minimize direct light and glare impacts on public rights-of-way;<br>• driveway lights shall be of a height which minimizes light and glare impacts;<br>• indirect "box" lights shall be used for driveways and parking lot lighting; and<br>• prior to the issuance of occupancy permits, the project proponent shall submit a lighting plan to the City Planning Department for a conformance determination.<br>In addition, building materials that reflect minimal light and glare shall be used on all on-site structures. Prior to issuance of building permits, the project proponent shall be subject to the City Planning Department's regular design review.<br>Implementation of these mitigation measures would reduce project specific light and glare impacts from interior and exterior lights on neighboring residential areas and roadways to a level that is less than significant. | L |
| Introduction of New Sources of Glare | L | No mitigation is required. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| **CULTURAL RESOURCES** | | | |
| Potential Disturbance of Archaeological Resources | PS | All trenching and excavation associated with the project shall be monitored by an archaeologist. If any buried archaeological resources are discovered during construction activities, all work will be halted in the vicinity of the find in order for the monitoring archaeologist to determine whether the find is an isolated example or part of a more complex resource. Upon determining the significance of the resource, the consulting archaeologist, in coordination with the City, shall determine the appropriate actions to be taken. The appropriate measures may include as little as recording the resource with the California Archaeological Inventory database or as much as excavation, recording, and preservation of sites that have outstanding cultural or historic significance.<br>Archaeological resources include artifacts of stone, shell, bone, or other natural materials. Associated with artifacts are hearths, house floors, and dumps. Historic artifacts include all byproducts of human use greater than 50 years old. Human burials, if encountered, require notification of the county coroner. Implementation of these mitigation measures would reduce the potential for disturbance to buried archaeological or historic resources to a level that is less than significant. | L |
| **CUMULATIVE IMPACTS** | | | |
| Cumulative Urban Stormwater Runoff Impacts to Surface Water Quality | S | The City of Dixon shall implement the water quality monitoring program as detailed in the Final Environmental Impact Report prepared for the Dixon Master Drainage Plan. Surface water quality monitoring data may then be used to assess cumulative water quality impacts and develop appropriate stormwater discharge controls. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Cumulative Urban Stormwater Runoff Impacts to Surface Water Quality (continued) | | The project applicant shall contribute a fair share toward the implementation of the City of Dixon water quality monitoring program. This fair share shall be based on the runoff calculations of the Southpark site relative to the total runoff calculations for the City of Dixon. Implementation of these measures would reduce the impact to a level that is less than significant. | |
| Cumulative Loss of Swainson's Hawk Foraging Habitat | S | No disturbance, construction or other project-related activities which may cause abandonment or forced fledgling shall occur within 1/2 mile of the active Swainson's hawk nest located immediately to the south of the Southpark site during March 1 - August 15 or until the fledglings are no longer dependent upon the nest tree.<br><br>Alternatively, the applicant shall fund an intensive monitoring program of the nest site by a California Department of Fish and Game-approved raptor biologist to determine if construction or project-related activities are affecting the behavior of the adults or fledglings in such a way that nest abandonment or forced fledgling may occur. Should behaviors be observed that are recognized as preceding nest abandonment or forced fledgling, all construction or project-related activities within a 1/2 mile of the nest shall cease.<br><br>The applicant shall also participate in one of the following mitigation programs to reduce the impacts from loss of Swainson's hawk foraging habitat to less than significant.<br><br>• The applicant shall prepare a Swainson's Hawk Habitat Management Plan (HMP) as a condition of approval for a California Fish and Game Code Section 2081 Management Agreement that will allow for "incidental take" of Swainson's Hawk habitat. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Cumulative Loss of Swainson's Hawk Foraging Habitat (Continued) | | • Alternatively, the applicant shall join the City of Dixon as a participant in a countywide effort to prepare a Swainson's hawk HMP for a California Fish and Game Code Section 2081 Management Agreement that will comprehensively address the "incidental take" of all Swainson's hawk that would occur as a consequence of the City's project approvals. | |
| Intersections Meet Peak Hour Warrant for Signalization with Cumulative Traffic | S | Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of constructing traffic signals at the intersections of First Street/A Street, Pitt School Road/A Street, Evans Road/ A Street, First Street/H Street, and First Street/Vaughn Road. Since signalization and other intersection turn lane improvements have been identified at these locations as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the impact to a level that is less than significant. | L |
| Signalized Intersection Levels of Service Less than D with Cumulative Traffic | S | The following mitigation measures would reduce identified intersection level of service impacts so that they would meet the LOS D criteria for signalized intersections. The improved intersection configurations are shown in Figure 4-2.<br><br>Intersection 5: Evans Road/A Street. The intersection would operate at LOS B (V/C=0.68) during the a.m. peak hour and LOS C (V/C=0.78) during the p.m. peak hour with the following intersection design: | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Signalized Intersection Levels of Service Less than D with Cumulative Traffic (Continued) | | • northbound approach - - one exclusive left turn lane, one exclusive through lane and one exclusive right turn lane;<br>• southbound approach - - one exclusive left turn lane, one exclusive through lane and one exclusive right turn lane;<br>• eastbound approach - - one exclusive left turn lane, two exclusive through lanes and one exclusive right turn lane; and<br>• westbound approach - - two exclusive left turn lanes, one exclusive through lane and one shared through/right turn lane.<br>Intersection 13: First Street/Vaughn Road. The provision of a second left turn lane at the eastbound intersection approach would result in LOS C (V/C = 0.77) operations during the a.m. peak hour and LOS D (V/C = 0.86) operations during the p.m. peak hour. This improvement is required as mitigation that is additional to the planned North First Street Improvements.<br>In summary, project cumulative mitigation measures are listed below and can be implemented via application of the following mitigation measure discussion. Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of constructing the following improvements. Since these intersection turn lane improvements have been identified as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the impact to a level that is less than significant. | |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Signalized Intersection Levels of Service Less than D with Cumulative Traffic (Continued) | | • Construction of a separate left turn lane eastbound and westbound at the First Street/A Street intersections.<br>• Construction of an additional left turn lane westbound for a total of two left turn lanes, a separate right turn lane northbound, a separate left turn lane eastbound and a second through lane eastbound at the Evans Road/A Street intersection;<br>• Construction of a separate right turn lane eastbound at the First Street/H Street intersection; and<br>• Construction of a second left turn lane eastbound at the First Street/Vaughn Road intersection. | |
| Interchange Level of Service Less than D with Cumulative Traffic | S | Although specific interchange details have not been developed at this time, the City of Dixon acknowledges that additional studies of future interchange requirements are needed. To serve the projected year 2010 traffic volumes, each interchange would require additional capacity including reconstruction of the interchange, grade separations and, in some cases, reconfiguration of the interchange ramps. Detailed design studies that evaluate alternative interchange concepts should be performed in coordination with Caltrans to establish long-range designs for the interchanges. Right-of-way requirements should be established at the earliest possible time to provide a basis for preserving additional right-of-way that may be necessary. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Interchange Level of Service Less than D with Cumulative Traffic (Continued) | | Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of improving the I-80 interchanges. Since these improvements were acknowledged as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the impact to a level that is less than significant. | |
| Unsignalized Intersection Level of Service Less than E with Cumulative Traffic | L | No mitigation is required. | L |
| Street Segment Level of Service Less than D with Cumulative Traffic | S | To provide acceptable street segment levels of service, the following mitigation measures are recommended:<br>• A Street east of Pitt School Road widening to 2 minor arterial travel lanes in each direction;<br>• Dixon Avenue widening to 3 major arterial travel lanes in each direction from I-80 to Pitt School Road; and<br>• Batavia Road widening to 2 minor arterial travel lanes in each direction from Dixon Avenue to South of the I-80 ramp. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## Table 1.7-1 (Continued)

### Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Street Segment Level of Service Less than D with Cumulative Traffic (Continued) | | Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of these road widenings. Since these roadway improvements have been identified at these locations as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the impact to a level that is less than significant. | |
| Generation of Carbon Monoxide Emissions From Cumulative Plus Project-Induced Motor Vehicle Traffic | L | No mitigation is required. | L |
| Generation of Ozone Precursor Emissions with Cumulative Growth | SU | As part of project development, Southpark shall include on-site amenities that promote use of forms of transportation that are alternatives to the use of the automobile. Such amenities include bicycle parking spaces at the multi-family and commercial sites, and adequate road width for on-street bicycle lanes off-street bike paths.<br>The City of Dixon shall implement the Circulation Plan contained in the Dixon General Plan to provide adequate traffic circulation in order to reduce congestion and air emissions.<br>Prior to issuance of any tract of a parcel map, the project proponent shall dedicate the necessary right-of-way for a future bus turn out southbound on the First Street project frontage. The City of Dixon shall coordinate with the project proponent regarding the specific location and design requirements.<br>These mitigation measures would lessen the impact, but would not reduce the impact to less than significant, Therefore, the impact would remain significant and unavoidable. | SU |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

# Table 1.7-1 (Continued)

## Summary of Impacts and Mitigation

| Impact | Significance | Mitigation | Significance after Mitigation |
|---|---|---|---|
| Cumulative First Street and Parkway Boulevard Traffic Noise Effects | L | No mitigation is required. | L |
| Cumulative Increases in Wastewater Generation | S | The City of Dixon shall ensure that the capacity of the WWTP is expanded concurrently with development of urban land uses in the Dixon Planning Area. The project applicant shall pay a fair share toward these expansion costs. This fair share shall be based on the percentage of additional wastewater generated by the developed portion of Southpark relative to the total amount of wastewater generated by new development. Implementation of these measures would reduce the impact to a level that is less than significant. | L |
| Cumulative Increase in Solid Waste Disposal to B&J Landfill | PS | The City of Dixon shall negotiate an agreement with the B&J Landfill, or another appropriate solid waste disposal facility, to ensure capacity for solid waste disposal is adequate for the development of urban land uses in the Dixon Planning Area through the year 2010. The project applicant shall contribute a fair share toward any expansion costs that may occur. This fair share shall be based on the percentage of additional solid waste generated by the developed portion of Southpark relative to the total amount of solid waste generated by new development. Implementation of these measures would reduce the impact to a level that is less than significant. | L |
| Cumulative Increase in the Jobs/Housing Imbalance | L | No mitigation is required. | L |

Notes: SU = Significant and Unavoidable S = Significant L = Less than Significant B = Beneficial PS = Potentially Significant

## 1.8 IMPACTS FOUND NOT TO BE SIGNIFICANT

CEQA requires that a draft EIR provide a brief statement indicating why the lead agency determined that various possible significant impacts were actually not significant and were not discussed in detail. This EIR addresses all impacts (i.e., changes in the environment as a consequence of project development), regardless of magnitude, to avoid errors of omission (see Chapter 3 - Environmental Setting, Impacts and Mitigation and Chapter 4 - Cumulative Impacts). Impacts found to be less than significant are addressed by a similar level of analysis as impacts found to be significant. Significance of an impact is assessed in relation to the impact evaluation criteria provided in each section. A summary of impacts from Chapters 3 and 4 found not to be significant is provided below:

- Alteration of Site Topography and Surface Geologic Features;
- Reduction of Groundwater Recharge;
- Loss of Native and Non-native Vegetation;
- Loss of Wildlife Habitat Provided by Agricultural Land;
- Unsignalized Intersections Level of Service Less than E;
- Inadequate Parking or Internal Circulation;
- Inadequate Provisions for Bicycle, Pedestrian, or Transit Access;
- Potential Increase in Traffic Hazards;
- Generation of Carbon Monoxide Emissions from Project-Induced Motor Vehicle Traffic;
- First Street Traffic Noise Effects on Southpark Commercial Uses;
- Parkway Boulevard Traffic Noise Effects on Southpark Multi-Family Residential Uses;
- Parkway Boulevard Traffic Noise Effects on Southpark Single-Family Residential Uses;
- Non-Renewal of a 212.5-acre Williamson Act Contract;
- Substantial Residential Growth of the City;
- Increase in the Housing Vacancy Rate in the City;
- Disruption or Division of the Physical Arrangement of the City;
- Compliance with the Housing Distribution Goals of the ABAG Housing Needs Plan;
- Increased Need for Wastewater Treatment;
- Increased Amount of Solid Waste Disposal to B&J Landfill;
- Increased Demand for Park and Recreation Services;
- Increased Demand for Natural Gas and Electricity;
- Potential for Improper Disposal of Hazardous Wastes at the Project Site;
- Introduction of New Sources of Glare;
- Unsignalized Intersection Level of Service Less than E with Cumulative Traffic;
- Generation of Carbon Monoxide Emissions Caused by Cumulative Plus Project - Induced Motor Vehicle Traffic;
- Cumulative First Street and Parkway Boulevard Traffic Noise Effects; and
- Cumulative Increase in the Jobs/Housing Imbalance.

## 1.9 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD OCCUR IF THE PROJECT IS IMPLEMENTED

The Southpark Planned Development would irreversibly commit vacant land to urban use through the development of roads and other infrastructure, the construction of 951 to 964 residential dwelling units, and the construction of neighborhood commercial land uses.

Development of the site would result in the irreversible removal of prime farmland from agricultural production, the irreversible alteration of an open space view shed to an urban setting, and the loss of land that provides suitable foraging habitat for the State Threatened Swainson's hawk. In addition, traffic generated by the project would result in an increase of ozone precursor emissions within the regional air basin.

Although development of the Southpark Planned Development would not necessarily commit future use of the site to the type and intensity of uses proposed by the project, grading, construction and operation of the project would result in the above described irreversible environmental changes due to the irretrievable commitment of resources. These irreversible environmental changes would extend beyond the useful lifetime of the proposed project.

## 1.10 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY.

The long-term cumulative impacts of the Southpark Planned Development are addressed in detail in Chapter 4 - Cumulative Impacts. These impacts include:

- Cumulative Increase in Urban Stormwater Runoff;
- Cumulative Reduction in Surface Water Quality;
- Cumulative Loss of Swainson's Hawk Foraging Habitat;
- Cumulative Increase in Traffic;
- Cumulative Generation of Ozone Precursor and Carbon Monoxide Emissions;
- Cumulative Increase in Traffic Noise Level;
- Cumulative Increase in Wastewater Generation;
- Cumulative Increase in Solid Waste Disposal; and
- Cumulative Increase in the Jobs/Housing Imbalance.

Other long-term impacts associated with Southpark include the loss of prime farmland. As a result of the above impacts, Southpark would narrow the existing range of beneficial uses of the project site.

Implementation of Southpark represents a long-term commitment of the project site to urban uses. Existing uses, including agricultural use and use as Swainson's hawk habitat, would therefore be precluded by the project. However, because the Southpark Planned Development contributes housing for planned and anticipated growth addressed in the 1993 City of Dixon General Plan, development of the project would address impacts associated with the need for additional housing in the City. In addition, given that all surrounding land in the vicinity of Dixon is important farmland and Swainson's hawk foraging habitat, these impacts cannot be diminished by development of alternative sites. Development of land that is not contiguous with the City may be able to reduce these latter impacts, but would introduce new or additional impacts associated with the provision of public services and utilities and growth-inducement. Development of the Southpark Planned Development, would therefore not provide for local short-term uses of the environment at the expense of long-term productivity and does not justify reserving the project site for future options or alternatives.

## 1.11 GROWTH INDUCING IMPACTS OF THE PROPOSED PROJECT

According to CEQA standards, a project would be considered to have a significant adverse impact on the environment if it would induce substantial growth or concentration of population. If the project, either directly or indirectly, would foster the construction of additional housing, there would be significant growth-inducing impacts. Growth is often induced through one or more of the following actions: extending urban services into a previously unserved area, extending a major roadway into a previously unserved area, or establishing major new employment opportunities.

Development of Southpark, as proposed, would buildout 212.5 acres of vacant land located adjacent to and immediately to the south of the City of Dixon. Approximately 951 to 964 dwelling units would be added to the housing stock of the City and would provide housing for an estimated 2,891 to 2,931 individuals. Inherent within the purpose of the project is the development of housing for growth planned for and anticipated by the 1993 City of Dixon General Plan. Growth-inducing impacts associated with Southpark would be considered to be any effects of the project that would allow for additional growth or increase in population beyond that proposed by the project.

Southpark would be connected to existing utilities and would require development of utility infrastructure on the project site. The project would also require the development of domestic water and wastewater infrastructure at off-site locations in order to service the project (see Section 3.11 - Pubic Services and Utilities and Chapter 4 - Cumulative Impacts). Upgrade of these latter utility systems would be designed to increase capacity deficiencies associated with development of the project and would not have growth-inducing effects beyond the housing provided by the project.

Development of the railroad overcrossing (see Section 3.6 - Traffic and Circulation and Section 3.10 - Population and Housing), would have potential growth-inducing impacts due to the provision of a new major roadway along the southern boundary of the City. However, due to compliance with the provisions of Measure "B" and the phasing plan of the 1993 City of Dixon General Plan, any growth inducing impacts associated with this roadway would not be expected to occur until after the year 2025. Growth-inducing impacts associated with Southpark are therefore considered to be less than significant.

# 2 PROJECT AND ALTERNATIVES DESCRIPTIONS

## 2.1 PROJECT LOCATION

The project site is located adjacent to and southwest of the City of Dixon in northeastern Solano County (Figure 2.1-1). The project site is approximately 7 miles east of Vacaville and 15 miles west of Sacramento. The site is bound by the Silveyville Cemetery and South First Street on the east, by West Cherry Street on the north, by the Southern Pacific Transportation Company railroad right-of-way on the west, and by the West A Street Assessment District retention pond on the south.

The terrain is flat, currently designated for agricultural uses, and under Williamson Act contract until 1998. A 22-foot wide Solano Irrigation District (SID) easement transects the site in an east-west direction.

## 2.2 PROJECT BACKGROUND

The project was initiated in response to the need for affordable housing in the Dixon area. A 212.5-acre mixed-use development, to be known as Southpark, is being proposed by the SWD Land Company (SWD), a joint venture of the Schulze family and Walker, Donant and Company. Southpark is one of three large development proposals that have been submitted to the City of Dixon. Adopted in December 1993, the General Plan designates the Southpark project site as an urban expansion area. Actions required prior to project development are:

- Specific Plan approval;
- Annexation;
- Prezoning to residential and neighborhood commercial uses; and
- Development application approval (i.e., subdivision map, conditional use permit, master plan, etc.)

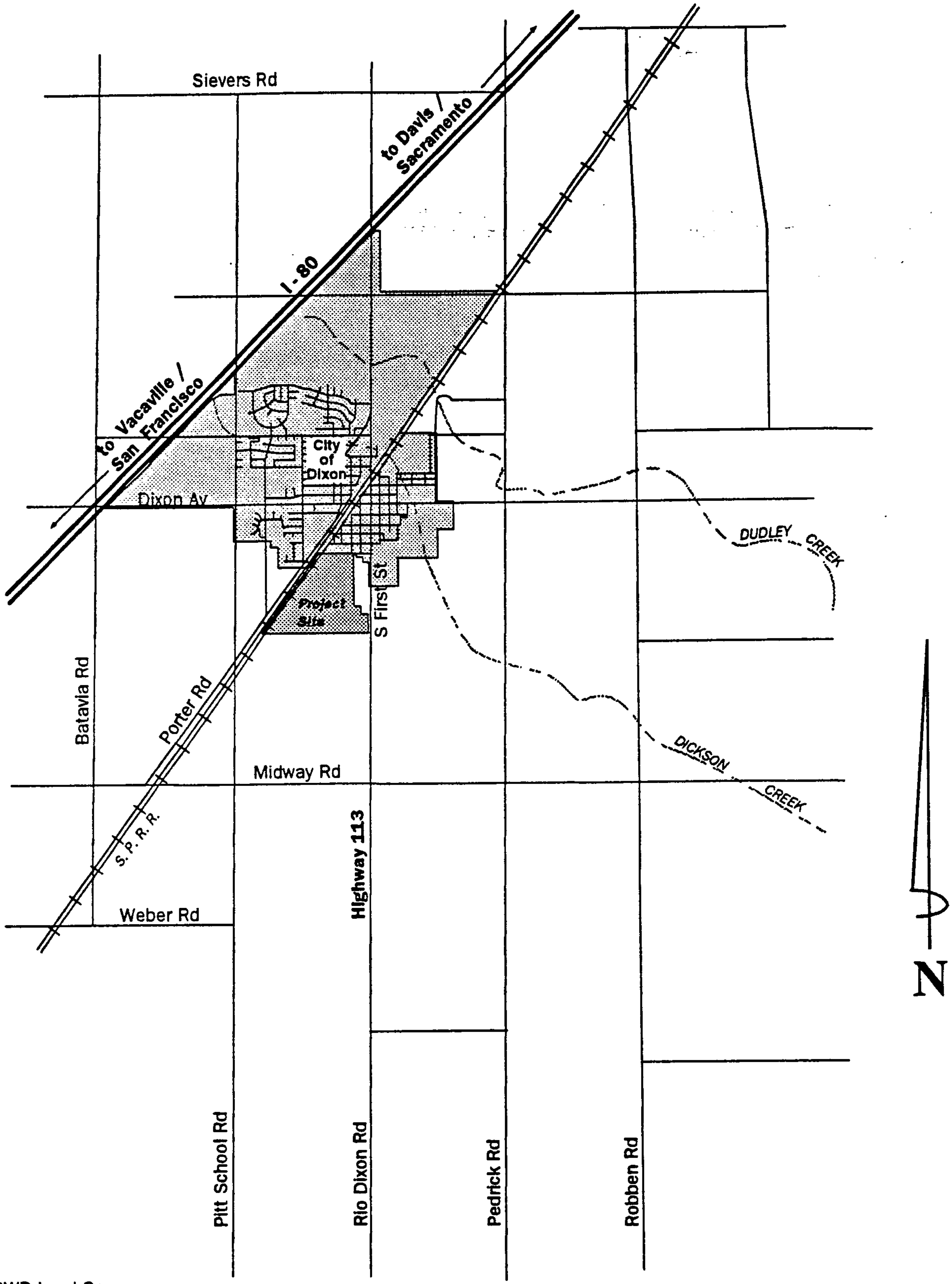
## 2.3 PROJECT OBJECTIVES

The project applicant, SWD Land Company, has prepared an outline of development objectives for the proposed project. These objectives are:

- provide a variety of housing densities and different levels of affordability that are compatible with the Dixon Housing Needs Plan;
- create a Village Community comprised of smaller neighborhoods;
- target pedestrian orientation as a key element of the community;
- provide safe convenient access for pedestrians, bicyclists, and motorists to the school, parks, mini-shopping plaza, and to downtown, as well as the remainder of Dixon; and
- promote the interrelationship of parks and residents.

## 2.4 SOUTHPARK PLANNED DEVELOPMENT

The Southpark Planned Development (Appendix C) is a 212.5 acre, master planned village community located adjacent to the Dixon city limits. Southpark includes a variety of housing types, two parks, a mini-shopping plaza, and two school sites (Figure 2.4-1). The design concept of the Southpark Master Plan is that of a village community comprised of smaller neighborhoods.

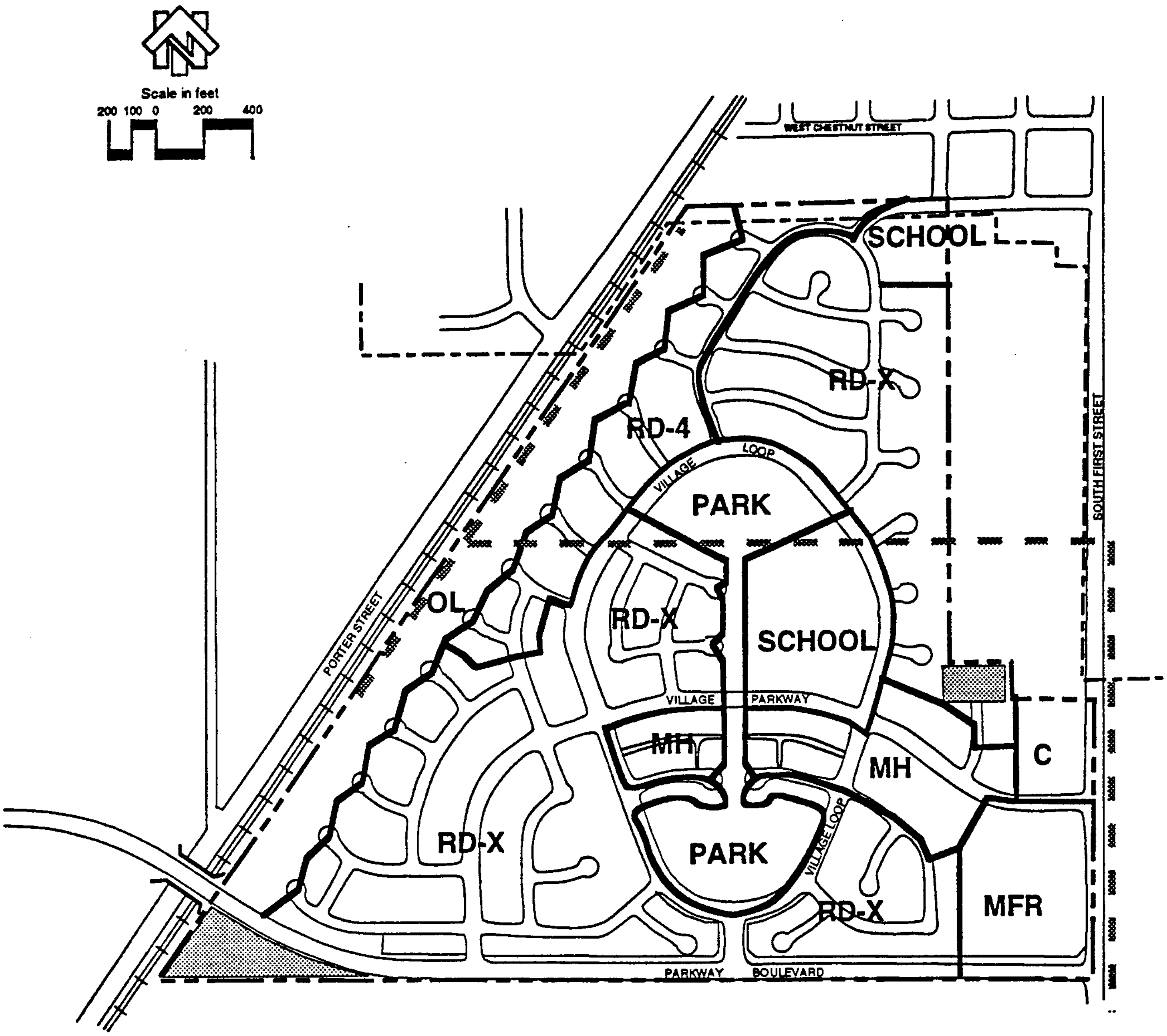



Source: SWD Land Co.
File: Graphics/Dixon Vicinity Map
Layers: Location/Text/Base/City Limits/Border

***City Of Dixon***
***Southpark EIR***

**Location Map**

***Figure 2.1-1***




LEGEND

| | |
|---|---|
| C | COMMERCIAL |
| OL | ORCHARD LOTS |
| RD-X | SINGLE FAMILY RESIDENTIAL (varies from RD-5 to RD-8) |
| MH | MANOR HOMES |
| MFR | MULTI-FAMILY RESIDENTIAL |
| | MINERAL RIGHTS EASEMENT |
| | S.I.D. EASEMENT |

Source: SWD Land Co.
File:Graphics/Southpark Subdiv Maps
Layers: Constraints/Border/Text/Dev Plan/Base



**Southpark Development Plan**

*Figure 2.4-1*

The concept is based on the arrangement of land uses and the hierarchy of the street pattern within the project site. The proposed land uses are summarized in Table 2.4-1.

## Table 2.4-1

### Land Use Summary for the Southpark Planned Development

| Land Use | Area | Allocation | Density/Intensity |
|---|---|---|---|
| Commercial | 3.7 ± acres | 128,938 sq. ft. [1] | F.A.R. 0.8 and 750 sq. ft. of net site per peak period employee |
| Multi-family Residential | 9.4 ± acres | 188 du | 20 du's/acre |
| Manor Homes Residential | 16.2 ± acres | 97 du | 6 du's/acre |
| Single Family Residential | 97.2 ± acres | 561 du | 5-8 du's/acre |
| Single Family Residential | 17.1± acres | 68 du | 4 du's/acre |
| Orchard Lots/Residential | 22.8 ± acres | 37 du | 1.6 du's/acre |
| Parks and Parkways | 16.4 ± acres | | |
| Landscape Corridors | 4.3 ± acres | | |
| Schools | 12.5 ± acres | | |
| Major Streets | 8.8 ± acres | | |
| Mineral Rights Easement[2] | 3.0 ± acres | | |
| TOTALS | 212.5 ± acres | 951 du | |

Source: Harland Bartholomew & Associates, 1994

1 Based on a single story development.
2 Reflects acreage of current mineral rights easement - would involve development of 13 additional units (2.0 acres single family residential (MDL) and 2.1 acres of single family residential (LD)) under alternate design for railroad overcrossing - alternate design for railroad overcrossing would also result in the removal of 1.1 acres of landscape corridor along Parkway Boulevard.

The proposed land uses include.

### Manor Homes-Residential (Medium Density - Low, MDL)

The planned development includes a total of 97 manor homes that are designed to focus on the Village Parkway. These homes would be built in clusters of two and three units per building, would face the Village Parkway and would have garages at the rear of the building. This arrangement is expected to provide an added safety element in the planned development by eliminating driveway access to the most heavily traveled portions of the Village Parkway. These dwelling units would be developed at a density of six units per acre.

### Single Family Residential (Medium Density - Low, MDL)

The planned development incudes a total of 561 single family detached homes in densities ranging from five to eight dwelling units per acre. These homes would be priced for families with varying levels of income to address the need for affordable housing in the City of Dixon. The homes planned for the lowest density (5 dwelling units/acre) would be targeted for the first time move-up buyer and would be up-scaled accordingly.

### Single Family Residential (Low Density - LD)

The planned development incudes a total of 68 single family detached homes at a density of four dwelling units to the acre. These homes will be larger in size than those in the MDL category and will contain more features and amenities, targeting second and third time move up buyers.

### Orchard Lots-Residential (Very Low Density - VLD)

A group of 37 large orchard lots is included in the master plan. These lots are approximately 0.67 acres in size and are designed to accommodate surface drainage for the project in the form of a channel or detention pond located along the western edge of the project site. These lots are also designed to address the issue of sound attenuation from the railroad. Sound attenuation would be accomplished through the use of an earthen berm and sound wall located at the rear of the properties and a 125 foot minimum building setback from the Southern Pacific Transportation Company railroad right-of-way.

### Multi-Family Residential (Medium Density - High, MD)

The Southpark Planned Development includes a 9.4 acre site for the development of a multi-family residential complex located at the southeastern entrance to the project site. The site provides for the development of 188 dwelling units at a density of 20 dwelling units per acre.

### Parks and Parkways (P)

The master plan includes two parks and a connecting Promenade Parkway that have a combined area in excess of 16 acres. The parks are located within and adjacent to the Village Loop Street for easy access to residents and are sized to accommodate sports activities such as baseball, soccer and tennis.

The Promenade Parkway would serve as the connector between the park areas and would facilitate safe pedestrian and bicycle movement throughout the master plan area. The Promenade would be approximately 80 feet in width, fully landscaped, and include walkways, bicycle paths, park benches and areas for limited recreational activities. Maintenance of park facilities would be funded through an ongoing park maintenance fee.

### Schools (S)

Two school sites are located within the boundaries of the master planned development. A ten acre site for an elementary school is centrally located within the Village Loop Street. A 2.5 acre site for the Maine Prairie Continuation High School is located in the northeast corner of the master plan area. This smaller site is to be donated to the Dixon Unified School District.

### Landscape Corridors (P)

The landscaped corridors are designed as buffer zones located along the major vehicular arteries and the residential areas (i.e., South First Street and Parkway Boulevard). These corridors are to be fully landscaped with a meandering walkway for pedestrian and bicycle movement.

## Neighborhood Commercial (NC)

A 3.4 acre mini-shopping plaza is included in the village master plan to provide neighborhood services such as retail, office, or special uses such as a day care center.

## Circulation

The Parkway Boulevard and the railroad overcrossing in the southwest corner of the planned development area are designed to provide new circulation patterns for cross town traffic. The extension of the parkway would link South First Street with Pitt School Road and is expected to relieve pressure from the growing congestion on West A Street. The railroad overcrossing is a regional improvement designed to benefit land in the general vicinity of the improvement. It is expected that the overcrossing would be funded by a special assessment district and/or development impact fees.

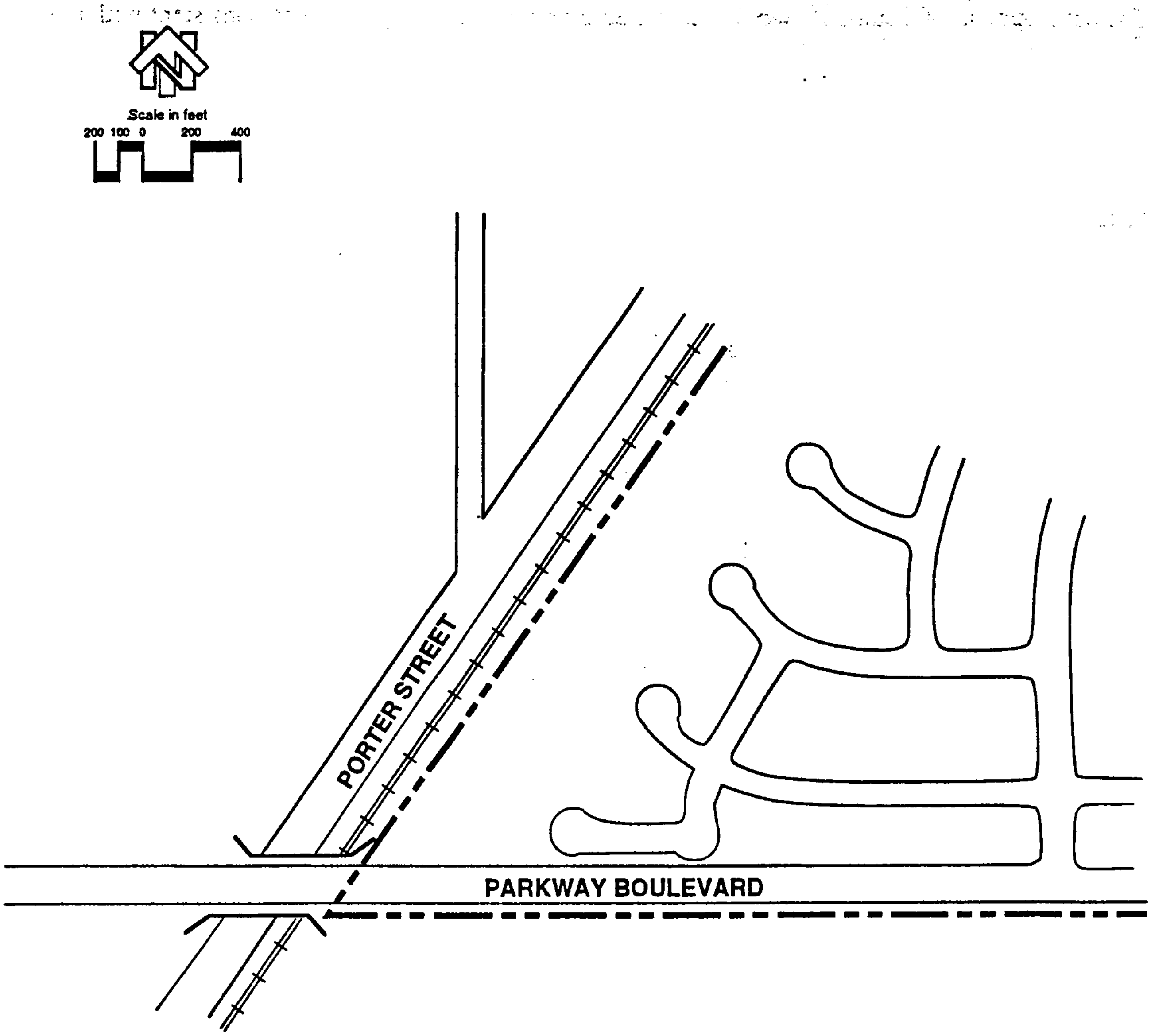
Two alternate designs for the railroad overcrossing are provided. The first design (Figure 2.4-1) involves developing the overcrossing as a curvilinear reach that approaches the Southern Pacific Transportation Company railroad right-of-way at a right angle. The approximate three acres located south of the curvilinear reach would not be considered to be part of the project. An easement associated with this acreage and approximately 1.6 acres located immediately south of the Silveyville Cemetery currently provides rights of access for the extraction of mineral resources that are immediately below the easement. The remaining portions of the project site include mineral rights for mineral extraction below 500 feet.

The second design would involve extending Parkway Boulevard along the entire length of the southern border of the project site and through the portion of the project site on which the mineral rights easement is currently held (Figure 2.4-2). Development of this latter design alternative would require conveyance of the mineral rights easement to the SWD Land Company. Development of the latter design would allow the development of an additional 13 dwelling units or lots on 4.0 acres in the southwest corner of the project site. This latter design would result in the removal of approximately 1.1 acres of landscape corridor along Parkway Boulevard. These units would be associated with approximately 2.0 acres of RD-5 (5 single-family dwelling units per acre) and 2.1 acres of orchard lots (1.5 dwelling units per acre).

The Planned Development also proposes the widening of South First Street (State Highway 113) along the eastern edge of the site. The western portion of the roadway would be improved and would include a sidewalk and landscaped corridor.

## City Services and Utilities

Utilities for Southpark would be phased to coincide with development of the proposed project. Storm drainage of the project would flow to the east into Dixon Creek via a regional storm drain and detention system. DSMWS currently has water rights to the portion of the project site south of the aforementioned SID easement, while CWS has claim to the portion north of the easement. According to the 1992 Settlement Agreement and Mutual General Relief between the City of Dixon, SID, and CWS, the project applicant (SWD Land Company) would be allowed to choose the water purveyor for the northern portion of the project site upon development of the proposed project (pers. comm. Frank Weber 6/21/94). To date a choice has not been made. Sewer services would connect to an existing main in South First Street which connects to the City Wastewater Treatment Plant located south of Midway Road. Gas and electrical services would be supplied by PG&E, telephone service by Pacific Bell, and cable TV service by Sonic Cable TV.




Source: SWD Land Co.
File: Graphics/Southpark Subdiv Maps
Layers: Alt RR Xing/Border

*City Of Dixon*
*Southpark EIR*

**Alternate Railroad Overcrossing**

*Figure 2.4-2*

### Phasing

The development of Southpark would be phased over a number of years to be consistent with the City of Dixon's growth policies. The phasing and timing of the construction of streets and utilities are planned in a manner to satisfy the requirements for maintaining the health, safety, and welfare of the residents, and in accordance with the standards and ordinances of the City of Dixon. The phasing of residential construction is designed to provide a continual variety of housing sizes and prices throughout the project development. It should be noted that the phasing sequence may vary depending on community needs, economics, physical constraints or other variables which cannot be anticipated.

The project development would be phased as follows:

- Phase I - Single family housing in RD 5-8 (MDL) densities, including a majority of the manor homes, would be constructed. The mini-shopping plaza (NC) and multi-family residential complex (MDH) sites would be developed. The actual construction of these facilities would occur as demand dictates.

- Phase 2 - Single family housing in RD 5-8 (MDL) and (LD) densities as well as some of the special orchard lot homes (VLD) would be constructed. The west end of Cherry Street would be abandoned and incorporated into village housing. The elementary school site would be developed and the continuation high school site would be donated to the Dixon Unified School District. The northern park site would be developed and dedicated to the City.

- Phase 3 - Single family housing in (MDL) and (LD) densities including some of the special orchard lots and the balance of the manor homes would be constructed. The southern park site and the Promenade Parkway would also be developed.

- Phase 4 - Single family housing in (MDL) and (LD) densities including the balance of the special orchard lots would be constructed.

The railroad overcrossing would be constructed when community need and funding for the southern Dixon cross-town parkway is established.

## 2.5 NO PROJECT ALTERNATIVE

The No Project Alternative assumes the project site would remain undeveloped and would continue to support land uses allowed under the existing Solano County General Plan designation of Agriculture.

## 2.6 REDUCED DENSITY DEVELOPMENT ALTERNATIVE

The Reduced Density Development Alternative would include development of the same land uses proposed by the Southpark Planned Development with the exception that the manor home residential and single family residential densities greater than four dwellings unit per acre (RD-4) would be replaced by single family residential densities of four dwelling units per acre (RD-4) (Figure 2.6-1, Table 2.6-1).

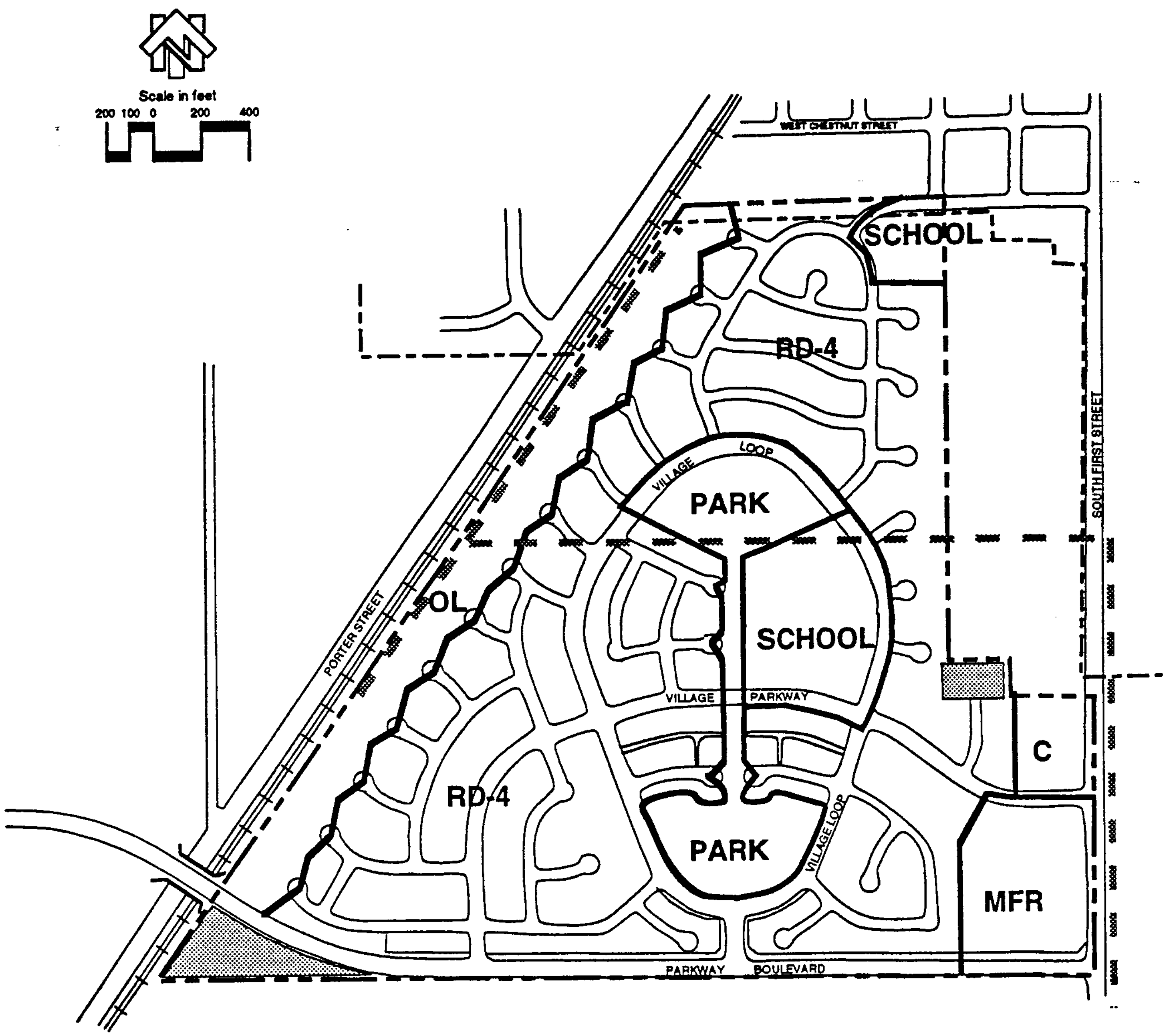
## Table 2.6-1

### Land Use Summary for the Reduced Density Development Alternative

| Land Use | Area | Allocation | Density/Intensity |
|---|---|---|---|
| Commercial | 3.7 ± acres | 128,938 sq. ft. [1] | F.A.R. 0.8 and 750 sq. ft. of net site per peak period employee |
| Multi-family Residential | 9.4 ± acres | 188 du | 20 du's/acre |
| Single Family Residential | 130.5 ± acres | 522 du | 4 du's/acre |
| Orchard Lots/Residential | 22.8 ± acres | 37 du | 1.6 du's/acre |
| Parks and Parkways | 16.4 ± acres | | |
| Landscape Corridors | 4.3 ± acres | | |
| Schools | 12.5 ± acres | | |
| Major Streets | 8.8 ± acres | | |
| Mineral Rights Easement[2] | 3.0 ± acres | | |
| TOTALS | 212.5 ± acres | 747 du | |

Source: Harland Bartholomew & Associates, 1994

1 Based on a single story development.
2 Reflects acreage of current mineral rights easement - would involve development of 13 additional units (2.0 acres single family residential (MDL) and 2.1 acres of single family residential (LD)) under alternate design for railroad overcrossing - alternate design for railroad overcrossing would also result in the removal of 1.1 acres of landscape corridor along Parkway Boulevard.




LEGEND

| | |
|---|---|
| C | COMMERCIAL |
| OL | ORCHARD LOTS |
| RD-# | SINGLE FAMILY RESIDENTIAL |
| MH | MANOR HOMES |
| MFR | MULTI-FAMILY RESIDENTIAL |
| (shaded box) | MINERAL RIGHTS EASEMENT |
| (dashed line) | S.I.D. EASEMENT |

Source: SWD Land Co./City of Dixon
File:Graphics/Southpark Subdiv Maps
Layers: Constraints/Border/Text/Decr LU/Base



**Reduced Density Development Plan**

***Figure 2.6-1***

## 2.7 INCREASED DENSITY DEVELOPMENT ALTERNATIVE

The Increased Density Development Alternative would include the same land uses proposed by the Southpark Planned Development with the exception that all single family residential densities less than seven dwelling units per acre (RD-7) would be replaced by single family residential densities of seven dwelling units per acre (RD-7), with the exception that 6.0 acres of RD-5 sited adjacent to Silveyville Cemetery would be increased to multi-family residential at 20 dwelling units per acre (Figure 2.7-1, Table 2.7-1). The manor home residential and orchard lot residential would be maintained as in the Southpark Planned Development.

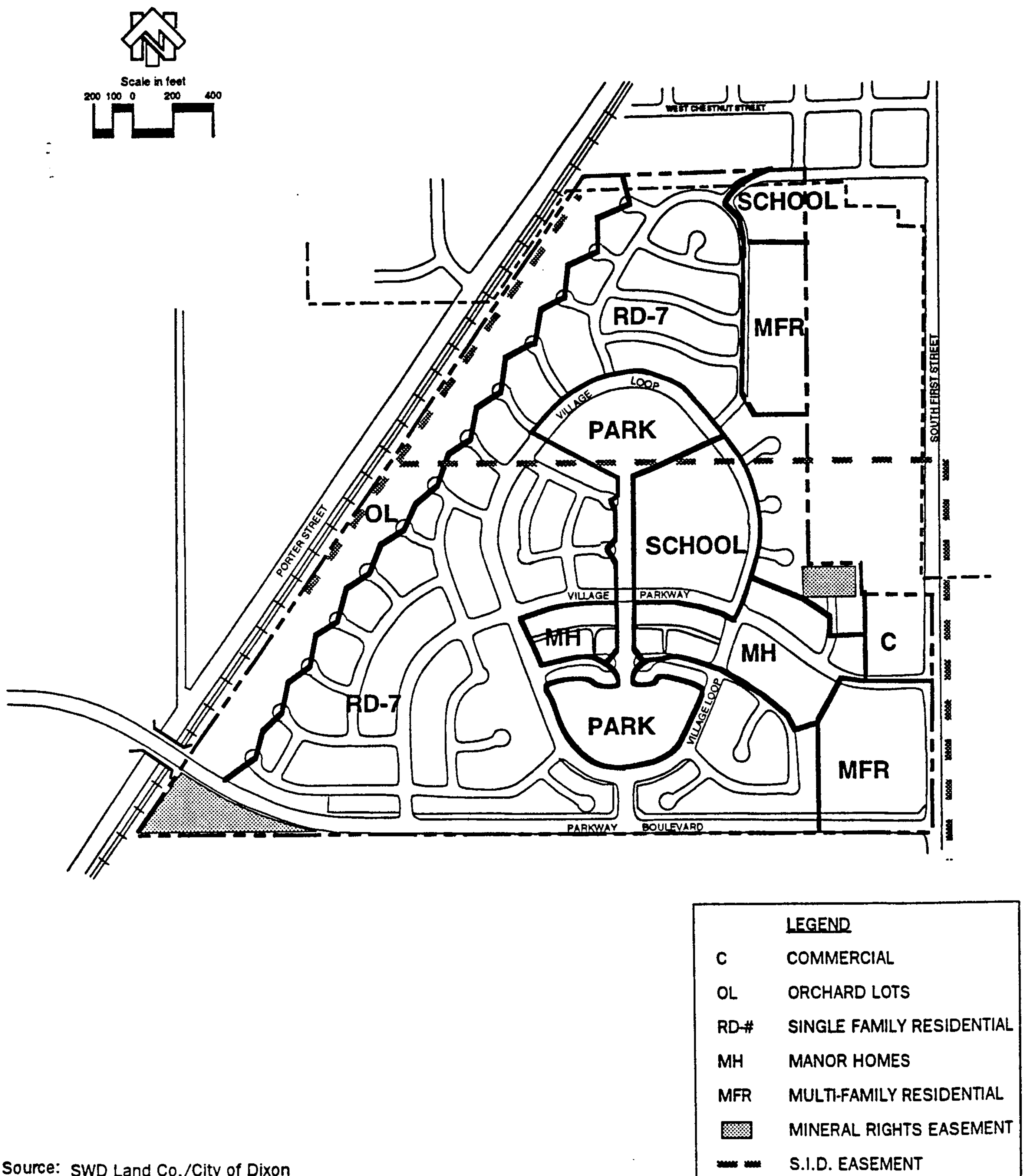
### Table 2.7-1

Land Use Summary for the Increased Density Development Alternative

| Land Use | Area | Allocation | Density/Intensity |
|---|---|---|---|
| Commercial | 3.7 ± acres | 128,938 sq. ft. [1] | F.A.R. 0.8 and 750 sq. ft. of net site per peak period employee |
| Multi-family Residential | 15.4 ± acres | 308 du | 20 du's/acre |
| Manor Homes Residential | 16.2 ± acres | 97 du | 6 du's/acre |
| Single Family Residential | 108.3 ± acres | 758 du | 7 du's/acre |
| Orchard Lots/Residential | 22.8 ± acres | 37 du | 1.6 du's/acre |
| Parks and Parkways | 16.4 ± acres | | |
| Landscape Corridors | 4.3 ± acres | | |
| Schools | 12.5 ± acres | | |
| Major Streets | 8.8 ± acres | | |
| Mineral Rights Easement[2] | 3.0 ± acres | | |
| TOTALS | 212.5 ± acres | 1200 du | |

Source: Harland Bartholomew & Associates, 1994

1 Based on a single story development.
2 Reflects acreage of current mineral rights easement - would involve development of 13 additional units (2.0 acres single family residential (MDL) and 2.1 acres of single family residential (LD)) under alternate design for railroad overcrossing - alternate design for railroad overcrossing would also result in the removal of 1.1 acres of landscape corridor along Parkway Boulevard.




Source: SWD Land Co./City of Dixon
File:Graphics/Southpark Subdiv Maps
Layers: Constraints/Border/Text/Incr LU/Base



**Increased Density Development Plan**

**Figure 2.7-1**

# 3 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

## 3.1 INTRODUCTION

This chapter provides an analysis of the potential impacts that are associated with implementation of the project. Each section of this chapter is organized according to the following format:

### Environmental Setting

This section describes the existing environmental conditions, especially as they relate to the various impact analyses.

### Impact Evaluation Criteria

This section identifies the relevant State, Federal, and local environmental standards (i.e., water quality standards, air quality standards, zoning provisions, etc.) and other criteria by which a change in the environment can be assessed.

### Impacts and Mitigation

Expected impacts that would be associated with implementation of the project are discussed in this section. Each impact analysis consists of an analysis of a potential or expected change in the environment that would result from implementation of the project. The level of detail provided in the analysis is commensurate with the detail provided in the project description. Where the project results in impacts that are considered significant, mitigation measures are proposed which are capable of reducing the impact to a level that is less than significant. Where impacts cannot be reduced to a level that is less than significant, the impact is identified as significant and unavoidable.

# 3.2 SOILS AND GEOLOGY

## Environmental Setting

### *Topography/Geology*

The Southpark site lies within the Sacramento Valley, which is bounded by the Coastal Mountain Range on the west and the Sierra Nevada Range on the east. The project site comprises approximately 212.5 acres of nearly level to moderately sloping ground. The area is underlain by sedimentary rocks formed since the Pleistocene age. The primary composition of the sedimentary rock is Quaternary-age alluvium that is derived from the deposition of stream-born sediments.

### *Soils*

Soils of the Southpark site have been mapped by the USDA Soil Conservation Service and are described in the Soil Survey of Solano County, California. The Soil Survey identifies the entire project area as a Yolo-Brentwood association. This association is characterized by nearly level to moderately sloping, well-drained loams to silty clay loams on alluvial fans. The two soil types that are found within the project area include Brentwood clay loam (BrA) and Yolo silty clay loam (Ys). Figure 3.2-1 illustrates the distribution of each soil type underlying the project site. The soil capabilities for Brentwood clay loam and Yolo silty clay loam are provided in Table 3.2-1.

The majority of the project site is underlain by Yolo silty clay loam. In a representative soil profile, a silty clay loam surface layer of about 28 inches overlies a clay loam subsurface layer of about 8 inches followed by a substratum of loam that extends to a depth of more than 60 inches. The available water capacity of this soil is 10 to 12 inches, while the effective rooting depth is more than 60 inches. Yolo silty clay loam is suited to irrigated row crops, forage crops, orchards, and dry farmed small grain. Wildlife habitat, recreation and urban development are also suitable uses. When in agriculture, the soil is typically used for almonds, peaches, sugar beets, tomatoes, alfalfa, walnuts, and dry farmed barley.

**Table 3.2-1**

Soil Capability of the Project Site

| Soil Type | Slopes (%) | Shrink/ Swell | Soil Permeability | Erosion Hazard | Shear Strength |
|---|---|---|---|---|---|
| Brentwood clay loam (BrA) | 0-2 | high | moderately slow | slight | low/medium |
| Yolo silty clay loam (Ys) | 0-2 | moderate | moderately slow | slight | medium |

Source: Soil Conservation Service Soil Survey of Solano County, California (1977).

Soil located along the eastern and western portions of the project site is Brentwood clay loam. This soil has a clay loam or silty clay loam surface layer which ranges from 6 to 18 inches in depth. The surface soils are underlain by a clay loam subsurface layer of about 20 to 34 inches, followed by a substratum of clay loam and loam to a depth of more than 60 inches. As with Yolo silty clay loam, available water capacity is 10 to 12 inches. The effective rooting depth is more than 60 inches. Suitable agricultural uses include irrigated orchard, row crops, forage crops, and dry farmed grain. Apricots, walnuts, almonds, prunes, alfalfa, tomatoes, sugar beets, and barley are the main crops grown in this soil type. Brentwood clay loam is also suitable for wildlife habitat, recreation, and urban uses.

### *Geology*

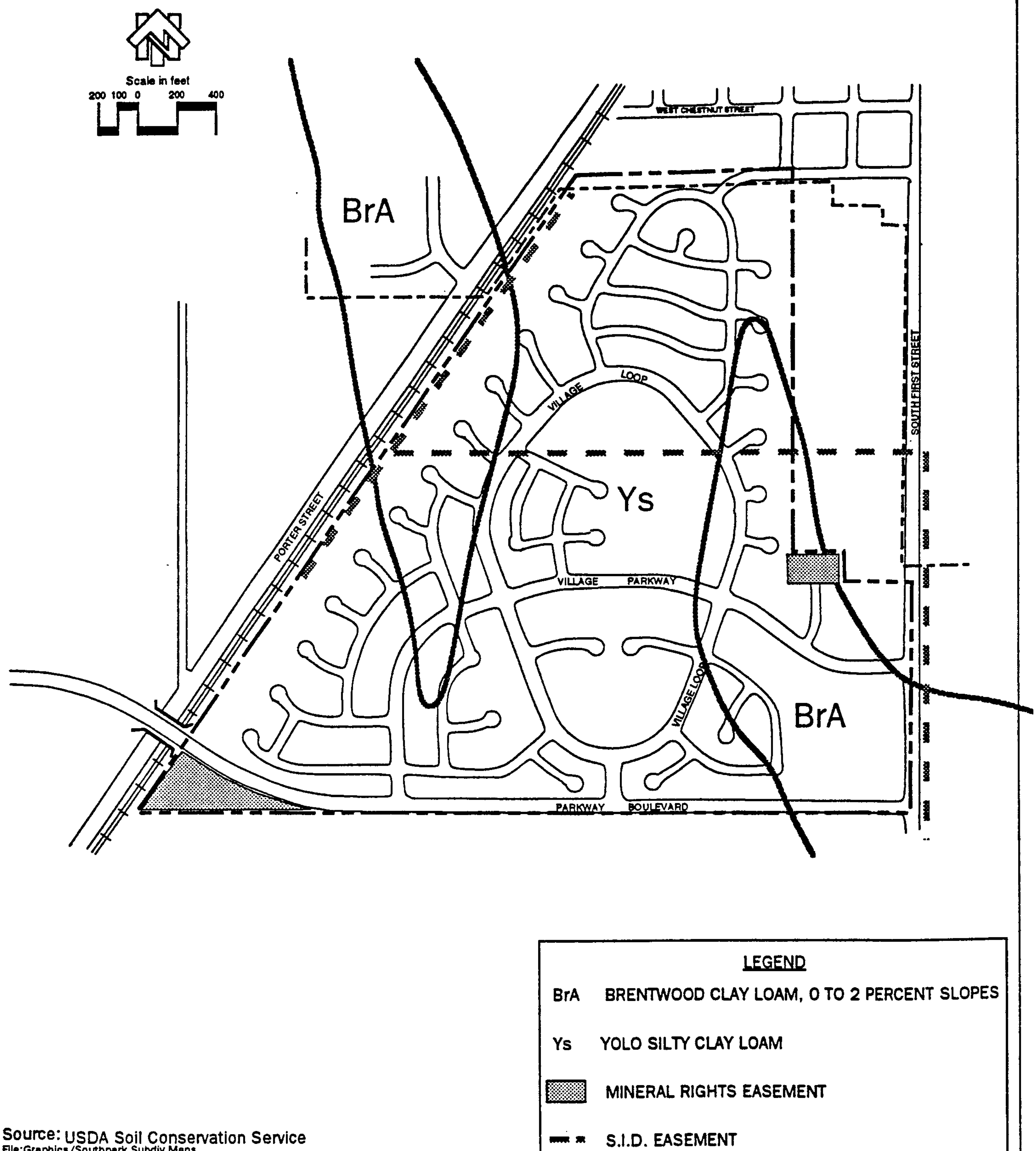
The Fault Evaluation Program of the California Division of Mines and Geology (CDMG) is a long-term program designed to identify active faults that may be hazardous, in terms of surface fault-rupture, to structures built astride such faults. This program was designed to carry out the objectives of the Alquist-Priolo Special Studies Zones (APSSZ) Act of 1972, which was established to mitigate the hazard of surface fault rupture (CDMG, 1983). Pursuant to the APSSZ Act, the State Geologist is responsible for delineating regulatory zones, known as Special Studies Zones, that encompass hazardous faults. Development within these Special Studies Zones is subsequently regulated by local cities and counties. The terms "sufficiently active" and "well-defined" were adopted by CDMG as the criteria that must be met before a Special Studies Zone is established. These terms are defined below:

- Sufficiently active. A fault is deemed sufficiently active if there is evidence of Holocene (the last 10,000-12,000 years) surface displacement along one or more of its segments or branches.
- Well-defined. A fault is considered well-defined if its trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface.

Based on the CDMG Fault Evaluation Program Summary Report for the Northern Coast Ranges Region (CDMG, 1983), the Midland Fault Zone traverses the project site in a southeast-northwest alignment from State Route 113 to Interstate 80 (Figure 3.2-2). The Midland Fault is not considered Holocene active (active within the last 10,000 to 12,000 years) and is not well-defined as a surface feature. As such, the fault is considered to have a low potential for future surface rupture.

The City of Dixon and surrounding area is subject to ground shaking from seismic activity. The primary source of potential ground shaking in the Dixon area is attributed to a seismically-active fold belt believed to exist in the vicinity of the Midland Fault (personal communication J. Howard, Senior Engineering Geologist, California Division of Mines and Geology). The maximum Richter magnitude of previous events along this fold belt have been estimated at 6.5 to 7. In addition, the Dixon area is subject to ground shaking from seismic activity along numerous faults of the San Andreas system, including the Green Valley fault in western Solano County (Figure 3.2-2). Section 3.12 - Public Health and Safety, provides discussion of the public safety hazards associated with seismic activity in the Dixon area.

Liquefaction is defined as a loss of soil strength caused by a sudden increase in pore pressure. Liquefaction may occur during a seismic event in areas characterized by a high groundwater table and unconsolidated sand deposits. Although groundwater levels in Dixon are relatively high, the soils underlying the project site are classified as clay loam and silty clay loam. These soils have a low potential for liquefaction.




Source: USDA Soil Conservation Service
File: Graphics/Southpark Subdiv Maps
Layers: Constraints/Border/Text/Soils/Base

**City Of Dixon**
**Southpark EIR**

**Soils Map**

**Figure 3.2-1**


Source: CA Dept. of Conservation
Division of Mines and Geology



**Fault Zone Map**

**Figure 3.2-2**

### *Mineral Resources*

Natural gas is the primary mineral resource found in eastern Solano County. According to the California Department of Conservation, Division of Oil and Gas (DOG), a natural gas test well was drilled in 1976 near the center of the Southpark project site (Mike Cummings, Engineer, DOG). The well was drilled to a depth of 7,952 feet and failed to produce natural gas. It is therefore considered unlikely that a natural gas deposit would be discovered within a quarter-mile radius of this test well site.

## Impact Evaluation Criteria

For the purpose of this document, an impact is considered to be a physical change in the existing soils or geologic environment. An impact is considered to be significant if it meets the following criteria:

- the project site is located within an Alquist-Priolo Special Studies Zone or within a known active fault zone;
- the soils substrate consists of material that is subject to liquefaction or other secondary seismic hazards in the event of ground shaking;
- there is evidence of static hazards, such as landsliding or excessively steep slopes that could result in slope failure;
- the project site is in the vicinity of soil that is likely to collapse;
- project site soils are characterized by shrink/swell potential that might result in deformation of foundations or damage to structures;
- the topography or ground surface relief features are permanently altered;
- construction activities create unstable soils or geologic conditions;
- construction activities result in the destruction, modification or covering of a unique geologic or physical feature;
- construction activities result in severe wind or water-associated erosion; or
- soils are permanently disrupted, displaced, compacted or overcovered.

## Impacts and Mitigation

**Impact: Alteration of Site Topography and Surface Geologic Features**

Analysis: The project site is characterized by nearly level to moderately sloping terrain. As such, grading which would occur as part of the proposed project is not expected to significantly alter the overall topography of the site. In addition, no significant surface geologic features have been identified at the project site. Thus, alterations of topography and surface relief features due to development of the project is considered to be less than significant.

Mitigation: No mitigation is required.

**Impact: High Potential for Shrink/Swell of On-site Soils**

Analysis: The clay content of the soils underlying the project site could result in a high shrink/swell potential. Shrink/swell occurs as the clay particles within the soil expand (swell) when wet and shrink upon drying. At the ground surface, shrink/swell causes structures to be lifted up and to settle back as the soil alternates between wet and dry conditions. As this lifting and settling occurs, walls may crack, floors may become uneven, and doors and windows may stick. The potential for structural damage resulting from shrink/swell is a significant impact of the proposed project.

Mitigation: For each development phase, the project applicant shall provide a site-specific geologic assessment that identifies the shrink/swell potential for that portion of the site. If shrink/swell potential is detected, appropriate measures shall be identified by a registered geologist or geotechnical engineer and incorporated into the design of the development. These design features shall be a condition of issuance of the grading permit. Implementation of these design features would reduce shrink-swell impacts to a level that is less than significant.

**Impact: Erosion of Soils as a Result of Construction Activities**

Analysis: All on-site soils have been identified as having a slight potential for erosion when undisturbed. Construction and grading activities during project development would remove ground cover and disturb existing soil conditions. Disturbed areas are typically more susceptible to the processes of soil erosion. This impact is considered to be potentially significant.

Mitigation: The following mitigation measures shall be implemented to reduce potential erosion impacts to a level that is less than significant.

- Prior to the issuance of a grading permit, the City Public Works Department shall approve drainage and stormwater runoff control systems and their component facilities to insure that they are non-erosive in design;
- During construction, the applicant shall not leave disturbed areas exposed during the rainy season or for more than seven continuous days if not actively under construction;
- Areas disturbed by construction activity shall be revegetated immediately following construction to reduce the hazard of erosion;
- Construction machinery shall be operated and stored only within construction areas and one designated parking area; and
- Existing vegetation shall be retained in all other parts of the project area.

**Impact: Permanent Disruption, Displacement, Compaction and Overcovering of On-site Soils**

Analysis: Development of the land uses proposed by Southpark would result in the permanent disruption, displacement, compaction and overcovering of on-site soils due to the construction of building pads and roadways. These impacts limit the long-term uses and other functions provided by these soils. This impact is significant and unavoidable.

Mitigation: No mitigation is available to reduce the impact to a level that is less than significant.

# 3.3 HYDROLOGY AND DRAINAGE

## Environmental Setting

### *Surface Water and Drainage*

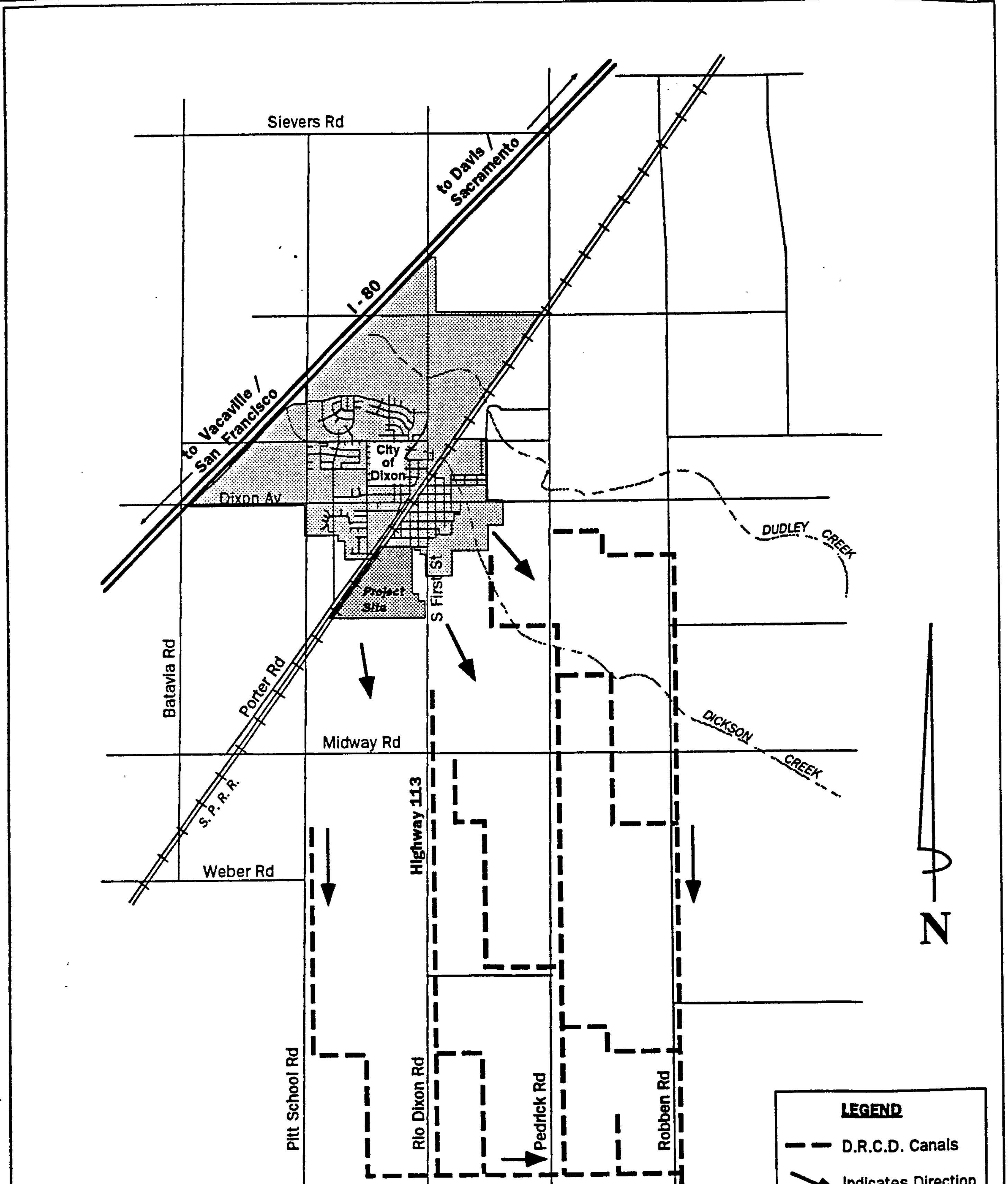
The City of Dixon is situated on an alluvial fan formed by Putah Creek. Surface runoff through Dixon flows generally from northwest to southeast and follows the natural topographic slope of the land. Development of the City and the intensive agricultural practices in the region have led to modification and redirection of the natural drainages and creeks that once carried runoff from the surrounding watershed. The existing irrigation channels and detention ponds are the primary surface water features in the Dixon area today.

The proposed project site is located within the Dickson-Dudley Creek watershed, which is comprised of approximately 60,000 acres of urban and agricultural land within and surrounding the City of Dixon. Stormwater drainage from existing developed areas in the City of Dixon is conveyed through a conventional storm drainage system consisting primarily of drainage inlets located at low points in concrete gutters and reinforced concrete lateral and trunk pipelines. Drainage is carried by the trunk system to an open channel southeast of the City. Flow is conveyed by this open channel to a network of irrigation/runoff channels operated by the Dixon Resource Conservation District (DRCD). The DRCD channels ultimately discharge into the Reclamation District 2068 V-drain outfall which enters Haas Slough.

Haas Slough is a northwestern reach of the Sacramento/San Joaquin Delta system and is affected by the tidal action of the Delta. Beneficial uses of Haas Slough include wildlife habitat, riparian habitat, and agricultural operations such as crop irrigation or livestock ponds. This year-round water source is not used for any municipal water supply.

The project site is currently in agricultural use and does not contain impervious surfaces such as roads, buildings or parking lots. Soil types underlying the project site include Brentwood clay loam and Yolo silty clay loam (see Section 3.2 - Soils and Geology). These soil types are characterized by moderately slow soil permeability, indicating a moderately high potential for surface water runoff from the project site. Surface runoff from the site currently flows above ground and eventually enters the DRCD channel system south of Dixon (Figure 3.3-1).

The existing capacity of drainage facilities which convey runoff from the City of Dixon and downstream agricultural areas is inadequate and has caused flooding within the City and downstream. In 1989 the City of Dixon completed a Master Drainage Plan which describes the drainage system improvements needed to accommodate existing and future storm runoff from the City. The Dixon Regional Master Drainage Plan's tributary area boundary was based on full buildout within the City's 50-year urban development boundary. Land within the tributary area boundary includes the Southpark site (Figure 3.3-2). The three major components of the drainage plan include new channel and levee construction, regional detention basin construction, and storm drainage system improvements.




Source: Dixon Resource Conservation District
File: Graphics/Dixon Vicinity Map
Layers: Surf Drain/Text/Base/City Limits/Border

**City Of Dixon Southpark EIR**

**Existing Surface Drainage System**

**Figure 3.3-1**

The Master Drainage Plan divides the future City of Dixon development area into three major tributary areas. The Southpark site is located within Area C. Area C would be served by a proposed detention basin (Basin C) which is tentatively sited for an agricultural parcel located east of the Southpark site (Figure 3.3-2). The purpose of the detention basin is to store peak flows from the developed area and thus limit the rate of peak discharges to the downstream channel. The City of Dixon operates under an agreement with the DRCD which limits City drainage discharges to 77 cubic feet per second (cfs). The design of Basin C will depend upon its specific location and will take into consideration local topography, hydraulic requirements, the upstream trunk system and other factors which will be identified in the design phase. The primary design objective of the basin, however, will be to create sufficient holding capacity to allow the City to meet its obligation to discharge no more than 77 cfs to the DRCD.

Surface water quality in the Dixon area has not been monitored by the City. Therefore, no data are available on the quality of water in the existing drainage canals, ponds, or Haas Slough. However, it is expected that the quality of the water within the existing system deteriorates as it flows downstream due to the addition of urban and agricultural runoff. Agricultural drainage water contributes pollutants such as suspended solids, pesticides, herbicides, fertilizers, animal wastes, elemental nutrients, and salts. Urban runoff constituents include gasoline, oils, suspended solids, and heavy metals. The Environmental Impact Report prepared for the Dixon Master Drainage Plan recommended that the City of Dixon implement a surface water quality monitoring program to evaluate the on-going impact of urban runoff discharged to the drainage system and Haas Slough. However, because no water is being discharged (West A Pond is currently for retention only), no surface water quality monitoring has been initiated by the City of Dixon to date (pers. comm., Ron Bernal, City of Dixon Public Works Department).

#### *Groundwater*

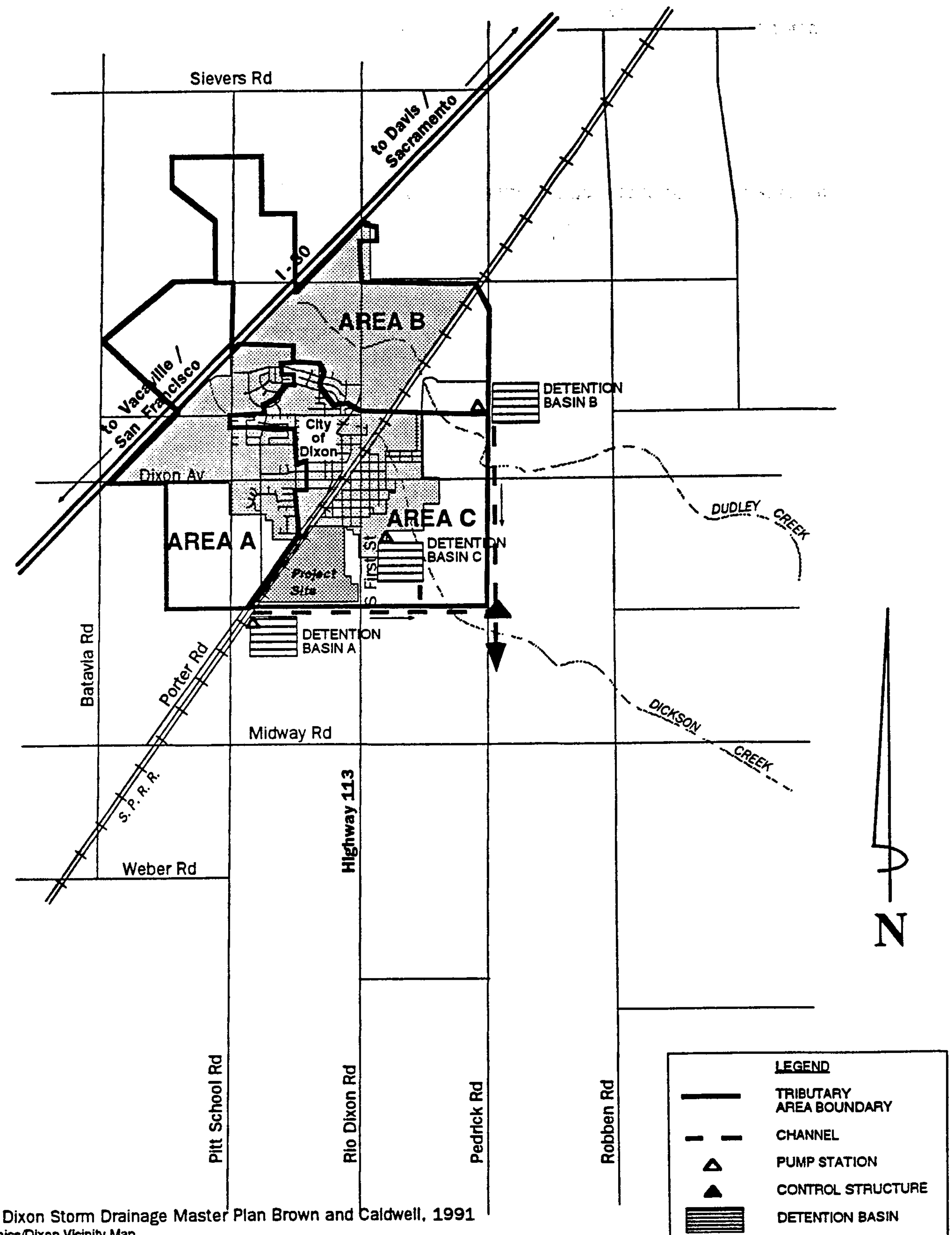
The principal water-bearing formation in the Dixon area is the Tehama Formation. This formation is composed of coarse, clean sandy deposits. Overlying the Tehama Formation are sediments of the Putah Plain. These sediments are approximately 165 feet thick and also yield water. However, the yield, storage capacity and transmissivity of the Putah Plain sediments are decreased by the presence of finer-grained, muddier sediments within the formation which provide impermeable barriers to water movement. Recharge to the groundwater reservoir is by infiltration from rainfall, streams, canals, ditches, and excess irrigation water and by underflow entering the valley from tributary stream canyons.

The source of water for Dixon's municipal water supply is a series of groundwater wells that average 700 to 1,000 feet in depth. Although the water from these wells is high in total dissolved solids, the quality of the groundwater supply meets the State of California drinking water standards in Title 22 (Brown and Caldwell, 1989).

### Impact Evaluation Criteria

For the purpose of this document, an impact is considered to be a physical change in the existing hydrological environment. An impact is considered to be significant if it meets the following criteria:

- the project results in increased runoff volumes that exceed the capacity of storm drain facilities, cause downstream or off-site drainage problems, or significantly alter inflows to an adjacent wetland to the extent that aquatic habitats could be endangered;




Source: Dixon Storm Drainage Master Plan Brown and Caldwell, 1991
File: Graphics/Dixon Vicinity Map
Layers: Drain Imp/Text/Base/City Limits/Border



**Recommended Drainage Improvements**

**Figure 3.3-2**

- the project results in stormwater discharges that exceed established water quality standards, increase erosion and sedimentation, or endanger aquatic habitats; or
- the project results in a substantial degradation of groundwater resources or interferes with groundwater recharge.

## Impacts and Mitigation

**Impact: Increased Runoff Due to the Creation of Impervious Surfaces**

Analysis: The development of residential and commercial land uses associated with Southpark would result in the creation of impervious surfaces such as roads, driveways, buildings, and parking lots. Although the site currently has potential to generate surface runoff due to the moderately slow permeability of on-site soils, the creation of impervious surfaces at the project site would further reduce surface water absorption rates and increase the rate and amount of surface runoff from the site. Because the existing storm drainage facilities in the City of Dixon are currently operating at capacity, any increase in the rate and amount of surface runoff would result in further flooding of agricultural lands located downstream of Dixon. This impact is considered significant.

Mitigation: The project applicant, in coordination with the City of Dixon Public Works Department, shall prepare a site drainage plan which incorporates storm drains, lateral and trunk drainage lines, and other facilities as necessary to ensure adequate drainage of surface runoff at the Southpark site. This plan shall be reviewed and approved by the City of Dixon Public Works Department prior to issuance of a grading permit.

As a condition of the issuance of the grading permit, the project applicant shall contribute a fair share of the costs of design, siting, and construction of Detention Basin C. A fair share of the total costs (i.e., percentage of total cost) shall be based upon the percentage of the developed portion of Area C that is represented by the developed portion of the Southpark site. Detention Basin C shall be designed to have sufficient capacity to allow the City to meet its obligation to discharge no more than 77 cfs to the DRCD drainage system.

Implementation of these mitigation measures would reduce this impact to a level that is less than significant.

**Impact: Addition of Urban Pollutants to Surface Runoff**

Analysis: Stormwater runoff from the Southpark site would be collected through an on-site drainage system and conveyed to a detention basin located to the east of the project site. Controlled releases from the detention basin would enter the DRCD channel system and eventually be discharged into Haas Slough. The water quality of the storm runoff that eventually reaches Haas Slough may then be adversely affected by the release of sediments and urban pollutants that enter the Southpark storm drain system.

Grading and construction activities at the Southpark site would result in the removal of the surface vegetation which anchors the topsoil and prevents erosion. The soil types found at the project site are identified in Section 3.2 - Soils and Geology, as Brentwood clay loam and Yolo silty clay loam. These soil types are characterized by a moderately high potential for surface water runoff. Soils exposed during grading, construction, or subsurface excavations may therefore be carried by surface water runoff and result in the sedimentation of downstream drainageways. This impact is considered potentially significant.

Urban pollutants would enter the storm drain system from a variety of sources. These pollutants and their sources include oil and other automobile waste products from road and parking lot surfaces, pesticides and fertilizers from lawns and gardens, and waste products which are improperly released to the storm drains. Urban pollutants originating within Southpark would add to the cumulative urban and agricultural pollutant load within downstream channels and Haas Slough. These contaminants have the potential to negatively effect aquatic and riparian habitats located downstream of Dixon.

The impact of increased urban runoff to the existing drainage system has been analyzed in the Draft Environmental Impact Report for the Dixon Master Drainage Plan (Brown and Caldwell, 1989). Based on the findings in this report, the influence of pollutants from urban runoff on the overall surface water quality in the system, as compared to the influence of agricultural runoff, is expected to be very small. The impact of increased volumes of urban runoff and the associated increase in the amount of urban pollutants is not expected to have a significant adverse effect on the quality of water reaching Haas Slough for the following reasons:

- The detention facilities associated with the Master Drainage Plan will act as settling basins and reduce the concentration of many pollutant constituents. Natural mechanisms, such as settling of suspended solids, adsorption of constituents such as oils and grease onto the soil, and nutrient removal via vegetative uptake, will significantly lower the concentrations of some pollutants; and
- The relative volume of urban runoff is minor compared to the total runoff volume from agricultural lands. Dilution of the constituents in urban runoff would prevent these constituents from reaching concentrations which could adversely effect plants and animals.

The Dixon Master Drainage Plan Draft EIR concludes that there is a potential for increased sediment, nutrient, and pollutant loading in a short segment of Haas Slough west of its juncture with the Reclamation District 2068 V-drain. Degradation of water quality in this portion of Haas Slough and its tributary ditches would affect the existing riparian and aquatic vegetation and wildlife habitats and could impair other beneficial uses of the water such as irrigation. These impacts are considered potentially significant.

Mitigation: The following mitigation measures are adapted from the Master Drainage Plan EIR to reduce the significance of urban pollutants in the surface drainage system. However, because surface water quality data are unavailable and no water quality monitoring has been implemented by the City, the effect of urban pollutants to surface water resources cannot be quantitatively analyzed. Therefore, this impact remains potentially significant after mitigation.

An Erosion and Sediment Control Plan, using Best Management Practices, shall be prepared by the project applicant and approved by the City of Dixon Public Works Department prior to the issuance of a grading permit. The plan shall detail the specific measures necessary to reduce the potential for soil erosion during grading and construction activities. These measures may include:

- Limiting the amount of motorized traffic on the project site during construction to minimize loss of existing protective vegetation and reduce soil disturbance;
- Performing construction activities in the late spring and early summer to allow maximum revegetation prior to heavy runoff;
- Landscaping with selected native or non-native plants conducive to erosion protection; and
- Application of mulches or other surface protection materials to minimize the exposed soil surface.

As a condition of the grading permit, the project applicant shall obtain a NPDES (National Pollutant Discharge Elimination System) construction stormwater permit from the Regional Water Quality Control Board.

The City of Dixon shall design and construct Detention Basin C to include an intake basin for the purpose of reducing scour. This design will increase the ability of the detention facility to retain urban runoff pollutants.

As a condition of issuance of the grading permit, the project applicant shall contribute a fair share of the costs for the on-going maintenance of Detention Basin C to the Dixon Enterprise Fund when that fund is formed. A fair share of the on-going costs shall be based upon the percentage of the developed portion of Area C that is represented by the developed portion of the Southpark site. Maintenance shall include periodic monitoring of the sediments in the detention facility. If the sediments are found to contain hazardous materials, the sediments shall be dredged and disposed of at an appropriate hazardous waste facility.

**Impact:** **Contamination of Groundwater from Urban Surface Water Pollutants**

Analysis: As stated above, stormwater runoff from the Southpark site would be collected through an on-site drainage system and conveyed to a detention basin located to the east. As described in the Draft Environmental Impact Report for the Dixon Master Drainage Plan, the detention facility would be constructed as an unlined earthen basin. Each rainy season, the detention basin would receive pollutant loads of minerals, metals, and other urban runoff constituents from stormwater runoff entering the drainage system. The following analysis of groundwater quality is based on the results and findings of the Dixon Master Drainage Plan Draft EIR (Brown and Caldwell, 1989).

Various physical, chemical and biochemical processes influence contaminant mobility in soils and groundwater. These processes are affected by soil characteristics such as texture, pH, cation (a positively charged ion that moves toward the negative pole in electrolysis), exchange capacity, oxygen and organic matter. It is expected that the soils underlying the proposed detention basins will provide a high degree of removal of both organic and inorganic storm runoff contaminants, and that migration or leaching of contaminants in basin sediments will not affect groundwater quality. The existence of a relatively high groundwater table in the project area raises concern regarding the potential for pollutants in the basin sediments to come into contact with the groundwater. Contamination of groundwater in the vicinity of the proposed detention basins could impair use of the water for agricultural or domestic purposes. This impact is considered potentially significant.

Mitigation: The following mitigation measure has been adapted from the Draft Environmental Impact Report for the Dixon Master Drainage Plan (Brown and Caldwell, 1989) to reduce the potential for groundwater contamination to a level that is less than significant.

The City of Dixon Public Works Department shall site Detention Basin C in a location where groundwater will be sufficiently separated from the lowest point of excavation in the basin. This siting would minimize the possibility of groundwater surfacing in the basin and coming into direct contact with basin sediments that may contain hazardous constituents.

**Impact: Reduction of Groundwater Recharge**

Analysis: Development of Southpark would result in the creation of impervious surfaces such as buildings, roads, and parking lots, that would reduce the current level of groundwater recharge from the infiltration of stormwater on the project site. It should be noted however that the soils underlying the site (see Section 3.2 - Soils and Geology) have moderately slow soil permeability and a moderately high potential for surface water runoff. The existing rate of groundwater recharge by the infiltration of storm water at the project site is therefore relatively low.

Surface water from the project site currently flows overground until entering one of the existing DRCD irrigation/drainage channels located southeast of the site. Stormwater drainage for Southpark would be collected through an on-site drainage system and conveyed to a detention basin located to the east of the site. In addition to providing an opportunity to control the rate of discharge to the downstream drainage system and to filter urban pollutants, the proposed detention basin would also serve as a groundwater recharge site. Thus, the rate of groundwater recharge from the infiltration of stormwater at the project site is not expected to be significantly reduced from current levels. This impact is considered to be less than significant.

Mitigation: No mitigation is required.

## 3.4 VEGETATION

### Environmental Setting

A reconnaissance-level survey of the Southpark site was conducted on June 2, 1992. The results of this survey indicate that the project site does not support any natural vegetation communities or sensitive species of plants. This lack of natural vegetation or sensitive species is associated with the site's regular agricultural use since approximately 1872. The only natural vegetation that occurs on the site is associated with ruderal species (i.e., weedy species) that occur in the regularly disturbed areas located between roadways and the agricultural fields, along the Southern Pacific Transportation Company's railroad right-of-way, and along the irrigation canals. The dominant species in these areas include species such as Russian thistle (*Salsola kali*), milk thistle (*Silybum marianum*), yellow-star thistle (*Centaurea solstitalis*), pepperweed (*Lepidium latifolium*) and Mediterranean barley (*Hordeum geniculatum*).

### Impact Evaluation Criteria

For the purpose of this document, an impact is considered to be a change in diversity or abundance of plant or animal species or natural vegetation communities.

Appendix G of the State CEQA Guidelines states that a significant effect will occur if:

- a project will substantially affect a rare or endangered plant or animal species or the habitat of the species;
- the project would adversely affect significant riparian, wetlands, marshes, or other wildlife habitat; or
- the project would reduce the number or restrict the range of a rare, threatened, or endangered plant or animal species.

For the purposes of this document, rare or endangered species are defined by Section 15380 of the State CEQA Guidelines as follows:

- "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over exploitation, competition, disease, or other factors; or

- "Rare" when either:
  1. Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or
  2. The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.

- A species of plant shall be presumed to be rare or endangered as it is listed in:
  1. Sections 670.2 or 670.5, Title 14, California Administrative Code; or
  2. Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

- A species not included in any listing identified above shall nevertheless be considered to be rare or endangered if the species can be shown to meet the criteria associated with "Endangered" or "Rare" species.

## Impacts and Mitigation

**Impact:** **Loss of Native and Non-native Vegetation**

Analysis: Development of Southpark would result in the loss of approximately 212.5 acres of agricultural vegetation and a mosaic of natural and naturalized, non-native vegetation. However, due to the disturbed nature of this vegetation and that vegetation of this type is widely distributed in other agricultural or disturbed areas of the vicinity and region, this impact is considered to be less than significant.

Mitigation: No mitigation is required.

## 3.5 WILDLIFE

### Environmental Setting

A reconnaissance-level survey of the Southpark site and immediate vicinity was conducted on June 2, 1992, to describe the existing wildlife resources. The survey consisted of a random meander search of all areas bordering the agricultural fields of the project site and a roadway assessment of wildlife resources located within the immediate vicinity of the project site.

**Table 3.5-1**

Sensitive Species Recorded from the Vicinity of the Southpark Site

| Common Name | Scientific Name | Status | |
|---|---|---|---|
| | | Federal | State |
| Black-shouldered Kite (breeding) | *Elanus caeruleus* | | CFP |
| Swainson's Hawk (breeding) | *Buteo swainsoni* | FC1 | CT |
| Northern Harrier (breeding) | *Circus cyaneus* | | CSC |
| Burrowing Owl (burrow sites) | *Athene cunicularia* | | CSC |

Source: Harland Bartholomew & Associates, 1994

Status Codes
FC1 A candidate species under review for federal listing. Category 1 includes species for which the USFWS presently has sufficient biological information to support listing them as threatened or endangered species.
CT Listed as Threatened by the State of California
CFP California Fully-Protected Species
CSC California Species of Special Concern

#### *Wildlife Habitat*

Agricultural land located within the project site does not provide habitat for a large diversity of species, but is none-the-less utilized by wildlife. Raptors (i.e., birds of prey), including Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), black-shouldered kite (*Elanus caeruleus*), northern harrier (*Circus cyaneus*) and American kestrel (*Falco sparverius*), utilize farmland in Solano County as foraging habitat since agricultural crops often support substantial populations of rodents.

Various other avian species also utilize the agricultural habitat provided by the site. Yellow-billed magpie (*Pica nuttali*), red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), and mourning dove (*Zenaidura macroura*) have been observed foraging on the project site. In addition, species such as barn swallow (*Hirundo rustica*) and cliff swallow (*Hirundo pyrrhonota*) have been observed foraging over the project site.

Few birds nest in agricultural habitats, but these habitats do provide food, refuge and sites to breed and care for young for several species of resident mammals. Species that are expected to occur on the project site include California ground squirrel (*Spermophilus beecheyi*), black-tailed jackrabbit (*Lepus californicus*), California vole (*Microtus *californicus*), western harvest mouse (*Reithrodontomys megalotis*) and house mouse (*Mus musculus*).

### *Special-Status Species*

Special-status species of wildlife that are expected to occur in or utilize the project site are listed in Table 3.5-1 and discussed below. For the purposes of this document, special-status species are defined to include:

- Federally listed, proposed and candidate threatened or endangered species (Title 50, Code of Federal Regulations 17.11 and 17.12);
- State of California listed and candidate threatened or endangered species (1993);
- State of California fully protected species which, while they are not listed as threatened or endangered, are protected by provisions of the Fish and Game Code of California (1993); and
- Species of special concern to the California Department of Fish and Game (1993).

Special-status species that were observed on the project site or in the immediate vicinity of the site include Swainson's hawk, black-shouldered kite, and burrowing owl. Swainson's hawks were observed nesting in the grove of California black walnuts that is located immediately south of the project site. This grove of trees contained an active nest site as well as evidence of several alternative nest platforms, suggesting that the grove has been used regularly by this species. Although Swainson's hawk is typically associated with short grass prairie-type habitats, the species has been substantially documented using agricultural habitats in the Central Valley of California. Agricultural crops such as alfalfa, sugar beets, and tomatoes have particularly high foraging habitat value for this species. These crops have high prey availability for Swainson's hawk due to optimal combinations of prey population and reduced vegetative cover. It should be noted that foraging habitat for this species is the single most important parameter determining the current distribution of this species in the Central Valley.

Although trees that will support nest platforms are important, the hawks will not establish nest territories in areas that do not have sufficient foraging habitat and prey densities to support the adult pair and the young of the pair, regardless of whether appropriate nest trees are present. Crops such as those described above have essentially replaced native grasslands as this species' principal foraging habitat in the Central Valley of California. Accordingly, conversion of agricultural lands to urban uses or incompatible agricultural uses continues to restrict the range of this species even further. Northeastern Solano County and southern Yolo County now represent one of the last major strongholds of this species in California. The density of nesting Swainson's hawks in this area is attributable to the prevalence of compatible agricultural crops and harvesting techniques. Discussions with the Solano County Agriculture Commissioner's Office indicates that crops produced on the Southpark site during the last seven years have included alfalfa and tomatoes. These crop types have been identified as having high foraging habitat value to nesting Swainson's hawks. The Southpark site is therefore identified as important foraging habitat for local nesting pairs of the State-listed Threatened Swainson's hawk.

Black-shouldered kite was also observed foraging on and in the vicinity of the project site. An active nest site for this species was not observed in the project area. However, due to the time of year when the individual was observed, it is expected that this species is nesting in the vicinity of the Southpark site. Black-shouldered kite is not as constrained as Swainson's hawk in the species choice of foraging habitat, but is often found utilizing the same habitats.

Burrowing owl was not observed on the Southpark site, but was observed along State Route 113 approximately one mile south of the project site. Burrowing owls are also known to occur at the United States Naval Transmitter Facility off of Radio Station Road and along a number of other roadways and levees in the agricultural areas located south and east of the City of Dixon.

### Impact Evaluation Criteria

For the purpose of this document, an impact is considered to be a change in diversity or abundance of wildlife species or the creation of barriers to the normal movement or migration of wildlife species.

Appendix G of the State CEQA Guidelines states that a significant effect on the environment will occur if a project will substantially affect a rare or endangered species of plant or the habitat of the species. For the purposes of the this document, rare or endangered species are defined by Section 15380 of the State CEQA Guidelines as follows:

- "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over exploitation, predation, competition, disease, or other factors; or

- "Rare" when either:
    1. Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or
    2. The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.

- A species of plant shall be presumed to be rare or endangered as it is listed in:
    1. Sections 670.2 or 670.5, Title 14, California Administrative Code; or
    2. Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

- A species not included in any listing identified above shall nevertheless be considered to be rare or endangered if the species can be shown to meet the criteria associated with "Endangered" or "Rare" species.

### Impacts and Mitigation

**Impact: Potential Loss of Burrowing Owls and Burrowing Owl Habitat**

Analysis: Burrowing owl was formerly a common, even locally abundant permanent resident throughout much of California, but a population decline first noted in the 1940's (Grinnell and Miller, 1944) has continued into the 1990's. The conversion of short grasslands and pasturelands to agriculture and the destruction of ground squirrel colonies are believed to be the main factors causing this decline.

Although no burrowing owls were observed on the Southpark site during the June 2, 1993 survey, burrowing owls were observed in the vicinity in habitat that is similar to that found on the Southpark site. Potential burrowing owl habitat that occurs within the Southpark site is primarily associated with the Southern Pacific Transportation Company railroad right-of-way and adjacent sparsely vegetated areas. Burrowing owls have shown a propensity for utilizing abandoned ground squirrel burrows in areas that are similar to the habitats that occur in this portion of the site, especially as high quality habitats continue to disappear. Burrowing owls are also known to make significant use of agricultural habitats that have low vegetative cover. The vegetative cover that is provided by the agricultural crops that are produced on the Southpark site provides potential foraging habitat for this species during much of the year.

Pursuant to Sections 15065(a) and 15380(d) of the State CEQA Guidelines, burrowing owl is considered a rare or endangered species that would potentially be reduced in numbers by the project. Given that burrowing owls are known to occur in the nearby vicinity, potential burrow and foraging habitat occurs on the site, and owls could be expected to establish nest burrows on the site prior to the initiation of construction activities, there is a high potential for the loss of individuals or the habitat of this species. These impacts are therefore considered to be potentially significant.

Mitigation: Prior to issuance of a grading permit, a DFG-approved raptor biologist shall survey all potential burrowing owl habitat and record the presence of individual burrowing owls, sign of burrowing owls (i.e., fecal whitewash at the entrance to burrows, etc.) and all burrows that are in use by individuals.

No grading shall then be allowed during the nesting season (April-July) within 125 feet of any nest burrow identified by the DFG-approved raptor biologist.

Prior to grading within burrowing owl habitat in which individual owls have been identified by the DFG-approved raptor biologist, all individual burrowing owls will be trapped or carefully excavated and relocated to a DFG-approved location. All trapping shall be supervised by the DFG-approved raptor biologist. Implementation of these measures would reduce potential burrowing owl impacts to a level that is less than significant.

**Impact: Loss of Wildlife Habitat Provided by Agricultural Land**

Analysis: Development of Southpark would result in the conversion of approximately 212.5 acres of agricultural land to urban uses. This agricultural land currently provides habitat value for a variety of avian and mammalian species that are either transient visitors to the site or are capable of completing breeding before harvesting or other agricultural operations interrupt the reproductive success of the species. The site does not have high habitat value for most species because the site is in agricultural production, does not represent native wildlife habitat, and is regularly disturbed (for exception, see Chapter 4 - Cumulative Impacts for discussion of impacts to Swainson's hawk). Other appropriate native or agricultural habitat is widely available within the vicinity and region for the species that are capable of utilizing habitat of this type. For this reason loss of wildlife habitat provided by the site is considered to be less than significant.

Mitigation: No mitigation is required.

# 3.6 TRAFFIC AND CIRCULATION

## Environmental Setting

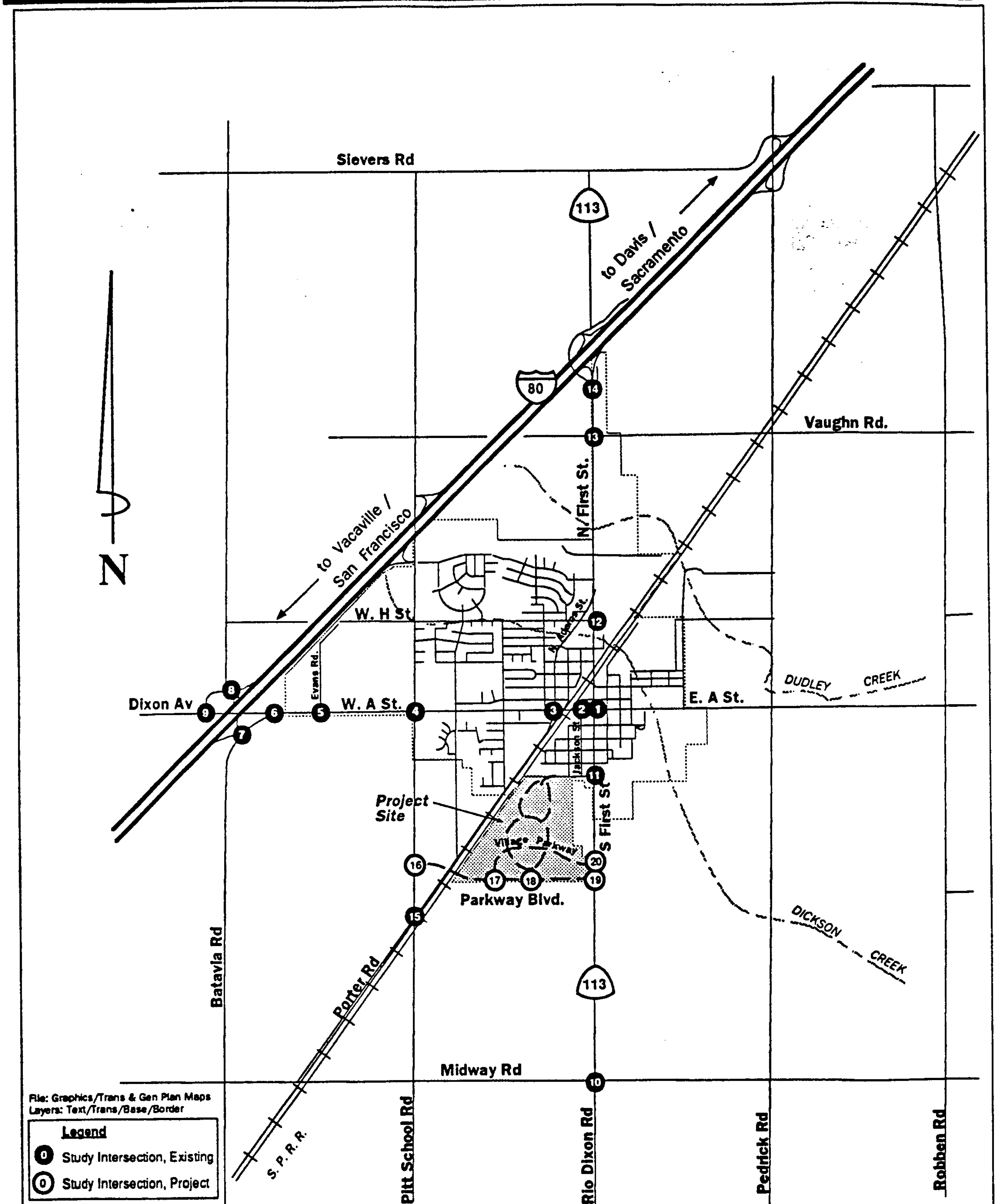
### *Study Area*

Study area boundaries for the Southpark Transportation Analysis were determined based on the approach recommended in "Annexation Area Traffic Study Procedures" prepared by Dan Takacs dated September 30, 1993. The study area includes both roadway intersections and roadway segments. The intersections analyzed as part of this analysis are shown in Figure 3.6-1 and are listed as follows with the study intersection numbers in parentheses:

- First Street (SR 113) and A Street (1);
- A Street and Jackson Street (2);
- A Street and Adams Street (3);
- A Street and Pitt School Road (4);
- Evans Road and A Street (5);
- Batavia Road and A Street (6);
- Batavia Road and Eastbound I-80 Ramps (7);
- Schroeder Road and Westbound I-80 Ramps (8);
- Schroeder Road and A Street (9);
- First Street (SR 113) and Midway Road (10);
- First Street (SR 113) and Cherry Street (11);
- First Street (SR 113) and H Street (12);
- First Street (SR 113) and Vaughn Road (13);
- First Street (SR 113) and Auction Lane/Currey Road/Eastbound I-80 Ramps (14);
- Pitt School Road and Porter Road (15);
- Pitt School Road and Parkway Boulevard (16) (Cumulative Conditions Only);
- Village Parkway West and Parkway Boulevard (17);
- Village Parkway East and Parkway Boulevard (18);
- First Street (SR 113) and Parkway Boulevard (19); and
- First Street (SR 113) and Village Parkway (20).

The roadway segments analyzed as part of this analysis are shown in Figure 3.6-2 and are listed as follows with the study segment numbers in parentheses:

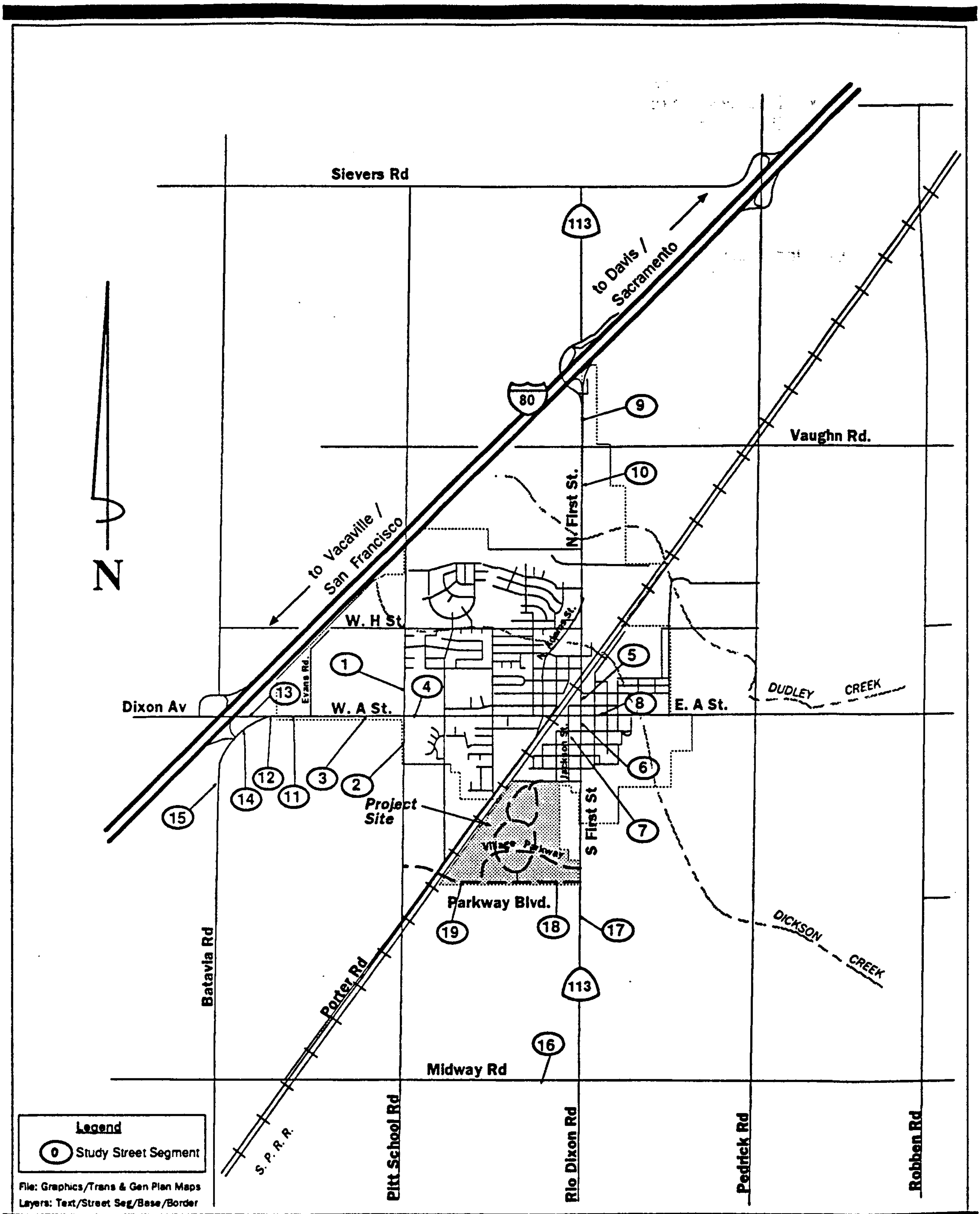
- Pitt School Road north of A Street (1);
- Pitt School Road south of A Street (2);
- A Street west of Pitt School Road (3);
- A Street east of Pitt School Road (4);
- First Street (SR 113) north of A Street (5);
- First Street (SR 113) south of A Street (6);
- A Street west of First Street (SR 113) (7);
- A Street east of First Street (SR 113) (8);
- First Street north of Vaughn (9);
- First Street south of Vaughn (10);
- A Street west of Evans (11);
- A Street east of Batavia (12);
- A Street west of Batavia (13);




*City Of Dixon*
*Southpark EIR*

**Study Intersection Locations**

*Figure 3.6-1*




*City Of Dixon*
*Southpark EIR*

**Study Street Segment Locations**

*Figure 3.6-2*

- Batavia south of Dixon (14);
- Batavia south of I-80 ramp (15);
- Midway west of First Street (SR 113) (16);
- First Street (SR 113) south of Parkway Boulevard (17);
- Parkway Arterial west of First Street (18); and
- Parkway Arterial west of Village Loop (19).

***Existing Road Network***

Figure 3.6-1 shows the location of Dixon with respect to Interstate 80 (I-80) and shows key arterial and collector roadways within the project study area. Primary regional access to Dixon is provided by I-80 and secondary regional access is provided by State Highway 113 (SR 113). Access to I-80 is provided by grade-separated interchanges at the following five locations:

- Pedrick Road;
- SR 113 (First Street);
- Pitt School Road;
- A Street; and
- Midway Road.

The local street system in the City of Dixon is primarily developed on a north-south/east-west grid system. A Street, H Street, and Stratford Avenue provide principal east-west circulation in Dixon. Pitt School Road, Lincoln Street, Almond Street, Adams Street and First Street provide principal north-south circulation. SR 113 is named First Street through the City of Dixon.

Railroad tracks parallel I-80 in a northeast-southwest alignment and traverse the City near the downtown area. Street crossings of the railroad tracks are located on First Street, A Street, Vaughn Road, Pedrick Road, Pitt School Road and Midway Road.

Key roadways in Dixon are described below.

First Street is a north-south major arterial with one travel lane in each direction and provides access to the downtown area and to I-80. SR 113 is named First Street in the City of Dixon limits.

Pedrick Road is a minor arterial located east of Dixon on a north-south alignment. Pedrick Road is designed with one travel lane in each direction.

Pitt School Road is a minor arterial located in the western portion of the City on a north-south alignment. North of Stratford Avenue and south of A Street, Pitt School Road is designed with one travel lane in each direction. Between Stratford Avenue and A Street, Pitt School Road is currently a four-lane roadway with a raised median.

A Street-Dixon Avenue extends in an east-west alignment through Dixon and provides access to I-80 and the downtown area. One travel lane is provided in each direction except for the section of the roadway in the western portion of the City which has been improved to provide two travel lanes in the westbound direction.

Stratford Avenue is a two-lane collector roadway extending between I-80 and First Street on an east-west alignment. Between Pitt School Road and North Lincoln Avenue two travel lanes are provided in each direction.

Only one intersection (A Street/Adams Street) in Dixon is currently signalized. The following intersections are four-way stop controlled intersections:

- Pedrick Road/Vaughn Road;
- Pedrick Road/A Street;
- Pedrick Road/Midway Road;
- First Street/A Street; and
- Pitt School Road/Stratford Avenue.

The other study intersections are unsignalized intersections with stop controls on the minor street approaches.

***Level of Service Criteria***

Traffic operations are evaluated using the concept of level of service (LOS) which relates traffic demand to facility capacity. Traffic operations are rated on an "A" to "F" scale with an "A" level of service representing excellent or free flow conditions and "F" level of service representing failure or heavily congested conditions. Table 3.6-1 provides additional descriptions of the level of service categories.

Traffic analysis level of service criteria for use in this EIR have been recommended by the City Planning Department staff (letter to all annexations consultants dated 2/2/94). These level of service criteria differ from the criteria identified in the Dixon General Plan EIR traffic analysis. The recommended criteria from City Planning Department staff are summarized as follows:

- Signalized intersections, LOS D;
- All way stop intersections, LOS D;
- Minor street stop, LOS E; and
- Midblock roadway segments, LOS D.

The capacity of urban road networks is determined by the capacity of the signalized and four-way stop controlled intersections. With relatively few signalized and four-way stop controlled intersections in and near Dixon, mid-block capacities are more important in influencing traffic operating conditions in Dixon at the current time. As more intersections are signalized, the capacity at intersections will become a more important determinant of overall network capacity and operating conditions.

Mid-block capacities are influenced by a number of factors including the number of travel lanes provided, frequency of intersecting driveways and streets, terrain, vehicle mix and lane and shoulder widths. For this study, the following link capacities were utilized:

- Major arterial 1,000 vehicles per hour;
- Minor arterial 800 vehicles per hour; and
- Collector 600 vehicles per hour.

These links capacities are general representations of roadway mid-block capacities by functional classification. Street segment capacities may vary based on the cross-section design of a specific road segment.

The following three types of intersection controls are utilized in and near Dixon:

- traffic signalization;
- all-way stop; and
- minor street stop (one-way stop for "T" intersections and two-way stop for four-leg intersections).

## Table 3.6-1

### Level of Service Categories

| Level of Service | Description | V/C Ratio | Reserve Capacity | Delay (sec/veh) |
|---|---|---|---|---|
| A | Uncongested operations; all traffic queues clear in a single signal cycle. Free flow operation with very little delay. | 0.00-0.60 | > 399 | < 5 |
| B | Stable flow. Vehicle platoons are formed and traffic experiences short delays. | 0.61-0.70 | 300-399 | 5-10 |
| C | Stable flow but with increasing limitations on traffic maneuvers. Occasional back-ups on critical intersection approaches. Average traffic delays. | 0.71-0.80 | 200-299 | 10-20 |
| D | Approaching unstable traffic flows. Significant congestion of critical approaches but intersection is functional. Vehicles required to wait through more than one cycle during short peaks. Long traffic delays | 0.81-0.90 | 100-199 | 20-30 |
| E | Unstable traffic flows with lower operating speeds than LOS D and some stoppages. Some long queues may occur upstream of the intersection and delays may be significant. | 0.91-1.00 | 0-99 | 30-45 |
| F | Forced flow operation with low speeds and delays which are unacceptable to most drivers. Extreme traffic delays. Demand exceeds intersection capacity. | >1.00 | <0 | >45 |

Source: Highway Capacity Manual, Transportation Research Board Special Report 209, 1985. Interim Materials on Highway Capacity, Transportation Research Circular 212, 1980. Interim Materials on Unsignalized Intersection Capacity, Transportation Research Circulation 373, 1991.

Analysis procedures utilized to evaluate traffic operations at each type of intersection are explained below:

- Signalized intersection -- The Critical Movement Analysis technique described in Transportation Research Board (TRB) Circular 212 was utilized to determine signalized intersection levels of service. Levels of service using the critical lane concept are based on the volume of conflicting traffic (typically through traffic versus left turning traffic) traveling through the intersection. The level of service is determined by comparing the volume of conflicting traffic with the capacity of the intersection. The V/C (volume-to-capacity) ratio ranges presented in Table 3.6-1 are utilized to relate operating conditions with a level of service value;

- All-way Stop Controlled Intersections -- Technical procedures described in TRB Circular 373 were utilized to analyze operating conditions at intersections with all-stop traffic control. Average stopped delay per vehicle is utilized to evaluate the performance of all-way stop controlled intersections. Vehicle delay is determined separately for each approach and is based on traffic flow rates. The flow rate on each approach is a function of the presence of vehicles on the opposing and conflicting approaches. The vehicle delay values shown in Table 3.6-1 are utilized to evaluate intersection operating conditions; and

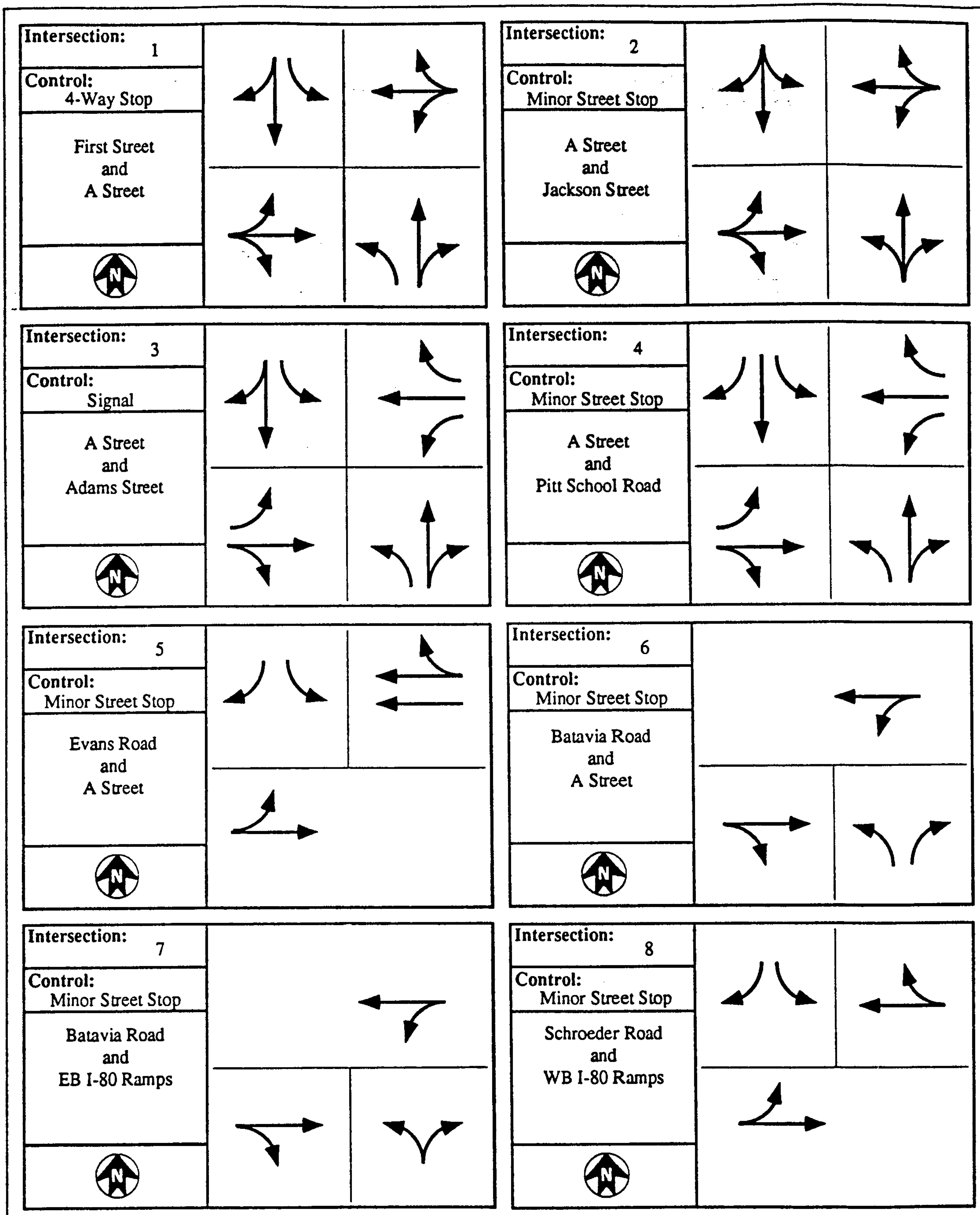
- Minor Street Stop Control -- Technical procedures documented in the 1985 Highway Capacity Manual were utilized to analyze traffic conditions for two-way stop controlled intersections. At two-way stop intersections, the operation efficiency of vehicle movements that must yield to through movements are analyzed. The level of service for vehicle movements on the controlled approaches is based on the distribution of gaps in the major street traffic stream and driver judgment in selecting gaps. The level of service of each approach lane which must yield to major street through movements is based on the reserve, or unused, capacity of the approach lane.

### *Existing Traffic Operations*

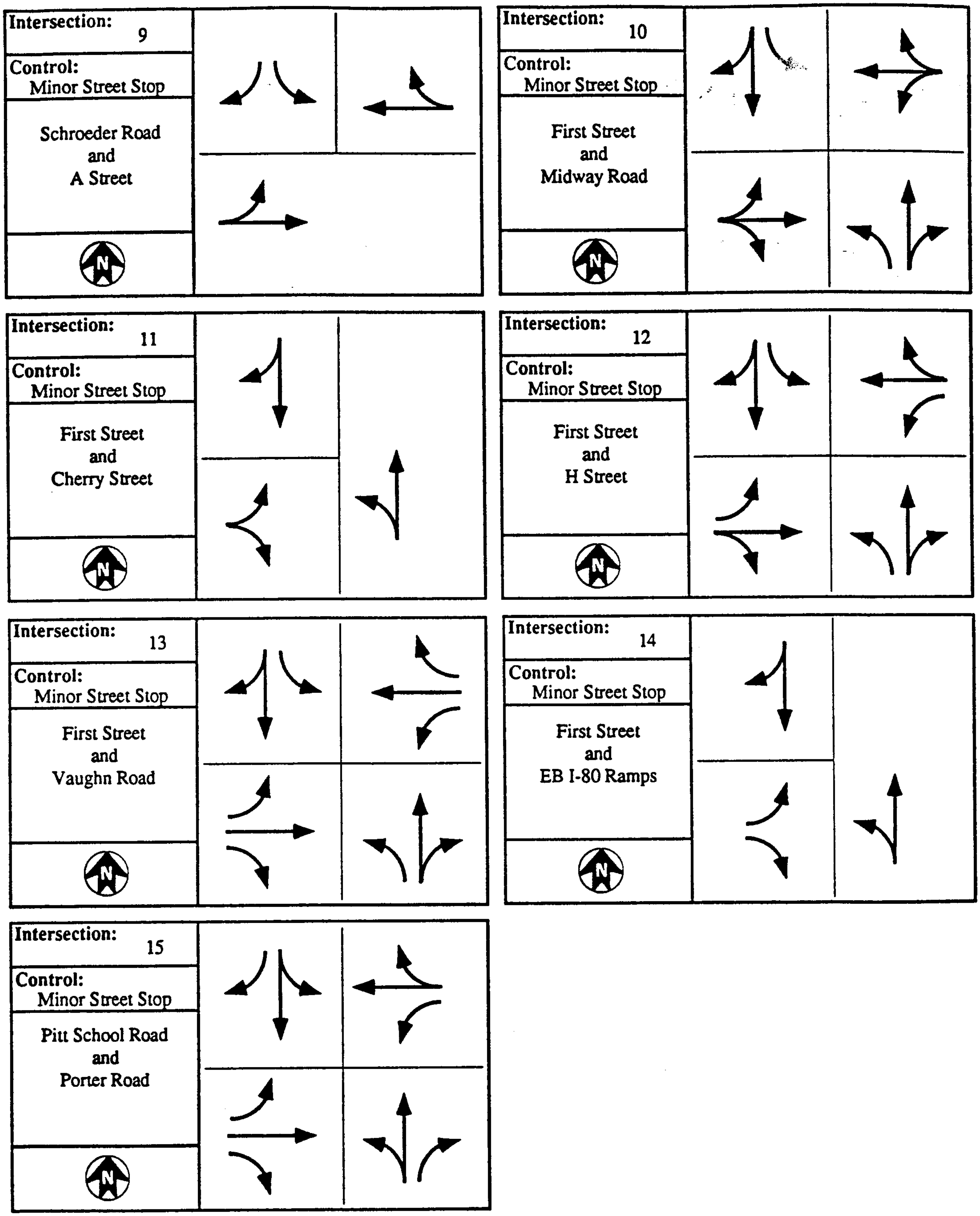
Existing traffic volumes are found in Appendix D, Tables D-1A and D-1B for a.m. and p.m. peak hour respectively. Peak hour intersection turning movement counts were performed at 28 key intersections located within and near the City of Dixon in May and June 1992. Existing intersection lane configurations are shown in Figure 3.6-3. Adjustments to existing volumes based on near term road improvements defined in the Dixon General Plan are presented in Appendix D, Tables D-2A and D-2B for a.m. and p.m. peak hours respectively. The adjustments to existing traffic volumes were made based on direction from the City as transmitted by a memo titled Recommended Traffic Forecasting Procedures and Technical Assumptions for the Dixon Annexation Areas dated September 30, 1993, from Dan Takacs. The adjustments reflect the changes in traffic patterns anticipated from the North First Street Improvements to be implemented by the City within the likely time frame of the annexation projects. Intersection configurations depicting the lane configurations with the City road improvements are shown in Figure 3.6-4.

The peak hour intersection counts used in this EIR were obtained from the General Plan analysis documents and are also summarized in the document titled "City of Dixon General Plan Traffic Analysis Existing Condition Traffic Volumes and Levels of Service." The count data from this document is included in Appendix E of this EIR. Most of the intersection counts used in the analysis of the proposed project were collected in May and June of 1992. The adjusted traffic volumes were manually derived by the City's General Plan traffic consultant and transmitted to HBA by memo dated January 12, 1994.

Table 3.6-2 shows the existing road segment levels of service for the unmodified traffic volumes. Table 3.6-3 shows the existing intersection levels of service for 4-way stop and




| City Of Dixon Southpark EIR | Existing Intersection Configurations | Figure 3.6-3 |
|---|---|---|





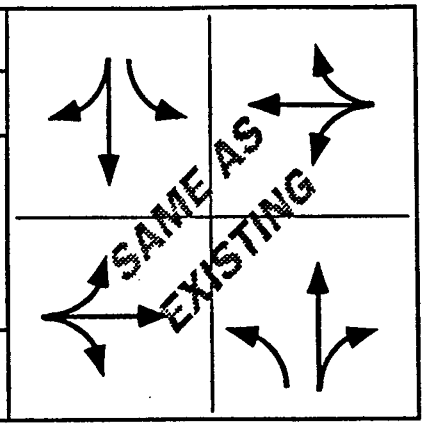

**Existing Intersection Configurations, continued**

*Figure 3.6-3*

**Intersection:** 1

**Control:** 4-Way Stop

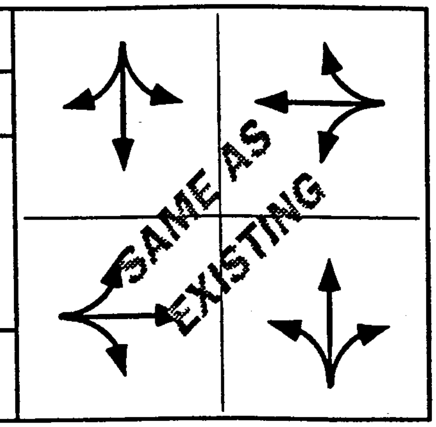
First Street
and
A Street




**Intersection:** 2

**Control:** Minor Street Stop

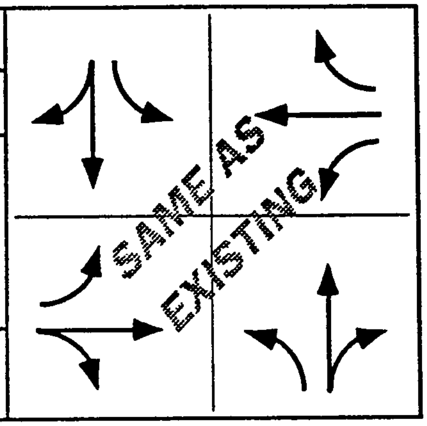
A Street
and
Jackson Street




**Intersection:** 3

**Control:** Signal

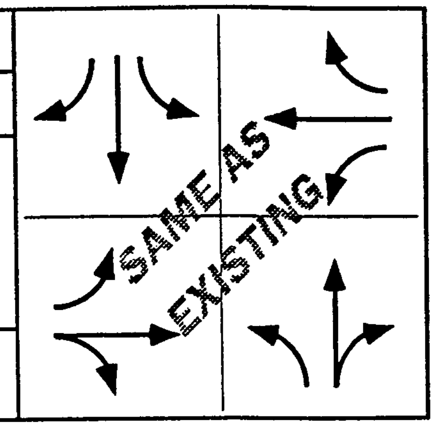
A Street
and
Adams Street




**Intersection:** 4

**Control:** Minor Street Stop

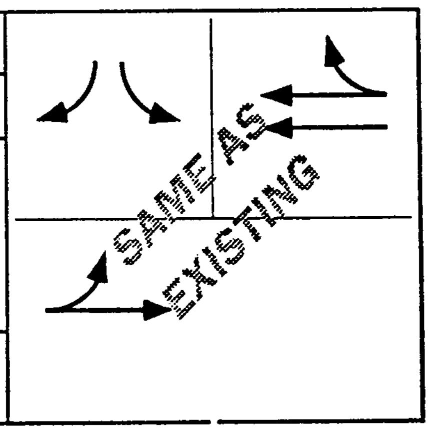
A Street
and
Pitt School Road




**Intersection:** 5

**Control:** Minor Street Stop

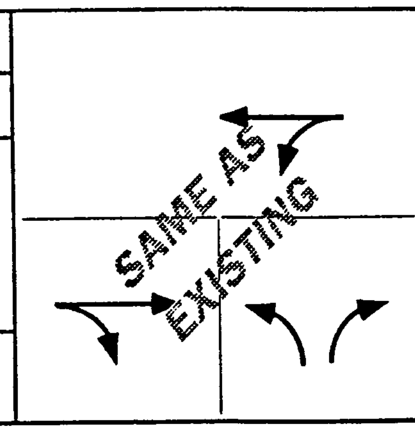
Evans Road
and
A Street




**Intersection:** 6

**Control:** Minor Street Stop

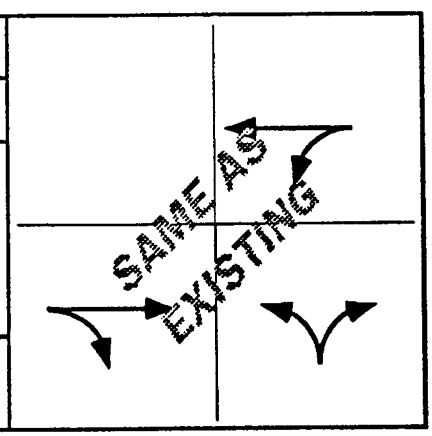
Batavia Road
and
A Street




**Intersection:** 7

**Control:** Minor Street Stop

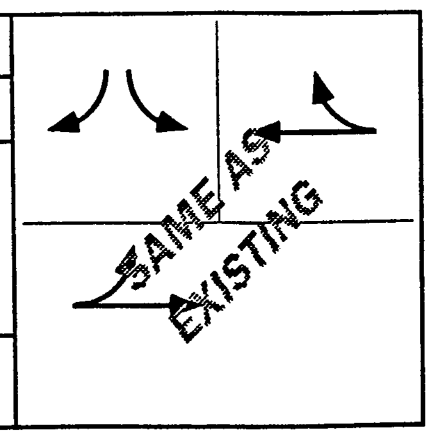
Batavia Road
and
EB I-80 Ramps




**Intersection:** 8

**Control:** Minor Street Stop

Schroeder Road
and
WB I-80 Ramps





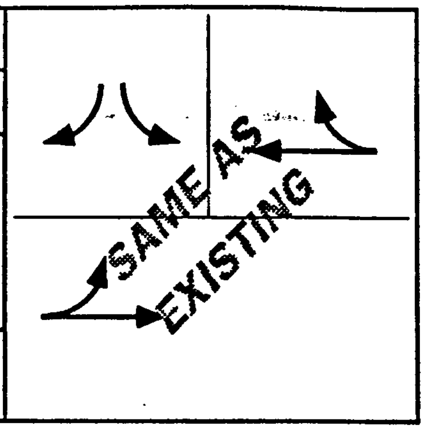

**Existing Intersection Configurations with City Improvements**

***Figure 3.6-4***

**Intersection:** 9

**Control:** Minor Street Stop

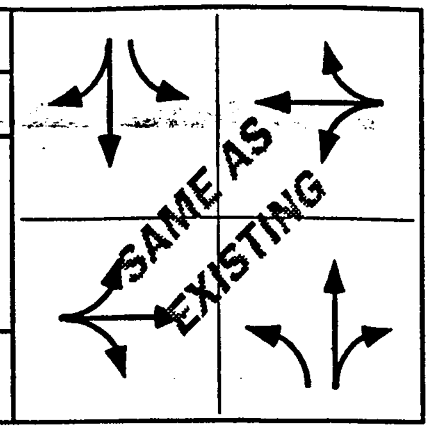
Schroeder Road
and
A Street




**Intersection:** 10

**Control:** Minor Street Stop

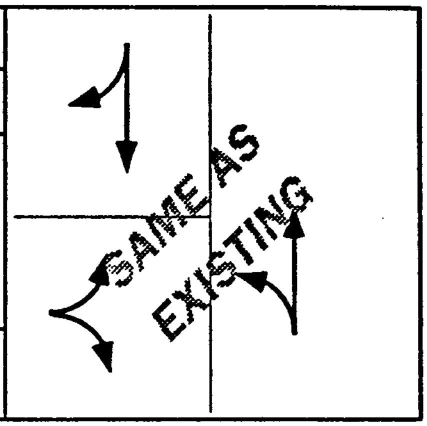
First Street
and
Midway Road




**Intersection:** 11

**Control:** Minor Street Stop

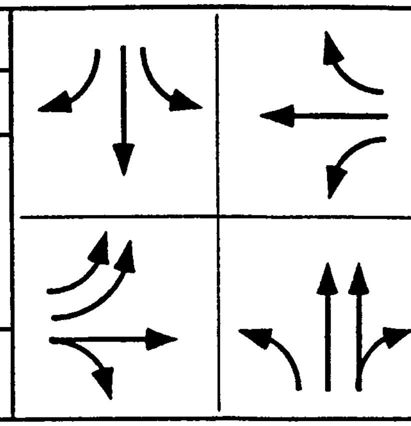
First Street
and
Cherry Street




**Intersection:** 12

**Control:** Minor Street Stop

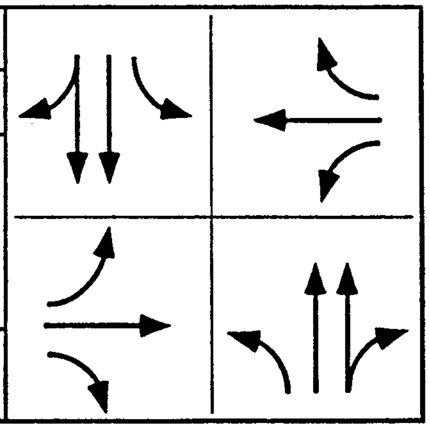
First Street
and
H Street



**Intersection:** 13

**Control:** Minor Street Stop

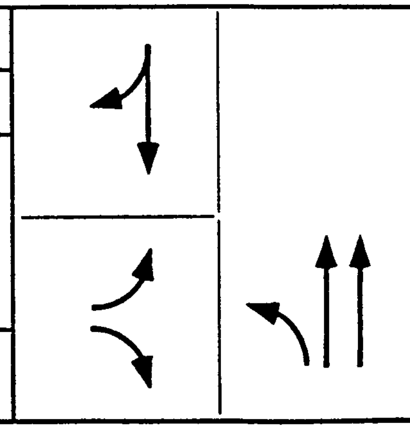
First Street
and
Vaughn Road



**Intersection:** 14

**Control:** Minor Street Stop

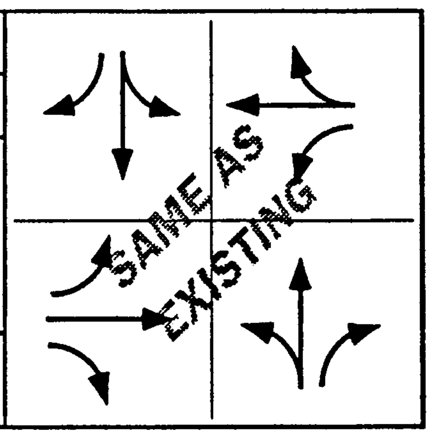
First Street
and
EB I-80 Ramps



**Intersection:** 15

**Control:** Minor Street Stop

Pitt School Road
and
Porter Road




***City Of Dixon***
***Southpark EIR***

**Existing Intersection Configurations with City Improvements, continued**

***Figure 3.6-4***

## Table 3.6-2

### Existing Street Segment Levels of Service

| Road Segment | Travel Direction | Travel Lanes | Capacity | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Volume | V/C | LOS | Volume | V/C | LOS |
| 1 Pitt School north of A St. | NB | 2 | 1,600 | 111 | 0.07 | A | 139 | 0.09 | A |
| | SB | 2 | 1,600 | 116 | 0.07 | A | 156 | 0.10 | A |
| 2 Pitt School south of A St. | NB | 1 | 800 | 53 | 0.07 | A | 44 | 0.06 | A |
| | SB | 1 | 800 | 27 | 0.03 | A | 60 | 0.08 | A |
| 3 A St. west of Pitt School | EB | 1 | 800 | 180 | 0.23 | A | 299 | 0.37 | A |
| | WB | 2 | 1,600 | 197 | 0.12 | A | 202 | 0.13 | A |
| 4 A St. east of Pitt School | EB | 1 | 800 | 237 | 0.30 | A | 359 | 0.45 | A |
| | WB | 1 | 800 | 223 | 0.28 | A | 261 | 0.33 | A |
| 5 First St. north of A St. | NB | 1 | 1,000 | 237 | 0.24 | A | 378 | 0.38 | A |
| | SB | 1 | 1,000 | 242 | 0.24 | A | 411 | 0.41 | A |
| 6 First St. south of A St. | NB | 1 | 1,000 | 259 | 0.26 | A | 360 | 0.36 | A |
| | SB | 1 | 1,000 | 179 | 0.18 | A | 355 | 0.36 | A |
| 7 A St. west of First St. | EB | 1 | 800 | 275 | 0.34 | A | 369 | 0.46 | A |
| | WB | 1 | 800 | 317 | 0.40 | A | 370 | 0.46 | A |
| 8 A St. east of First St. | EB | 1 | 800 | 273 | 0.34 | A | 277 | 0.35 | A |
| | WB | 1 | 800 | 230 | 0.29 | A | 240 | 0.30 | A |
| 9 First St. north of Vaughn | NB | 1 | 1,000 | 417 | 0.42 | A | 317 | 0.32 | A |
| | SB | 1 | 1,000 | 299 | 0.30 | A | 417 | 0.42 | A |
| 10 First St. south of Vaughn | NB | 1 | 1,000 | 424 | 0.42 | A | 336 | 0.34 | A |
| | SB | 1 | 1,000 | 301 | 0.30 | A | 438 | 0.44 | A |
| 11 A St. west of Evans | EB | 1 | 800 | 186 | 0.23 | A | 327 | 0.41 | A |
| | WB | 2 | 1,600 | 242 | 0.15 | A | 200 | 0.13 | A |
| 12 A St. east of Batavia | EB | 1 | 800 | 188 | 0.24 | A | 325 | 0.41 | A |
| | WB | 2 | 1,600 | 239 | 0.15 | A | 205 | 0.13 | A |
| 13 A St. west of Batavia | EB | 1 | 800 | 138 | 0.17 | A | 147 | 0.18 | A |
| | WB | 1 | 800 | 246 | 0.31 | A | 214 | 0.27 | A |
| 14 Batavia south of A St. | NB | 1 | 800 | 124 | 0.16 | A | 268 | 0.34 | A |
| | SB | 1 | 800 | 67 | 0.08 | A | 81 | 0.10 | A |
| 15 Batavia south of I-80 Ramp | NB | 1 | 800 | 12 | 0.02 | A | 70 | 0.09 | A |
| | SB | 1 | 800 | 12 | 0.02 | A | 73 | 0.09 | A |
| 16 Midway west of First St. | EB | 1 | 800 | 34 | .04 | A | 46 | .06 | A |
| | WB | 1 | 800 | 60 | .08 | A | 59 | .07 | A |

## Table 3.6-2 (Continued)

### Existing Street Segment Levels of Service

| Road Segment | Travel Direction | Travel Lanes | Capacity | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Volume | V/C | LOS | Volume | V/C | LOS |
| 17 First St. south of Parkway | NB<br>SB | 1<br>1 | 800<br>800 | 66<br>113 | 0.08<br>0.14 | A<br>A | 133<br>120 | 0.17<br>0.15 | A<br>A |
| 18 Parkway west of First St. | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA |
| 19 Parkway west of Village Loop | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA | NA<br>NA |

Source: City of Dixon Environmental Assessment of the Hearing Draft General Plan, October 29, 1993

## Table 3.6-3

### Existing Intersection Levels of Service
### (4-Way Stop and Signalized Intersections)

| | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|
| **4-Way Stop Intersections** | **LOS** | **Delay** | **LOS** | **Delay** |
| 1 First Street/A St. | B | 8 | C | 15 |
| **Signalized Intersections** | **LOS** | **V/C** | **LOS** | **V/C** |
| 3 Adams/A St. | A | 0.35 | A | 0.42 |

Source: City of Dixon Environmental Assessment of the Hearing Draft General Plan, October 29, 1993

V/C: volume-to-capacity ratio
Delay: seconds per vehicle

## Table 3.6-4

### Existing Intersection Levels of Service
### (Stop Controlled Intersections)

| Stop Controlled Intersections | Turn Movement | AM Peak Hour LOS | AM Peak Hour Reserve Capacity | PM Peak Hour LOS | PM Peak Hour Reserve Capacity |
|---|---|---|---|---|---|
| 2 Jackson/A St. | NBL | B | 313 | D | 126 |
| 4 Pitt School/A St. | SBL | B | 368 | C | 237 |
| 5 A St./Evans | SBL | A | 470 | B | 380 |
| 6 Batavia/Dixon | NBL | A | 538 | A | 525 |
| 7 Batavia/Eastbound I-80 ramps | NBL | A | 871 | A | 559 |
| 8 Westbound I-80 ramps/Schroeder | SBL | A | 584 | A | 605 |
| 9 Westbound I-80 ramps/Dixon | SBL | A | 593 | A | 566 |
| 10 First St./Midway | WBL | A | 625 | A | 635 |
| 11 First St./Cherry St. | EBL | A | 624 | A | 494 |
| 12 First St./H St. | EBL | A | 585 | A | 535 |
| 13 First St./Vaughn | WBL | B | 304 | C | 240 |
| 14 First St./Eastbound I-80 ramps | EBL | B | 313 | A | 419 |
| 15 Pitt School/Porter Rd. | NBL | A | 670 | A | 602 |

Source: City of Dixon Environmental Assessment of the Hearing Draft General Plan, October 29, 1993

NBL Northbound left
SBL Southbound left
EBL Eastbound left
WBL Westbound left

signalized intersections, and Table 3.6-4 shows the existing intersection levels of service for stop controlled intersections for the unmodified traffic volumes. Existing traffic operations on the Dixon road network are relatively good at this time. All study road segments currently operate at LOS A during the a.m. and p.m. peak hours. The signalized intersection of North Adams Street and A Street currently operates at LOS A during the a.m. and p.m. peak hours. The four-way stop controlled intersection at First Street/A Street currently operates at LOS B and C during the a.m. and p.m. peak hours respectively. The LOS E threshold is not exceeded at any of the unsignalized intersections.

At the study intersections which exist in the existing condition, at least one of the minor street approaches currently operates at LOS D during the p.m. peak hour. This approach experiences a moderate amount of delay before turning onto or crossing the major intersecting street. The delay is experienced only by traffic on the minor street approaches and, in each case, the major street operates at good levels of service based on the mid-block operations analysis.

## Impact Evaluation Criteria

For the purpose of this document, an impact is considered to be a change in transportation conditions and facilities. An impact is considered to be significant if it meets the following criteria:

- the project causes intersections to meet the peak hour warrant for signalization;
- the project causes existing signalized or all-way stop intersections or arterial roadway levels of service to drop below the LOS D criteria level;
- the project causes existing minor street stop intersection levels of service to drop to below the LOS E criteria level;
- the project results in inadequate parking or internal circulation capacity to accommodate increased traffic;
- the project does not include adequate provision for bicycle, pedestrian, or transit access; or the project results in a potential increase in traffic hazards to motor vehicles, bicyclists or pedestrians.

## Impacts and Mitigation

**Impact:** **Intersection Meets Peak Hour Warrant for Signalization**

Analysis: At full buildout, the Southpark project would consist of 964 residential dwelling units, a 3.4 acre neighborhood commercial development, an elementary school and a continuation school. The residential units are planned to include 188 multi-family units and 776 single family units. The total number of single family units may be lowered to 763 units if the mineral rights at the southwest corner of the project are not conveyed to the Southpark proponents. For analysis purposes, the higher dwelling count total has been assumed.

The proposed 10.0 acre elementary school would accommodate approximately 600 students. With approximately 950 residences planned in the immediate area surrounding the proposed school, all of the trips to the school are assumed to be from homes within the Southpark Planned Development. Consequently, none of the elementary school related trips are assigned to the City street system in the project analysis.

As shown in the Southpark Development Plan for the project (Figure 2.4-1), the proposed project includes two direct access points to Parkway Boulevard, two direct access points to First Street, and an additional indirect access point to First Street via Cherry Street.

Table 3.6-5 shows daily and peak hour trip generation rates that were utilized to estimate the volume of traffic that would be generated by Southpark. The recommended trip generation rates generally conform with trip generation rates documented by the San Diego Association of Governments (1990).

Table 3.6-6 shows the estimated volume of new daily and peak hour trips that would be generated by Southpark. The new development would generate an estimated 12,920 daily trips at build-out. Residential land uses are forecast to generate two-thirds of the daily trips that would be generated by the project.

## Table 3.6-5

### Trip Generation Rates

| Land Use Type | Daily Trips | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|
| | | % of Daily | In/Out | % of Daily | In/Out |
| Single Family | 10/DU | 8 | 20/80 | 10 | 70/30 |
| Multi-Family | 6/DU | 8 | 20/80 | 10 | 70/30 |
| Neighborhood Commercial | 1,200/acre | 4 | 60/40 | 11 | 50/50 |
| Elementary School | 60/acre | 26 | 60/40 | 5 | 30/70 |
| Continuation School | 60/acre | 30 | 70/30 | 6 | 30/70 |

Source: City of Dixon Department of Public Works; San Diego Traffic Generators, San Diego Association of Governments, January 1990; and Trip Generation, 5th Edition, Institute of Transportation Engineers, 1991.

The trips generated by the new development would not all be new trips. Some of the trips generated by the commercial retail uses would be "captured" from the adjacent traffic stream (pass-by trips). In addition, trip linkages, which are trips to multiple destinations during one trip, would occur. The trip generation forecasts were adjusted prior to assignment to the road network to account for pass-by trip capture and trip linkages.

## Table 3.6-6

### Estimated Daily and Peak Hour Trips Generated at Buildout

| Land Use | Daily | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| Neighborhood Commercial | 4,080 | 98 | 65 | 163 | 224 | 224 | 448 |
| Less pass-by amount[1] | 1,632 | 34 | 23 | 57 | 112 | 112 | 224 |
| Net New Trips | 2,448 | 64 | 42 | 106 | 112 | 112 | 224 |
| Residential | | | | | | | |
| Single Family | 7,760 | 124 | 496 | 620 | 543 | 233 | 776 |
| Multi-Family | 1,128 | 18 | 72 | 90 | 79 | 34 | 113 |
| School (Elementary) | 600 | 94 | 32 | 156 | 9 | 21 | 30 |
| School (continuation) | 150 | 32 | 13 | 45 | 3 | 6 | 9 |
| Total | 13,718 | 366 | 709 | 1,074 | 858 | 518 | 1,376 |

Source: Harland Bartholomew & Associates, 1994

1 See pass-by %'s in Table 3.6-7.

## Table 3.6-7

Commercial Pass-by Trip Percentages

| Time Period | Pass-by % |
|---|---|
| Daily | 40 |
| AM Peak Hour | 35 |
| PM Peak Hour | 50 |

Source:: City of Dixon Environmental Assessment of the Hearing Draft General Plan, October 29, 1993

The pass-by trip percentages applied to the commercial projects are summarized in Table 3.6-7 Application of the pass-by trip percentages does not change the projection of traffic volumes at the driveways of the commercial projects. However, the total volume of new trips added to the road network is reduced.

### Project Trip Distribution Patterns

Trip distribution patterns were established for each land use category using trip table data developed by the Solano County Congestion Management Program traffic forecasting model. The Solano County traffic model projects traffic volumes for freeways, major arterials and major collector roadways located in Solano County, the San Francisco Bay Area, the Sacramento area and the northern portion of the San Joaquin Valley. The traffic demand model consists of 269 Traffic Analysis Zones (TAZs) with Dixon represented in the model by five TAZs.

The traffic demand model produces traffic forecasts based on an assumed year 2000 development scenario for Solano County and other jurisdictions. Trip table data from the model (projections of daily and p.m. peak hour trips between TAZs) were utilized to develop trip distribution patterns for each land use category. The trip distribution patterns utilized to assign the trips generated by new development to the local road network are shown in Tables 3.6-8 and 3.6-9.

### Project Trip Assignment

Project traffic was assigned to the local street and highway system as defined in the trip distribution discussion above. Existing (modified to reflect North First Street Improvements, Tables D-2A and D-2B in Appendix D) plus project traffic volumes are shown in Appendix D, Tables D-3A and D-3B for the a.m. and p.m. peak hours respectively. The exact assignments were based on the calculations provided in Appendix F. A computerized assignment program was used to develop a link and node street network and the project trips were assigned to be consistent with the distributions presented in Table 3.6-8. Appendix F includes a figure that illustrates the street network, the network file (DIX.NET), trip generation file (DIX.GEN) and the path files (DIXAM.PTH and DIXPM.PTH) required to produce the trip assignments.

## Table 3.6-8

### Geographic Distribution of Project Trips

| | Neighborhood Commercial | | | Residential | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | AM | | PM | |
| Distribution Location | Daily | AM | PM | Daily | In | Out | In | Out |
| East (I-80) | 5 | 5 | 5 | 25 | 14 | 28 | 28 | 14 |
| North (I-505) | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| West (A St.) | 5 | 5 | 5 | 8 | 12 | 6 | 6 | 12 |
| West (I-80) | 5 | 5 | 5 | 25 | 13 | 34 | 34 | 13 |
| South (Rio Vista) | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| Subtotal External | 15% | 15% | 15% | 60% | 40% | 70% | 70% | 40% |
| Dixon | 45% | 50% | 35% | 40% | 60% | 30% | 30% | 605 |
| Captured Trips | 40% | 35% | 50% | | | | | |
| **Totals** | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

Source: City of Dixon Environmental Assessment of the Hearing Draft General Plan, October 29, 1993

Note: Figures represent inbound and outbound trip distribution patterns.

As shown in Table 3.6-9, study intersection 1, First Street and A Street, meets the peak hour warrant for signalization during the a.m. and p.m. peak hours when project traffic is added to existing traffic. This impact is considered significant.

Mitigation: Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of constructing a traffic signal at the intersection of First Street and A Street. Since signalization and other intersection turn lane improvements have been identified at this location as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted that this latter financing plan has not yet been developed. Implementation of these measures would reduce impacts associated with the need for intersection signalization to a level that is less than significant.

**Impact: Signalized Intersection Level of Service Less than D**

Analysis: As shown in Table 3.6-9, project traffic added to existing traffic creates LOS F conditions with a corresponding volume-to-capacity ratio of 1.14 during the p.m. peak hour at study intersection 1 when analyzed as a signalized intersection (as required by the mitigation for the impact "Intersection Meets Peak Hour Warrant for Signalization"). Operations can be improved to acceptable LOS D conditions with the addition of separate right turn lanes at the east and west approaches to the intersection. However, this mitigation would result in the loss of on-street parking along A Street near the intersection. This impact is considered significant.

Mitigation: Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of adding separate right turn lanes at the east and west approaches to the intersection of First Street and A Street. Since similar improvements have been identified at this location as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce impacts associated with signalized intersection level of service to a level that is less than significant.

**Impact: Unsignalized Intersections Level of Service Less than E**

Analysis: As shown in Table 3.6-9, all unsignalized intersections would be forecast to operate within the level of service criteria (LOS E). This impact is therefore considered to be less than significant.

## Table 3.6-9

Existing Plus Project Intersection Levels of Service

| | N-S Street | E-W Street | AM Peak Hour LOS | AM Peak Hour Res. Cap. or V/C | AM Peak Hour Signal Warrant | PM Peak Hour LOS | PM Peak Hour Res. Cap. or V/C | PM Peak Hour Signal Warrant |
|---|---|---|---|---|---|---|---|---|
| 1 | First | A Street | C | 0.75 | Y[1] | F[2] | 1.01[2] | Y[1] |
| 2 | Jackson | A Street | NBL=D | 162 | N | NBL=E[3] | 26 | B |
| 3 | Adams | A Street | A | 0.55 | -- | B | 0.63 | -- |
| 4 | Pitt School | A Street | SBL=C | 268 | N | SBL=D | 126 | N |
| 5 | Evans | A Street | NBL=B | 322 | N | NBL=C | 245 | N |
| 6 | Batavia | Dixon | NBL=A | 424 | N | NBL=A | 469 | N |
| 7 | Batavia | I-80 EB Ramps | NBL=A | 708 | N | NBL=A | 431 | N |
| 8 | Schroeder | I-80 WB Ramps | SBL=A | 511 | N | SBL=A | 607 | N |
| 9 | Schroeder | Dixon | SBL=A | 508 | N | SBL=A | 512 | N |
| 10 | Hwy 113 | Midway | WBL=A | 596 | N | EBL=A | 546 | N |
| 11 | First | W. Cherry | EBL=D | 116 | N | EBL=D | 59 | N |
| 12 | First | H Street | EBL=D | 130 | N | EBL=E | 88 | N |
| 13 | First | Vaughn | EBL=C | 204 | N | WBL=D | 184 | N |
| 14 | First | I-80 EB Ramps | EBL=B | 338 | N | EBR=B | 392 | N |
| 15 | Pitt School | Porter Rd. | EBL=A | 712 | N | WBL=A | 634 | N |
| 16 | Pitt School | Parkway | NA | NA | NA | NA | NA | NA |

## Table 3.6-9 (Continued)

### Existing Plus Project Intersection Levels of Service

| | N-S Street | E-W Street | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|
| | | | LOS | Res. Cap. or V/C | Signal Warrant | LOS | Res. Cap. or V/C | Signal Warrant |
| 17 | Vil. Pkwy W. | Parkway | NA | NA | NA | NA | NA | NA |
| 18 | Vil. Pkwy E. | Parkway | NA | NA | NA | NA | NA | NA |
| 19 | First | Parkway | EBL=A | 547 | N | EBL=A | 516 | N |
| 20 | First | Vil. Pkwy | EBL=C | 220 | N | EBL=D | 185 | N |

Source: Harland Bartholomew & Associates, 1994

1 Mitigation via signalization, meets peak warrant for signalization.
2 Mitigation to LOS D, 0.78 V/C, with separate right turn lanes at east and west approaches plus signalization.
NBL Northbound left
SBL Southbound left
EBL Eastbound left
WBL Westbound left
Y Meets peak hour signal warrant
B Borderline peak hour signal warrant
N Does not meet peak hour signal warrant
Res. Cap. - Reserve Capacity

Mitigation: No mitigation is required

**Impact: Street Segment Level of Service Less than D**

Analysis: As shown in Table 3.6-10, one street segment results in LOS E conditions when project traffic is added to existing traffic. This street segment is Southbound First Street and is located at the intersection of First Street and A Street. According to the mitigation proposed for the impact "Intersection Meets Peak Hour Warrant for Signalization," conditions would improve at this intersection with the implementation of signalization and intersection turn lane improvements proposed in the General Plan. As a consequence of improvements made to the signalized intersection, conditions along the aforementioned street segment would improve. However, if the improvements identified in the General Plan are not implemented, the impact to the street segment level of service would be considered a significant impact.

Mitigation: Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of adding separate right turn lanes at the east and west approaches to the intersection of First Street and A Street. Since similar improvements have been identified at this location as part of the traffic analysis for the City of Dixon General Plan, mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted that this latter financing plan has not yet been developed. Implementation of these measures would reduce the street segment level of service impact to a level that is less than significant.

# Table 3.6-10

## Existing Plus Project Street Segment Levels of Service

| Road Segment | Travel Direction | Travel Lanes | Capacity | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Vol | V/C | LOS | Vol | V/C | LOS |
| 1 | NB | 2 | 1,600 | 111 | 0.07 | A | 139 | 0.09 | A |
| | SB | 2 | 1600 | 116 | 0.07 | A | 156 | 0.10 | A |
| 2 | NB | 1 | 800 | 73 | 0.09 | A | 74 | 0.09 | A |
| | SB | 1 | 800 | 32 | .04 | A | 90 | 0.11 | A |
| 3 | EB | 1 | 800 | 392 | 0.49 | A | 518 | 0.65 | B |
| | WB | 2 | 1,600 | 506 | 0.32 | A | 276 | 0.17 | A |
| 4 | EB | 1 | 800 | 256 | 0.32 | A | 548 | 0.69 | B |
| | WB | 1 | 800 | 399 | 0.50 | A | 305 | 0.38 | A |
| 5 | NB | 1 | 1,000 | 470 | 0.47 | A | 493 | 0.49 | A |
| | SB | 1 | 1,000 | 296 | 0.30 | A | 677 | 0.68 | B |
| 6 | NB | 1 | 1,000 | 816 | 0.82 | D | 636 | 0.64 | B |
| | SB | 1 | 1,000 | 322 | 0.32 | A | 982 | 0.98 | E[1] |
| 7 | EB | 1 | 800 | 332 | 0.42 | A | 661 | 0.83 | D |
| | WB | 1 | 800 | 582 | 0.73 | C | 484 | 0.61 | B |
| 8 | EB | 1 | 800 | 332 | 0.42 | A | 324 | 0.41 | A |
| | WB | 1 | 800 | 262 | 0.33 | A | 309 | 0.39 | A |
| 9 | NB | 2 | 2,000 | 560 | 0.28 | A | 358 | 0.18 | A |
| | SB | 2 | 2,000 | 321 | 0.16 | A | 576 | 0.29 | A |
| 10 | NB | 2 | 2,000 | 540 | 0.27 | A | 364 | 0.18 | A |
| | SB | 2 | 2,000 | 306 | 0.15 | A | 581 | 0.29 | A |
| 11 | EB | 1 | 800 | 225 | 0.28 | A | 546 | 0.68 | B |
| | WB | 2 | 1,600 | 438 | 0.27 | A | 274 | 0.17 | A |
| 12 | EB | 1 | 800 | 227 | 0.28 | A | 543 | 0.68 | B |
| | WB | 2 | 1,600 | 435 | 0.27 | A | 279 | 0.17 | A |
| 13 | EB | 1 | 800 | 157 | 0.20 | A | 200 | 0.25 | A |
| | WB | 1 | 800 | 442 | 0.55 | A | 288 | 0.36 | A |
| 14 | NB | 1 | 800 | 144 | 0.18 | A | 433 | 0.54 | A |
| | SB | 1 | 800 | 67 | 0.8 | A | 81 | 0.10 | A |
| 15 | NB | 1 | 800 | 12 | 0.02 | A | 70 | 0.09 | A |
| | SB | 1 | 800 | 12 | 0.02 | A | 73 | 0.09 | A |

## Table 3.6-10 (Continued)

### Existing Plus Project Street Segment Levels of Service

| Road Segment | Travel Direction | Travel Lanes | Capacity | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Vol | V/C | LOS | Vol | V/C | LOS |
| 16 | EB | 1 | 800 | 34 | 0.04 | A | 46 | 0.06 | A |
| | SB | 1 | 800 | 60 | 0.08 | A | 59 | 0.07 | A |
| 17 | NB | 1 | 800 | 67 | 0.08 | A | 139 | 0.17 | A |
| | SB | 1 | 800 | 119 | 0.15 | A | 123 | 0.15 | A |
| 18 | EB | 1 | 800 | 158 | 0.20 | A | 75 | 0.09 | A |
| | WB | 1 | 800 | 27 | 0.03 | A | 174 | 0.22 | A |
| 19 | EB | 1 | 800 | 79 | 0.10 | A | 38 | 0.05 | A |
| | WB | 1 | 800 | 14 | 0.02 | A | 87 | 0.11 | A |

Source: Harland Bartholomew & Associates, 1994

1 Signalization plus right turn lanes required in intersection analysis. The latter improvements would provide acceptable level of service, and reduce street segment impacts to less than significant.

**Impact: Inadequate Parking or Internal Circulation**

Analysis: The proposed site plan shows adequate internal roadway facilities to accommodate internal traffic flows. The project streets will be constructed in accordance with the City of Dixon standard plan for local residential street design. Similarly, the project will be constructed in accordance with the City of Dixon requirements for parking. This impact is therefore considered to be less than significant.

Mitigation: No mitigation is required.

**Impact: Inadequate Provisions for Bicycle, Pedestrian, or Transit Access**

Analysis: The Southpark Planned Development typifies residential subdivision design. Sidewalks are required as part of the City's standard plan and adequate street and shoulder width would be provided to accommodate vehicles and bicycles. Thus, the internal streets of the proposed Southpark project would accommodate simultaneous vehicular, bicycle and pedestrian traffic. This impact is considered to be less than significant.

Mitigation: No mitigation is required.

**Impact: Potential Increase in Traffic Hazards**

Analysis: All project streets and new access points would be constructed to City standards and designed by a licensed civil engineer. Therefore, no anticipated design elements resulting from development of the project would deviate from acceptable traffic engineering practice. This impact is considered to be less than significant.

Mitigation: No mitigation is required.

# 3.7 AIR QUALITY

## Environmental Setting

The environmental setting includes geographic, topographic, and climatic factors affecting air quality at the Southpark project site in the City of Dixon. Existing ambient air quality data, and applicable national, state and local regulations affecting air quality issues in the City are also presented.

### *Geography/Topography*

The City of Dixon is located in the northeast portion of Solano County. The geography of Solano County is characterized by flat terrain with few naturally occurring topographic features.

Solano County is located in the Sacramento Valley Air Basin. The basin is flanked by the Pacific Ocean and coastal mountains to the west and the Sierra Nevada to the east. The Sacramento Valley extends from approximately Sacramento in the south to Redding in the north in a linear fashion with a width of up to 100 miles.

### *Meteorology*

Weather in California is dominated by the annual migration of a semi-permanent Pacific high pressure system. During the summer, the Pacific high migrates to the north and causes storm tracks to be deflected north of the state. Therefore, little precipitation from Pacific storms reaches California in the summer months. During the winter, the Pacific high migrates south and storms move into and across the state. Precipitation falls as rain at low elevations and snow at higher elevations.

In the Sacramento Valley, this dominant weather pattern creates a semi-arid climate characterized by hot, dry summers and mild, moist winters. In the City of Dixon, maximum temperatures during summer often exceed 100 degrees Fahrenheit and rainfall approaches 20 inches per year. During the summer, warm temperatures, stable atmospheric conditions and air inversions produce the potential for high levels of air pollution concentrations.

### *Existing Air Quality*

#### *Overview of Standards*

Air quality issues in California are governed by both state and national ambient air quality standards and administered by local Air Quality Management Districts (AQMDs) or Air Pollution Control Districts (APCDs). Air quality issues for Solano County are administered by the Yolo-Solano Air Quality Management District which also administers Yolo County air quality issues.

The federal Clean Air Act of 1970, and as amended in 1977, provides that national ambient air quality standards (NAAQS) can be exceeded no more than once each year. The U.S. Environmental Protection Agency (EPA) has set standards for sulfur dioxide, nitrogen dioxide, carbon monoxide, 10-micron particulate matter ($PM_{10}$), lead, and ozone. An area where a national ambient air quality standard is exceeded more than three times in three years can be considered a "non-attainment" area subject to more stringent planning and pollution control requirements.

State air quality legislation was originally introduced to California in 1969. Additional legislation was added with the California Clean Air Act of 1988. State of California ambient air quality standards are goals set and administered by the California Air Resources Board (ARB) to protect public health and welfare. Standards have been set for sulfur dioxide, nitrogen dioxide, carbon monoxide, 10-micron particulate matter, lead, sulfates, hydrogen sulfide, vinyl chloride, and ozone, at levels designed to protect the most sensitive parts of the population, particularly children, the elderly, and people who suffer from lung or heart diseases. The ARB performs program oversight activities, while primary air quality planning and enforcement activities are carried out by the local APCD or AQMD.

Both state and national air quality standards consist of two parts: An allowable concentration of a pollutant, and an averaging time over which the concentration is to be measured. The concentrations are based on the results of studies of the effects of the pollutants on human health, crops and vegetation, and occasionally damage to paint and other materials. The averaging times are based on whether the damage caused by the pollutant is more likely to occur during exposures to a high concentration for a short period of time (one hour, for instance), or to a relatively lower average concentration over a much longer period (one month or one year). Some pollutants are regulated by multiple standards, reflecting the likelihood of both short-term and long-term effects.

*Existing Air Quality Levels*

Similar to the entire Sacramento Valley, the City of Dixon has the potential for poor air quality due to the stable, stagnant meteorological conditions that can occur in the region. Increased vehicular use over the past twenty years together with stable air conditions in the area have led to a number of violations of the state and national air quality standards for ozone and state standards for fine particulates. Consequently, Solano County is classified at the state and federal levels as non-attainment for ozone and non-attainment at the state level for particulate matter.

Attainment status for carbon monoxide is based on measurements along roadways and intersections. Currently, there are no locations classified as non-attainment for carbon monoxide. Table 3.7-1 presents the state and national ambient air quality standards for critical pollutants.

The Yolo-Solano AQMD operates air monitoring stations in Vacaville, West Sacramento and Woodland. The ARB operates a monitoring station at the University of California campus in Davis. The Davis and Vacaville stations are closest to the Southpark site and best reflect ambient pollution levels in Dixon. Monitored air quality levels from 1988 to 1992 at the Davis and Vacaville stations are shown in Table 3.7-2. Monitored particulate matter data from the Vacaville station and monitored ozone data from the Davis station are shown in Table 3.7-2. Specific discussion of each critical pollutant is provided below:

## Table 3.7-1

### State and National Ambient Air Quality Standards

| Pollutant | Averaging Time | California Standards Concentration | National Standards Concentration |
|---|---|---|---|
| Ozone | 1 hour | 0.09 ppm | 0.12 ppm |
| Carbon Monoxide | 8 hour<br>1 hour | 9 ppm<br>20 ppm | 9 ppm<br>35 ppm |
| Nitrogen Dioxide | Annual Average<br>1 hour | -<br>0.25 ppm | 0.053 ppm<br>- |
| Sulfur Dioxide | Annual Average<br>24 hour<br>3 hour<br>1 hour | -<br>0.04 ppm (105 $\mu g/m^3$)<br>-<br>0.25 ppm (655 $\mu g/m^3$) | 80 $\mu g/m^3$ (0.03 ppm)<br>365 $\mu g/m^3$ (0.14 ppm)<br>1300 $\mu g/m^3$(1) (0.5 ppm)<br>- |
| Suspended Particulate Matter (10 micron) | Annual Geometric Mean<br>24 hour<br>Annual Arithmetic Mean | 30 $\mu g/m^3$<br>50 $\mu g/m^3$<br>- | -<br>150 $\mu g/m^3$<br>50 $\mu g/m^3$ |

Source: California Air Resources Board, Air Quality Data Summary, 1992

(1) Secondary standard.

## Table 3.7-2

### Air Pollutant Data Summary from the Vacaville (Particulates) and Davis (Ozone) Air Monitoring Stations for the Years 1988-1992

| Pollutant | 1988 | 1989 | 1990 | 1991 | 1992 |
|---|---|---|---|---|---|
| OZONE (ppm) | | | | | |
| Highest 1-hour | 0.11(1) | 0.10(1) | 0.11(1) | 0.10(1) | 0.12 |
| Days > 0.09 ppm | 15 | 1 | 4 | 2 | 9 |
| PARTICULATES ($\mu g/m^3$) | | | | | |
| Annual Geometric Mean | 29.7(1) | 40.0(1) | 20.8(1) | 34.9(1) | 21.2 |
| 24 hour | 81 | 109 | 96 | 98 | 70 |
| Annual Arithmetic Mean | 36.0(1) | 46.0(1) | 26.8(1) | 40.6(1) | 24.6 |

Source: California Air Resources Board, Air Quality Data Summary, 1988-1992

(1) Valid data, but insufficient number of data collected to meet EPA and/or ARB criteria for representativeness
ppm: parts per million
$\mu g/m^3$: microgram per cubic meter

### *Ozone*

Ozone ($O_3$) is an end product of complex reactions between reactive organic gases (ROG) or non-methane hydrocarbons (NMHC) and nitrogen oxides ($NO_x$) in the presence of intense ultraviolet radiation. ROG and $NO_x$ emissions from a large number of vehicles and stationary sources, in combination with daytime wind flow patterns, topographic barriers, a persistent temperature inversion, and intense sunlight, result in high ozone concentrations. Peak ozone concentrations typically occur during the summer months when long days allow the reactions to take place for longer periods of time. Table 3.7-2 shows the five year trend of maximum 1-hour ozone concentrations measured at the Dixon station. Violations of ozone air quality standards are also shown. Peak ozone levels have exceeded the state standard (0.09 ppm) and have equaled the national standard (0.12 ppm) for each of the past five years. At the time of this analysis, the air basin is classified as a non-attainment area for ozone for both state and national air quality planning purposes.

### *Carbon Monoxide*

Carbon monoxide is a product of inefficient combustion, principally from automobiles and other mobile sources of pollution. In many areas in California, CO emissions from wood-burning stoves and fireplaces can also be measurable contributors. Industrial sources of pollution typically contribute less than 10 percent of ambient CO levels. Peak CO levels occur typically during winter months, due to a combination of higher emission rates and stagnant weather conditions. Carbon monoxide levels approaching state and national standards typically occur near busy, congested street intersections characterized by large numbers of idling vehicles. Carbon monoxide is currently not monitored in the City of Dixon.

### *Particulate Matter ($PM_{10}$)*

Particulates in the air are caused by a combination of wind-blown fugitive dust, particles emitted from combustion sources (usually carbon particles), and organic, sulfate, and nitrate aerosols formed in the air from emitted hydrocarbons, sulfur oxides, and oxides of nitrogen.

Beginning in 1984, the ARB adopted standards for fine particulates ($PM_{10}$ - particulate matter less than 10 microns in size), and phased out the pre-existing total suspended particulate (TSP) standards. $PM_{10}$ standards were substituted for TSP standards because $PM_{10}$ corresponds to the size range of inhalable particulates related to human health. In 1987, EPA also replaced national TSP standards with $PM_{10}$ standards.

Maximum 24-hour $PM_{10}$ concentrations measured at the Vacaville station and violations of the state standard are shown in Table 3.7-2. For the past five years, maximum 24-hour fine particulate levels have not exceeded the national standard (150 $\mu g/m^3$). The state standard (50 $\mu g/m^3$) has been violated each of the past five years.

Table 3.7-2 also shows the annual geometric and arithmetic mean $PM_{10}$ concentration over the last five years. These data indicate that the national annual standard (arithmetic mean) has been attained and the state standard (geometric mean) has not been attained in each of the last past five years.

The City of Dixon is considered an attainment area for national $PM_{10}$ air quality planning purposes and non-attainment for state $PM_{10}$ air quality planning purposes.

## Impact Evaluation Criteria

For the purpose of this air quality analysis, an impact is defined as a physical change in existing air quality conditions caused by implementation of the project. An impact is considered significant if it meets the following criteria:

- the project produces air emissions of pollutants currently designated as non-attainment;
- the project violates ambient air quality standards;
- the project exposes sensitive receptors to substantial pollutant concentrations;
- the project causes a significant health risk above the typically accepted cancer risk of more than 10 in 1 million;
- the project results in substantial air emissions or deterioration of existing air quality; or
- the project results in the creation of objectionable odors.

## Impacts and Mitigation

### Impact: Generation of Construction Related Air Pollutant Emissions

Analysis: Construction activities associated with development of the Southpark project would generate short-term air pollutant emissions. The major emission sources during construction are internal combustion engine emissions from construction equipment, dust generated by mechanical disturbance, and wind-blown dust from exposed soil. Primary air pollutants include respirable particulate matter ($PM_{10}$), nitrogen oxides ($NO_x$), carbon monoxide (CO), and reactive organic compounds (ROG).

Development of the project would result in varying numbers of heavy equipment being present on-site during construction and exposure of areas of soil during construction activity. This construction activity may expose workers and adjacent land uses to substantial pollutant concentrations in the form of fugitive dust and engine exhaust. Short-term air pollution emissions from project construction are considered to be a potentially significant impact.

Mitigation: To reduce emissions during construction to a level that is less than significant, the following measures shall be implemented during all phases of project development:

- Dust emission shall be controlled by application of water. Water shall be applied using watering trucks, or sprinklers, as often as is necessary to keep the exposed soils damp;
- Construction equipment shall be maintained and tuned at the interval recommended by the manufacturers to minimize exhaust emissions;
- Equipment idling shall be kept to a minimum when equipment is not in use;
- Areas exposed by construction activities shall be paved or covered to prevent erosion as soon as practical within the needs of the construction project; and

- The construction contractor shall post a publicly visible sign on the project site during construction operations which specifies the telephone number and person/agency to contact for complaints and/or inquires on dust generation and other air quality problems resulting from project construction.

**Impact:** **Generation Of Long-Term $PM_{10}$ Emissions**

Analysis: Long-term particulate matter emissions from wood stoves/fireplaces and motor vehicle use were estimated for the project. Wood stove/fireplace emission rates from the EPA are divided into stoves/fireplaces with a catalytic converter and those without a catalytic converter. Stoves/fireplaces with a catalytic converter produce emissions of 0.00904 pounds/hour, while stoves/fireplaces without a catalytic converter produce emissions of 0.01653 pounds/hour. For analysis purposes, a non-catalytic stove/fireplace has been assumed.

Half of the new homes were assumed to use wood burning stoves or fireplaces for extended periods of time for heating. This assumption may be a high estimate, given that wood stove or fireplace heating is not common in the Sacramento Valley region. With the emission rate described above, total particulate emissions from the residential portion of the project are estimated to be 190 pounds/day. These calculations are shown in Table 3.7-3.

**Table 3.7-3**

Total Project Particulate Matter Emissions

| Source | PM10 (lbs/day) |
|---|---|
| Wood Stoves/Fireplaces | 190 |
| Vehicles | 17 |
| Total | 207 |

Source: Harland Bartholomew & Associates, 1994

Additional particulate emissions from traffic generation associated with the project were calculated using the URBEMIS3 model developed by the ARB. Table 3.7-3 shows the estimated level of emissions from project traffic generation as well as wood stove use at buildout of the project. Estimated project $PM_{10}$ emissions are 207 pounds/day. Since Solano County is designated as non-attainment for particulate matter per state regulations, the project would impact regional air quality since it would add particulate matter into the atmosphere. This addition of $PM_{10}$ emissions is considered a significant impact.

Mitigation: The City of Dixon shall implement the following measures to reduce long-term $PM_{10}$ emissions to less than significant levels:

- Require alternative means of residential heating other than wood burning units lacking catalytic converters; and

- Implement the circulation improvements contained in the General Plan Environmental Assessment to provide adequate traffic circulation in order to reduce congestion and therefore air emissions.

**Impact:** **Generation of Ozone Precursor Emissions**

Analysis: Since Southpark is located in an area designated as non-attainment for ozone, any project emissions of ozone precursors are considered a significant impact. Ozone precursors, which consist of hydrocarbons (HC) and nitrogen oxides ($NO_x$), were estimated for the project using the URBEMIS3 model developed by the ARB. This model estimates total hydrocarbons and nitrogen oxides resulting from the motor vehicular traffic associated with the project. Ozone precursor emissions estimated for the project are shown in Table 3.7-4. Estimated project ozone precursor emissions are 232 pounds/day. Since Solano County is designated as non-attainment for ozone per state and national regulations, the project would impact regional air quality since it would result in ozone precursor emissions into the air basin. This increase in emissions is considered a significant and unavoidable impact.

**Table 3.7-4**

Ozone Precursor Emissions

| Pollutant | Emissions |
|---|---|
| Hydrocarbons | 92 lbs/day |
| Nitrogen Oxides | 140 lbs/day |
| **Total Ozone Precursors** | **232 lbs/day** |

Source: Harland Bartholomew & Associates, 1994

Mitigation: As part of project development, Southpark shall include on-site amenities that promote use of forms of transportation that are alternatives to the use of the automobile. Such amenities include bicycle parking spaces at the multi-family and commercial sites, and adequate road width for on-street bicycle lanes and off-street bike paths.

The City of Dixon shall implement the Circulation Plan contained in the 1993 City of Dixon General Plan to provide adequate traffic circulation in order to reduce congestion and air emissions.

Prior to issuance of any tract of a parcel map, the project proponent shall dedicate the necessary right-of-way for a future bus turn out southbound on the First Street project frontage. The City of Dixon shall coordinate with the project proponent regarding the specific location and design requirements.

These mitigation measures would lessen the impact, but would not reduce the impact to less than significant, Therefore, the impact would remain significant and unavoidable.

**Impact:** **Generation of Carbon Monoxide Emissions From Project-Induced Motor Vehicle Traffic**

Analysis: Increased motor vehicle trips resulting from implementation of the project would result in emissions of carbon monoxide. Carbon monoxide emissions analysis was conducted using the CALINE 4 pollutant dispersion computer model to evaluate peak hour CO levels at two intersections on First Street that would provide access to the Southpark Planned Development. The peak hour of traffic at these two intersections is during the evening commute and occurs between 4:00 p.m. and 6:00 p.m.

Analysis assumptions reflect worst case atmospheric conditions. These conditions include a temperature of 40° F, very stable inversion conditions, and a wind speed of 1.0 meters/second. Estimated carbon monoxide concentrations were generated for a location located 5 meters into the project site from the respective intersections.

Table 3.7-5 shows estimated existing CO concentrations at the First Street and A Street intersection where existing traffic volumes produce a background, or ambient, concentration of 1.4 parts per million (ppm). This concentration is below the state 1-hour standard of 20.0 ppm.

**Table 3.7-5**

Existing Plus Project Peak Hour Carbon Monoxide Analysis at First Street/A Street Intersection

| Alternative | Total Concentration (ppm) | Project Contribution (ppm) |
|---|---|---|
| Existing | 1.4 | NA |
| Existing Plus Project | 2.6 | 1.2 |

Source: Harland Bartholomew & Associates, 1994

ppm: parts per million
NA: not applicable

Table 3.7-5 also shows the estimated CO concentration at the First Street and A Street intersections for existing plus project conditions. Existing plus project traffic volumes produce a concentration of 2.6 ppm at the First Street and A Street intersection. This concentration is 1.2 ppm above existing concentrations. However, project contributions to existing carbon monoxide concentrations do not exceed the state 1-hour standard of 20.0 ppm and therefore the impact is less than significant.

Mitigation: No mitigation is required.

# 3.8 NOISE

## Environmental Setting

The Southpark site is located immediately adjacent to Dixon, California. The project site is bordered by State Route 113 to the east, and the Southern Pacific Transportation Company (SPTCo) mainline track along the west property line. The City of Dixon has identified the SPTCo operations, State Route 113 and the proposed Parkway Boulevard traffic as potentially significant noise sources which may affect receptors in the project area.

### *Background Noise Levels*

Brown-Buntin Associates, Inc. (BBA) conducted continuous 24-hour noise monitoring on the project site on September 10-11, 1992 (Figure 3.8-1). The noise monitoring site was located approximately 50 feet from the railroad track centerline. Equipment used consisted of a Larson Davis Laboratories (LDL) Model 700B integrating sound level meter. The sound level meter was calibrated prior to the measurement period with an LDL Model CA250 acoustical calibrator to ensure the accuracy of the measurements.

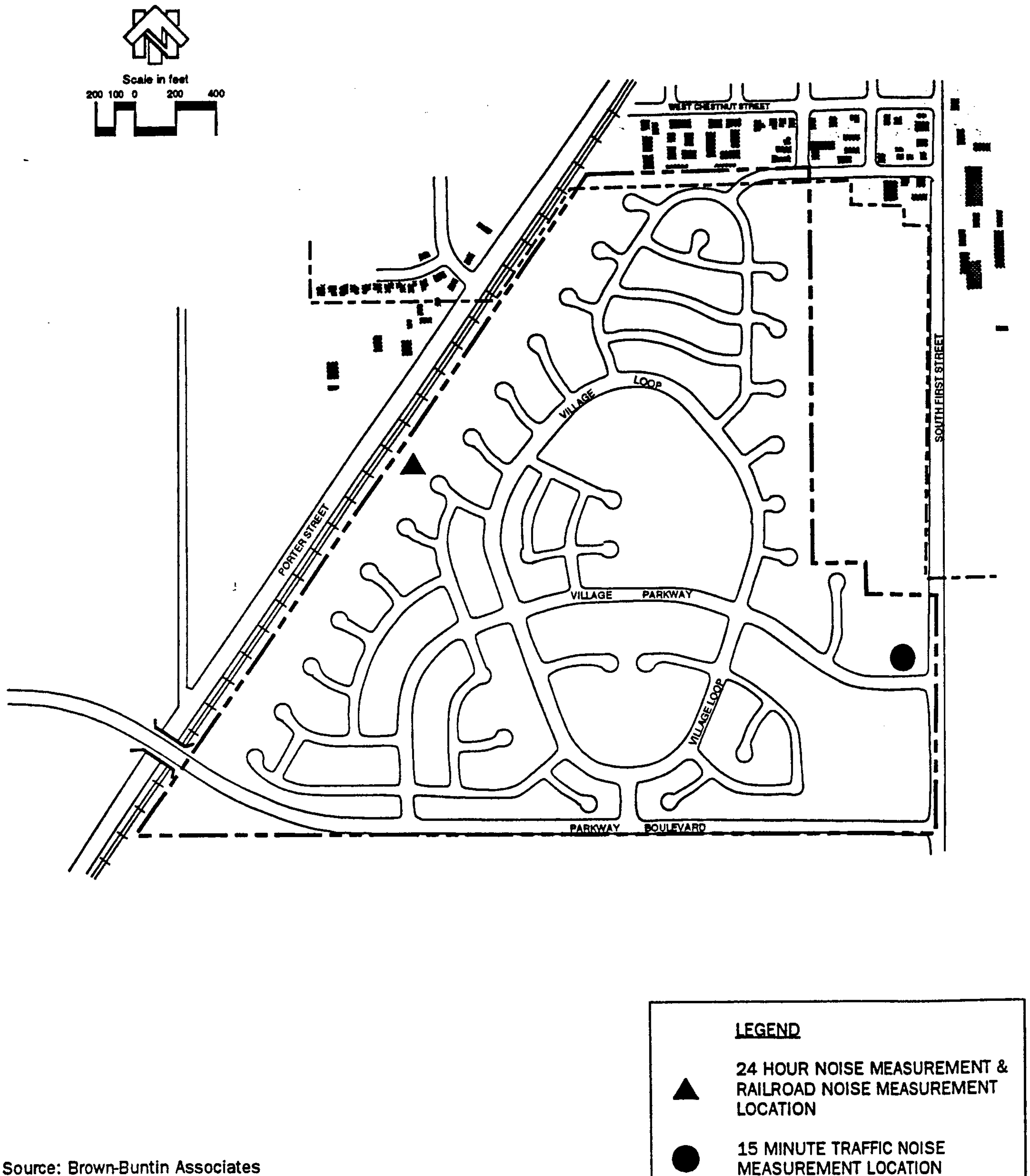
The noise measurements were conducted to determine background noise levels on the project site and the contribution of railroad operations to the overall noise environment. Figure 3.8-2 shows the measured noise levels on the project site. The $L_{eq}$ values are the average measured hourly noise levels; the $L_{max}$ values are the maximum noise level measured during each hour; and the $L_{50}$ value is the sound level which is exceeded 50 percent of the time during each hourly measurement period. The $L_{50}$ values most accurately represent the background noise levels without the presence of railroad operations. Hourly $L_{eq}$ values ranged between 42.5 and 73.5 dB, and the hourly $L_{50}$ values ranged between 38 and 55 dB.

### *Railroad Noise Levels*

The continuous noise measurements were also conducted to determine the contribution of combined SPTCo and Amtrak railroad operations on the adjacent SPTCo line to the area noise environment. As stated above, the monitoring site was located approximately 50 feet from the railroad track centerline.

The purpose of noise level measurements was to determine a typical sound exposure level (SEL) for railroad line operations in the project vicinity, while accounting for the effects of local topography, climate and other factors which may affect noise generation. The derived data was then compared to other file data for railroad operational noise levels to better describe the railroad noise environment as it affects the project site. An annual average $L_{dn}$ associated with railroad activity was then calculated. In the project vicinity, locomotive noise and switching activity noise were the major contributors to railroad noise levels as defined by the SEL. The results of the noise measurements are shown in Table 3.8-1. Figure 3.8-3 shows the measured railroad SEL values and their affect on the hourly $L_{eq}$ values at the monitoring site.

Railroad operational data was obtained from the SPTCo Roseville office to determine present and predicted rail traffic volumes in the vicinity of the project. Present operations on this line include approximately 12 freight trains and 10 passenger train operations per day. Freight train operations occur on an unscheduled basis throughout the daytime and nighttime periods, and passenger operations generally occur during the daytime period.

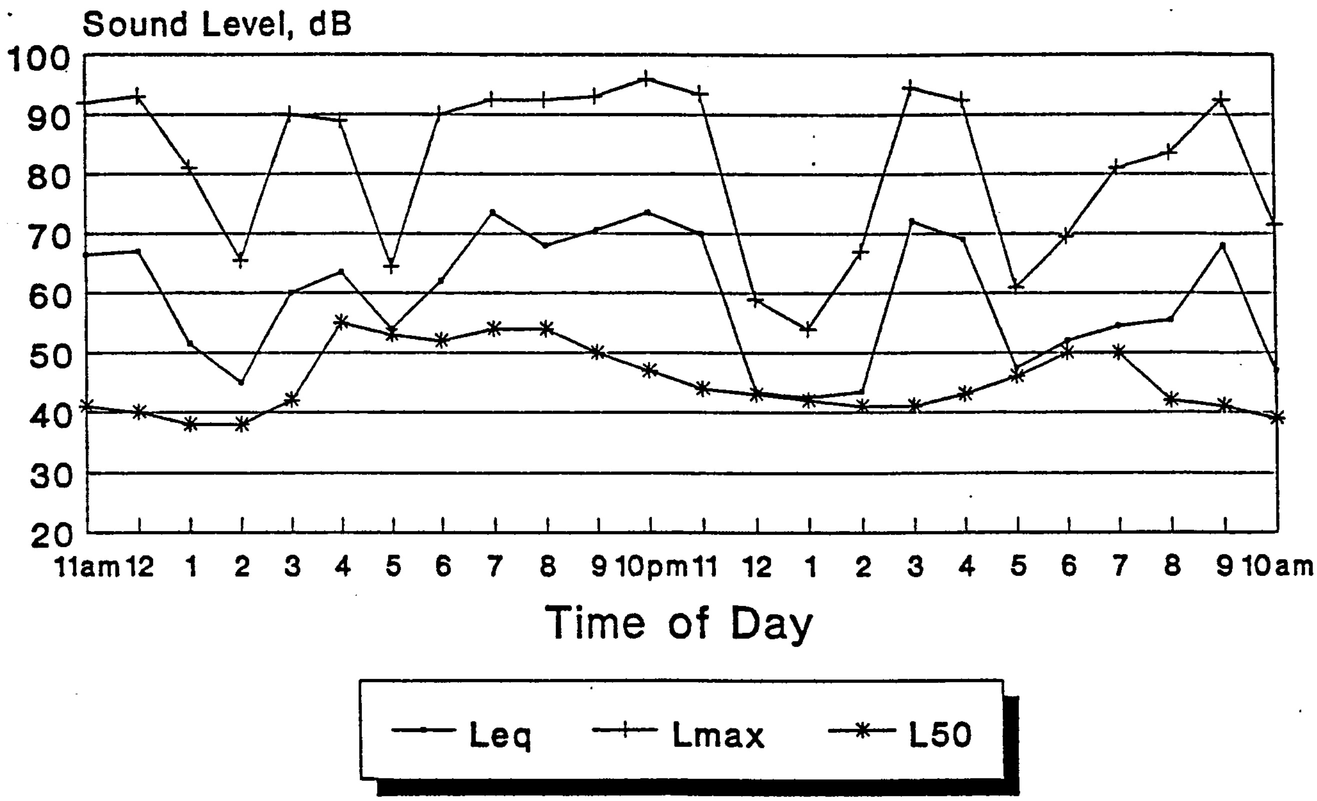



Source: Brown-Buntin Associates
File: Graphics/Southpark Subdiv Maps
Layers: Buildings/Border/Text/Noise Loc/Base

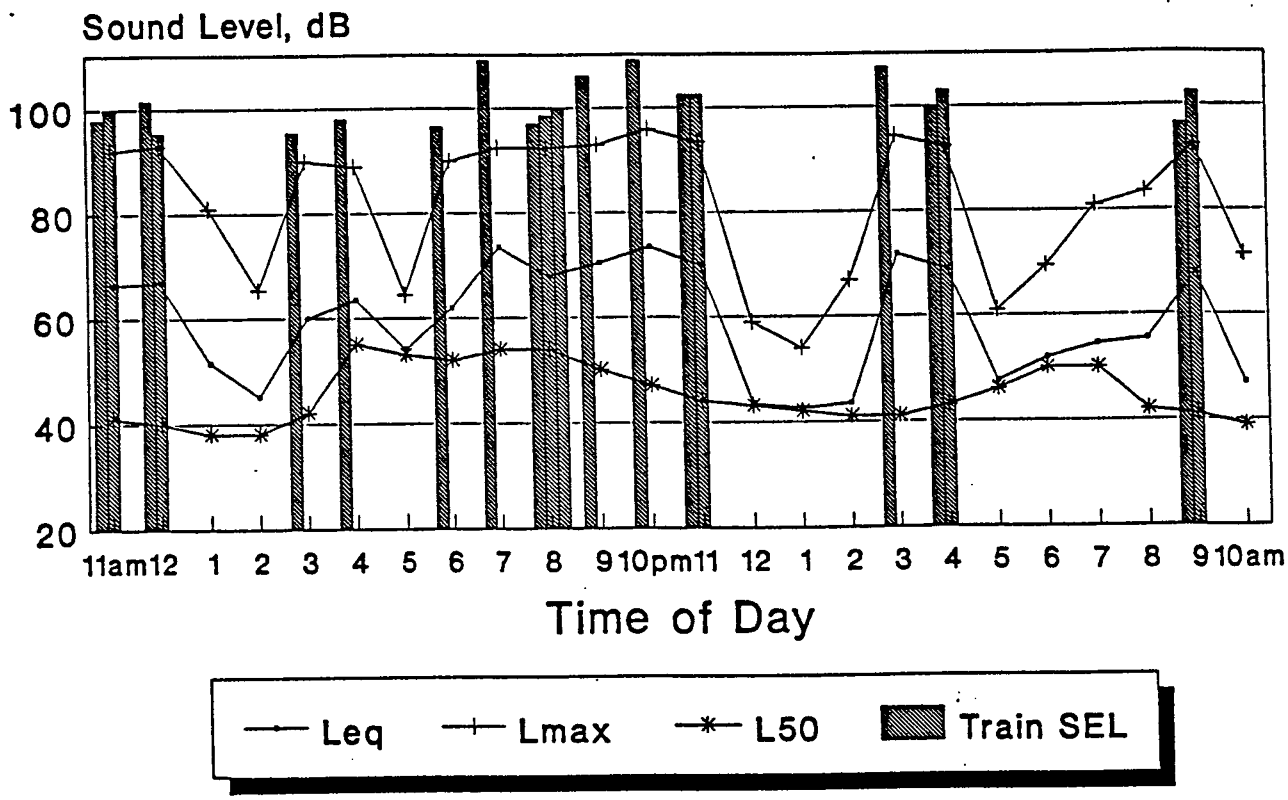
**City Of Dixon**
**Southpark EIR**

## Location of Noise Monitoring Stations

**Figure 3.8-1**




Source: Brown-Buntin Associates




Source: Brown-Buntin Associates

The current passenger train schedule provided by Congressman Fazio's staff and P.U.C. hearings includes the following operations: 6 Capitol trains (inter-city), 2 Cal Zephyr trains (Oakland - Chicago), and 2 Coast Starlight trains (Los Angeles - Seattle).

The noise measurement data indicated that 13 freight trains and 7 passenger operations occurred during a 24-hour period. To be conservative, this report assumes 13 freight trains and 8 passenger train operations per day. Estimates of future railroad operations in the vicinity of the project site are available for passenger trains only. According to the following estimates, after 1998 the total passenger train operations would amount to 52: 6 additional Capitol train operations by February 1995; 8 additional Capitol train operations by 1998; and 28 additional Capitol train operations after 1998 (data provided by Congressman Fazio's staff and P.U.C. hearings).

## Table 3.8-1

Average Railroad Noise Measurement Results
@ 50 feet from Tracks

| Train Type | No. of Events | Mean $L_{max}$, dB | Mean SEL, dB |
|---|---|---|---|
| Freight | 13 | 92.0 | 104.4 |
| Amtrak | 7 | 91.3 | 98.8 |

Source: Brown Buntin Associates, 1993

To relate railroad operational data to the applicable exterior noise level standards, it was necessary to calculate the $L_{dn}$ for typical freight train and Amtrak operations. This was done using the SEL values reported in Figure 3.8-3 and the above-described number and distribution of daily train operations described in Table 3.8-1. The $L_{dn}$ contribution of each train type may be calculated as follows:

$L_{dn} = \overline{SEL} + 10 \log N_{eq} - 49.4$, dB, where:

$\overline{SEL}$ is the mean SEL of the event, $N_{eq}$ is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day plus ten times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is 10 times the logarithm of the number of seconds per day. The total $L_{dn}$ of railroad operations is the sum of the $L_{dn}$ contributions of each train type based upon annual average conditions.

Based upon the above-described noise level data and methods of calculation, the $L_{dn}$ at a distance of 50 feet from the railroad track centerline is 72.4 dB. The predicted distances to the 60 and 65 dB $L_{dn}$ contours are shown in Table 3.8-2.

### *Traffic Noise Levels*

BBA employs the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic noise levels. The FHWA model is the analytical method currently favored for traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans).

The model is based upon the CALINE noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly $L_{eq}$ values for free-flowing traffic conditions and is considered to be accurate within 1.5 dB. To predict $L_{dn}$ values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

## Table 3.8-2

### Predicted Railroad Noise Levels

**Distance to $L_{dn}$ Contour (feet)**

| 65 dB | 60 dB |
|---|---|
| 163 feet | 351 feet |

Source: Brown Buntin Associates, 1993

Traffic noise measurements were conducted on the project site on September 11, 1992, for a period of 15 minutes (Figure 3.8-1). The measurements were made to evaluate noise exposure due to traffic on State Route 113. Concurrent counts of traffic were made and projected to obtain hourly traffic volumes.

Instrumentation consisted of an LDL Model 700B integrating sound level meter, which was calibrated prior to use with an LDL Model CA250 acoustical calibrator to ensure accuracy.

The purpose of the traffic noise level measurements is to determine the accuracy of the FHWA model in describing the existing noise environment at the project site. Noise measurement results were compared to the FHWA model results by entering the observed traffic volumes, speed and distance as inputs to the FHWA model. The results of this comparison are shown in Table 3.8-3. The FHWA model was found to reasonably predict traffic noise levels along State Route 113 in the project vicinity.

## Table 3.8-3

### Comparison Of FHWA Model To Measured Noise Levels

| Vehicles/Hour | | | Posted | Distance | $L_{eq}$, dB | |
|---|---|---|---|---|---|---|
| Autos | Medium Truck | Heavy Truck | Speed | (feet) | Measured | FHWA[1] |
| 264 | 8 | 12 | 45 mph | 50 | 64.0 | 63.6 |

Source: Brown Buntin Associates, 1993

1 "Soft" site assumed

Data were obtained from the California Department of Transportation (Caltrans) to determine the existing traffic volume truck mix percentages along State Route 113. Day/night traffic distribution was based upon BBA file data. The model was used with the inputs shown in Table 3.8-4 to calculate the traffic noise levels on State Route 113 for existing conditions.

The predicted locations of the 60 and 65 dB $L_{dn}$ contours are given in Table 3.8-5.

**Table 3.8-4**

FHWA Traffic Model Inputs
(State Route 113)

| ADT | Traffic Split | | Truck Mix | | Speed |
|---|---|---|---|---|---|
| | % Day | % Night | % Medium | % Heavy | mph |
| 2,950 | 87 | 13 | 2 | 3.5 | 45 |

Source: Brown Buntin Associates, 1993

**Table 3.8-5**

Predicted Locations of Existing Roadway $L_{dn}$ Contours
(State Route 113)

| 60 dB | 65 dB |
|---|---|
| 78 feet | 36 feet |

Source: Brown Buntin Associates, 1993

## Impact Evaluation Criteria

For the purpose of this document, an impact is defined as a change in existing noise levels. An impact is considered to be significant if it meets the following criteria:

- the project results in noise levels which exceed the maximum allowable dB for the proposed land use designations of the project or adjoining areas (City of Dixon General Plan, December 14, 1993);
- the project substantially increases noise levels in areas of sensitive receptors (i.e., schools, libraries, churches, etc.); or
- the project's proposed land uses are not compatible with ambient noise level standards.

## Impacts and Mitigation

**Impact:** **First Street Traffic Noise Effects on Southpark Commercial Uses**

Analysis: Traffic noise levels on First Street for existing and existing plus project conditions are shown in Table 3.8-6. Southpark would include commercial land uses along the First Street frontage. As defined by the Impact Evaluation Criteria, maximum $L_{dn}$ noise levels for commercial uses are 70 dB. Existing traffic noise would not exceed the significance criteria for these uses. Existing plus project traffic noise estimates would produce a $L_{dn}$ noise level of 70 dB at less than 50 feet from the centerline of First Street. This distance falls within the proposed landscaped corridor. Noise impacts to the commercial uses on the site from traffic noise on First Street are therefore considered less than significant.

### Table 3.8-6

Distance from Centerline of Roadway to $L_{dn}$ Contour

| | First Street (SR 113) | | | Parkway Boulevard |
|---|---|---|---|---|
| | 70 | 65 | 60 | 60 |
| Existing Traffic | <50 ft. | <50 ft. | 94 ft. | NA |
| Existing Plus Project Traffic | <50 ft. | 83 ft. | 178 ft. | <50 ft. |

Source: Harland Bartholomew & Associates, 1994

Mitigation: No mitigation is required.

**Impact:** **First Street Traffic Noise Effects on Southpark Multi-Family Residential Uses**

Analysis: Maximum $L_{dn}$ noise levels for multi-family uses are 65 dB. As shown in Table 3.8-6, existing plus project traffic noise estimates on First Street would produce a $L_{dn}$ noise level of 65 dB at approximately 83 feet from the centerline of First Street. Since placement of multi-family uses at or beyond this distance from the First Street centerline to maintain required noise levels is not feasible, this impact is considered significant.

Mitigation: Sound attenuation in the form of a wall can reduce the estimated noise level to 65 dB at the multi-family residential uses. Based on preliminary assumptions regarding the type of multi-family housing unit and location of the wall, the attenuation would be accomplished with the following geometric description:

- 4 foot sound attenuation wall, berm or combination that equals the required height;
- Roadway and building pads are at the same elevation;
- Wall or berm is located 25 feet from the First Street centerline; and

- Housing units are located a minimum of 50 feet from First Street centerline.

Prior to issuance of a building permit, the project proponent shall comply with the sound attenuation provisions listed above or provide additional sound analysis based on further refinement of the project description. Implementation of these measures would reduce First Street traffic noise impacts on Southpark multi-family residential uses to a level that is less than significant.

**Impact: Parkway Boulevard Traffic Noise Effects on Southpark Multi-Family Residential Uses**

Analysis: As shown in Table 3.8-6, existing plus project traffic noise estimates would produce a $L_{dn}$ noise level of 60 dB at less than 50 feet from the centerline of Parkway Boulevard. Fifty feet from the centerline of Parkway Boulevard would fall within the proposed landscaped corridor. Noise impacts on the projects' multi-family residential uses from traffic on Parkway Boulevard are therefore considered to be less than significant.

Mitigation: No mitigation is required.

**Impact: Parkway Boulevard Traffic Noise Effects on Southpark Single-Family Residential Uses**

Analysis: Maximum $L_{dn}$ noise levels for single-family residential uses are 60 dB. As shown in Table 3.8-6, existing plus project traffic noise estimates would produce an $L_{dn}$ noise level of 60 dB at less than 50 feet from the centerline of Parkway Boulevard. Fifty feet from the centerline of Parkway Boulevard would fall within the proposed landscape corridor. Noise impacts on the projects' single-family residential uses from traffic on Parkway Boulevard are therefore considered less than significant.

Mitigation: No mitigation is required.

**Impact: Railroad Noise Effects on Southpark Single-Family Residential Uses**

Analysis: As shown in Table 3.8-7, railroad operations produce an estimated $L_{dn}$ noise level of 72.4 dB at 50 feet from the tracks. Without any sound attenuation, this noise level would drop to 60 dB at 350 feet from the source. The project proposes a minimum residential building setback of 125 feet from the property line along the railroad frontage. This setback equates to a potential minimum of 185 feet between a residential structure and the railroad track. Since placement of the single-family units at or beyond 350 feet from the railroad tracks to maintain required noise levels is not feasible, this impact is considered significant.

## Table 3.8-7

### Distance from Railroad Tracks to $L_{dn}$ Contour

| | 72.4 | 70 | 65 | 60 |
|---|---|---|---|---|
| Distance | 50 ft. | 77 ft. | 158 ft. | 350 ft.[1] |

Source: Harland Bartholomew & Associates, 1994

1 Potential mitigation to 60dB with 12.5 foot sound attenuation barrier

Mitigation: Sound attenuation in the form of a wall can reduce the estimated noise level to 65 dB at the single-family residential uses located adjacent to the railroad tracks. Based on preliminary assumptions regarding the type of single-family housing unit and location of the wall, sound attenuation would be accomplished with the following geometric description:

- 12.5 foot sound attenuation wall, berm or combination that equals the required height;
- Railroad base is six feet above building pad elevation;
- Only single-story housing units are allowed in the orchard lots;
- Wall is located 60 feet from the railroad; and
- Housing units are located a minimum of 185 feet from the railroad.

Adherence with the Uniform Building Code during project construction would reduce interior noise an additional 20 dB. The resultant interior noise level of 45 dB would meet the standard for interior noise per state regulations (State Office of Noise Control).

Prior to issuance of a building permit, the project proponent shall comply with the sound attenuation provisions listed above or provide additional sound analysis based on further refinement of the project description. Compliance with these measures would reduce noise impacts from the adjacent railroad to a less than significant level.

# 3.9 LAND USE

## Environmental Setting

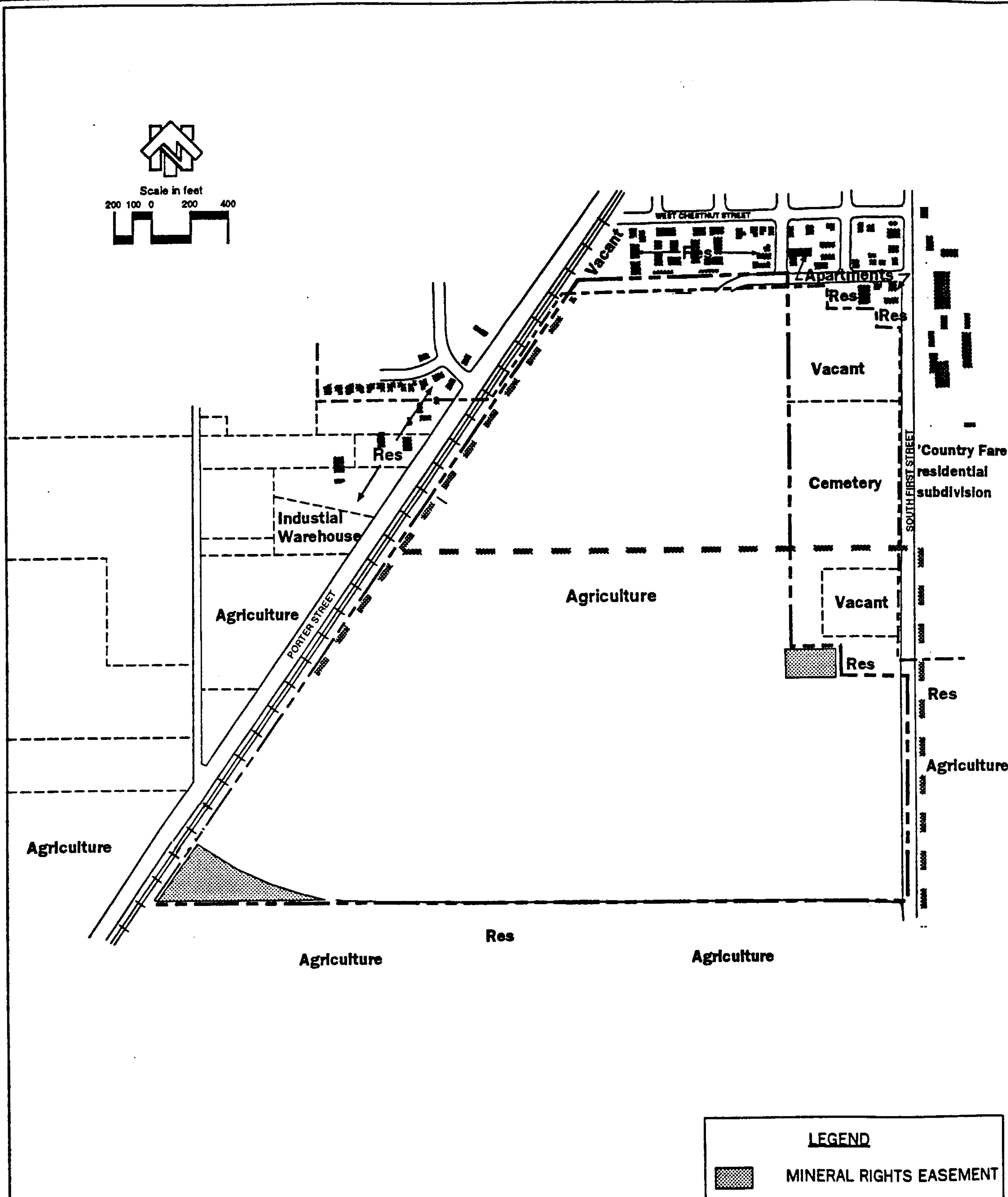
The Southpark site is located in the eastern portion of Solano County to the south of the City of Dixon and within the City's Sphere of Influence. Interstate 80, which parallels the northern city limit line, provides regional access to Dixon from both the San Francisco Bay Area and the Sacramento Metropolitan Area. The City of Dixon is also accessed via State Highway 113, which transects the city in a north-south direction. The Southern Pacific Transportation Company (SPTCo) railroad line runs through central Dixon in an southeast-northwest direction and is currently used for both passenger and freight rail operations.

Dixon has historically been a small agricultural business center surrounded by exclusively agricultural land uses. However, the past two decades have seen vast changes in Dixon's land use patterns, with hundreds of homes and apartments having been constructed and many of these units providing homes for Bay Area commuters. In response to anticipated continuing growth trends, Dixon voters approved a three percent yearly cap on residential growth in 1986. The residential growth permitted in the City in a given year is thus limited to a number of dwelling units equal to three percent or less of the total number of housing units existing in Dixon on December 31 of the previous year.

The Southpark site is bounded by the Southern Pacific Transportation Company railroad right-of-way on the west, West Cherry Street on the north, the Silveyville Cemetery and South First Street on the east, and by the West "A" Street Assessment District retention pond on the south. Existing land uses within and surrounding the proposed Southpark project site are illustrated in Figure 3.9-1. The Southpark property is classified by the California Department of Conservation as "Prime Farmland" and is currently in agricultural production. As noted in Section 3.2 - Soils and Geology, the soils underlying the site are suited to a variety of irrigated row crops, forage crops, orchards, and dry farmed small grains. The site was planted with tomatoes in 1993. A Solano Irrigation District (SID) easement transects the central portion of the project site in an east-west direction. Additionally, two mineral rights easements are located within the Southpark site. One is located in the far southwest corner of the site and the other is located south of the Silveyville Cemetery. Existing land uses on surrounding properties consist primarily of agriculture, rural low density residential development, and the Silveyville Cemetery (Figure 3.9-1).

The site is currently under Williamson Act contract. The Williamson Act (or Land Conservation Act) allows agricultural land owners to enter into land conservation contracts with a County to enable them to enjoy reduced property taxes in exchange for maintaining their land in agricultural production. Once entered into by a land owner, a Williamson Act Contract is binding for a period of ten years. Contracts are automatically renewed unless the land owner files a Notice of Non-Renewal. After the filing of such a notice, the land may not be converted to other uses for ten years, during which time the property taxes are gradually increased to reflect the full market value of the land. Ten years after the filing of a Notice of Non-Renewal, the land is free of land use restrictions and the land owner is denied further property tax benefits associated with the former Williamson Act Contract. A Notice of Non-Renewal was submitted for the existing Williamson Act contract for the Southpark site on February 8, 1988. As such, the property will be free from Williamson Act land use restrictions in 1998.

The City of Dixon has recently completed an update and revision of its General Plan. The City of Dixon General Plan land use map is shown in Figure 3.9-2. The Southpark site is located within an area that has been delineated for urban expansion within the next 15 years. Specific land uses have been designated within the urban expansion area. Approval of the Southpark project would

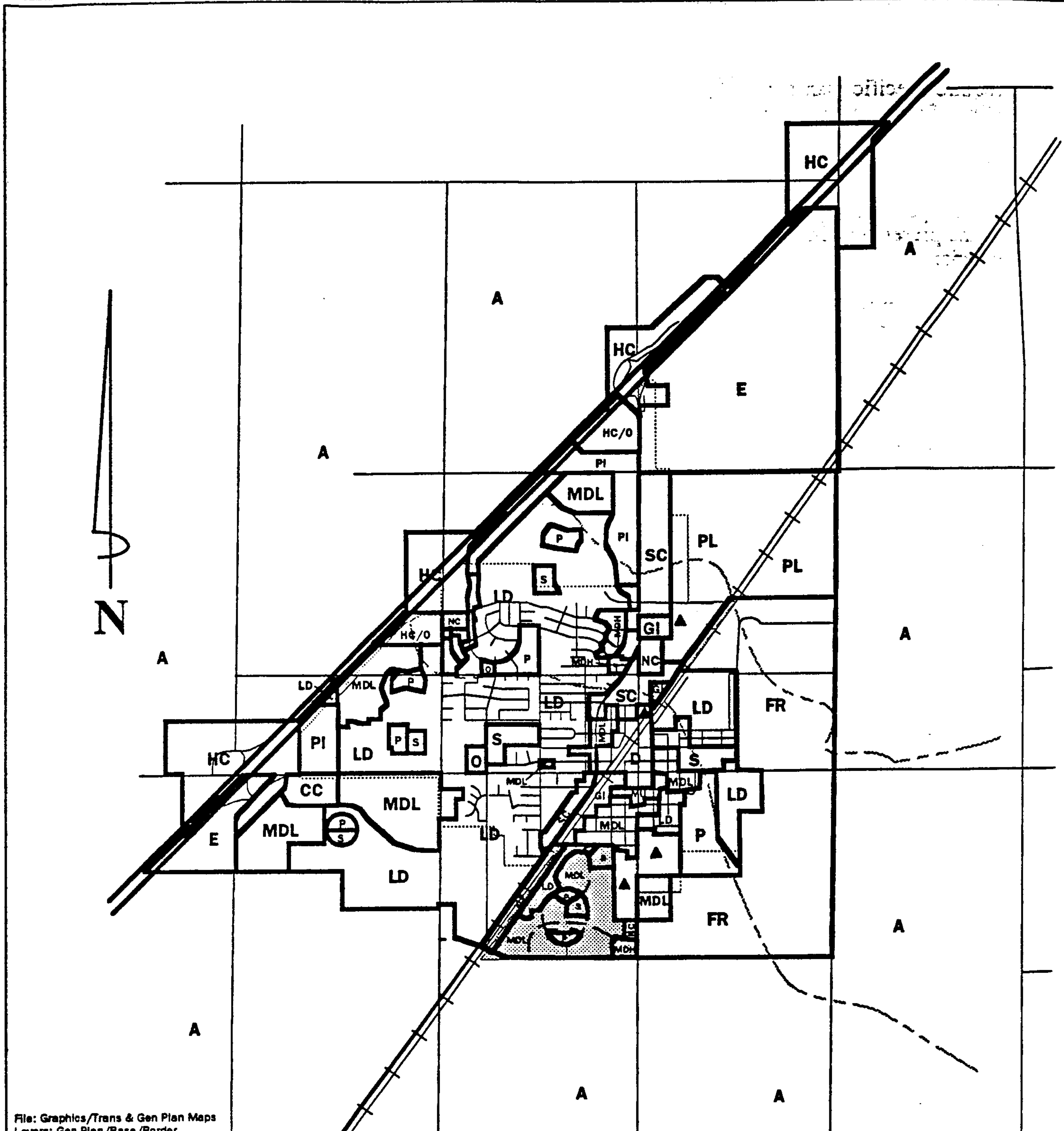



Source: HBA
File:Graphics/Southpark Subdiv Map
Layers: Constraints/Ex L U//Buildings/Border/Text/Base

**City Of Dixon**
**Southpark EIR**

**Existing Land Uses**

**Figure 3.9-1**




**RESIDENTIAL**

| | |
|---|---|
| VLD | Very Low Density |
| LD | Low Density |
| MDL | Medium Density - Low |
| MDH | Medium Density - High |
| HD | High Density (For Seniors) |
| FR | Future Residential |

**COMMERCIAL**

| | |
|---|---|
| D | Downtown |
| NC | Neighborhood |
| CC | Community |
| HC | Highway |
| SC | Services |
| O | Professional/Administrative Office |
| MU | Core Area Mixed Use |

**INDUSTRIAL**

| | |
|---|---|
| PI | Planned Business/Industrial |
| GI | General Industrial |
| E | Employment Center |

**OTHER**

| | |
|---|---|
| ▲ | Governmental/Institutional |
| P | Parks |
| S | School Buildings/Play Areas |
| F | Functional (Buffers) |
| A | Agriculture |

*City Of Dixon*
*Southpark EIR*

**Existing City of Dixon**
**General Plan Land Use Designations**

*Figure 3.9-2*

require specific plan approval, annexation to the City of Dixon, and pre-zoning by the City of Dixon for urban land uses.

### Impact Evaluation Criteria

For the purpose of this document, an impact to land use is considered to be a substantial alteration of the present or planned land use. An impact is considered significant if it meets the following criteria:

- the project results in a land use which is inconsistent with the City of Dixon General Plan;
- the project results in a land use which is inconsistent with City of Dixon zoning;
- the project results in the conversion of ten acres or more of prime agricultural land or farmland of statewide importance to non-agricultural uses;
- the project results in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 (Williamson Act) for any parcel of 100 acres or more; or
- the project results in an increased potential for conflict as a result of incompatible land uses.

### Impacts And Mitigation

**Impact: Project Consistency with General Plan and Zoning Designations**

Analysis: Although classified by the California Department of Conservation as "Prime Farmland", the Southpark project site is located within a 15-year urban expansion area under the 1993 City of Dixon General Plan Land Use Map. The General Plan designates the Southpark site as an annexation area for which specific plan approval would be required.

Although Southpark would be located within the City of Dixon Sphere of Influence and would be consistent with the Dixon General Plan's identification of areas planned for urban expansion, the site has not been annexed to the City and is currently under Solano County jurisdiction. The Solano County General Plan designates the Southpark project site as Extensive Agriculture. As such, residential and commercial land uses proposed at the Southpark site would be inconsistent with the development standards of the Solano County General Plan and Zoning Ordinance. This impact is considered to be significant.

Mitigation: The City of Dixon shall annex the project site, and shall amend the Dixon Zoning Ordinance to be consistent with the proposed land uses. This measure would reduce the impact to a level that is less than significant.

**Impact: Conversion of 212.5 Acres of Prime Farmland to Non-agricultural Uses**

Analysis: Construction of the Southpark Planned Development would result in the urban conversion of 212.5 acres of prime farmland. This impact is considered significant and unavoidable.

Mitigation: No mitigation is available to reduce this impact to a level that is less than significant.

**Impact:** **Non-Renewal of a 212.5-acre Williamson Act Contract**

**Analysis:** A Notice of Non-Renewal was submitted for the existing Williamson Act contract for the Southpark site on February 8, 1988. As such, the property will be free from Williamson Act land use restrictions in 1998. If the land is developed prior to the February 8, 1998, the land owner will be required to pay a prorata portion of the taxes which would have been paid on the property had it not had a contract. This impact is not considered significant.

**Mitigation:** No mitigation required.

**Impact:** **Conflicts Between Southpark Land Uses and Adjoining Agricultural Uses**

**Analysis:** Approval of the Southpark Planned Development would allow the construction of residential and commercial land uses adjacent to existing agricultural properties located to the west, south, and east. Agricultural operations, including soil tillage, burning of agricultural waste products, use of agricultural chemicals, and other agricultural processes can generate noise, dust, smoke, odor and chemical residues that may be considered a nuisance or health hazard to residents on adjoining properties. These issues may create conflicts between agricultural land owners and neighboring residents. The potential for conflict is considered to be a potentially significant impact of project development.

In order to protect the aesthetic and economic benefits of agriculture in Solano County, including agriculture in areas adjacent to residential development, the County has enacted Chapter 2A of its County Code which provides that properly conducted agricultural operations will not be deemed a nuisance. The ordinance requires the County to notify buyers of property in Solano County of the ordinance and its provisions. Accordingly, buyers of property located close to agricultural lands or operations must be informed that they may be subject to inconvenience or discomfort from properly conducted agricultural operations. Nothing in the ordinance prohibits a resident from complaining to an appropriate agency concerning any unlawful or improper agricultural practice. To assist in resolving problems between residential and agricultural land uses, an Agricultural Grievance Committee has been created in Solano County to arbitrate and mediate disputes concerning agricultural operations.

**Mitigation:** The City shall ensure that all property buyers are informed of Chapter 2A of the County Code and its provisions prior to the final sale of any property within the Southpark project site. This measure would reduce the impact to a level that is less than significant.

**Impact:** **Conflicts Between Proposed Development and Existing SID Easements**

**Analysis:** The Southpark Planned Development designates residential land uses, internal circulation elements, and community park lands within the existing SID easement. As sited in the proposed land use plan, development within the Southpark project site could potentially conflict with this existing easement. This conflict is considered a potentially significant impact.

Mitigation: The project applicant shall consult with the Solano Irrigation District prior to the siting and construction of all buildings, roads, parks and other facilities which intersect or lie adjacent to the existing SID easement to ensure that the project does not conflict with the terms and conditions of the SID easement. This measure would reduce the impact to a level that is less than significant.

**Impact: Conflicts Between Proposed Development and Existing Mineral Rights Easements**

Analysis: Southpark proposes the development of residential land uses adjacent to two existing mineral rights easements. Under the terms and conditions of these mineral rights easements, the easement holders have the right to extract any mineral resources immediately underlying the easements as well as any mineral resources located at least 500 feet below ground throughout the remainder of the project site.

As discussed in Section 3.2 - Soils and Geology, the primary mineral resource in the Dixon area is natural gas. According to the California Department of Conservation, Division of Oil and Gas (DOG), a natural gas test well was drilled in 1976 near the center of the Southpark site (Mike Cummings, Engineer, DOG, pers. comm.). The well was drilled to a depth of 7,952 feet and failed to produce natural gas. DOG therefore considers it unlikely that a natural gas deposit would be discovered within a quarter-mile radius of this test well site. However, if natural gas was discovered near the site, extraction operations could conflict with residential land uses at Southpark.

Natural gas is typically extracted through a subsurface well connected to a gas transmission pipeline. Heavy equipment used during the construction of a natural gas extraction well and associated facilities could temporarily create high levels of noise and dust within and surrounding Southpark. In addition, occasional reconstruction work may result in temporarily high levels of noise and dust. Because the impacts associated with construction are temporary in nature, they are considered less than significant.

A natural gas extraction well may also represent a public safety hazard. If natural gas is accidentally released (i.e., from a break in the pipeline or valve), a fire could result. The State of California requires that any well operating within 300 feet of a residence or dedicated road be equipped with a downhole safety valve. This valve will automatically shut off the well if the pressure above ground drops due to a break in the line. Security fencing is also required around natural gas wells operating adjacent to residential areas. These measures would reduce potential safety impacts to a less than significant level.

Once constructed, the gas wells would operate with a relatively low level of impact. A meter house would be required at the extraction site to meter the rate of natural gas delivery. If water is produced from the well, a heater treater would be required to extract the water from the natural gas. A storage tank would be required to hold the water until it could be removed from the site. Depending on the pressure at which gas is flowing and the desired rate of production, a compressor may also be required. While most of the facilities associated with natural gas extraction do not generate noise, a compressor could produce noise levels which are considered a nuisance to adjacent residences. This source of noise is a potentially significant impact of developing residential uses adjacent to the existing mineral rights easements.

Mitigation: The City of Dixon shall require the preparation of a noise analysis prior to the approval of a natural gas extraction facility on either of the mineral rights easements located within the Southpark site. This noise analysis shall quantify projected noise levels from all proposed natural gas extraction facilities. The analysis shall then propose mitigation, such as a compressor housing, to reduce noise impacts in surrounding residential areas to a level that is less than significant if noise levels are found to exceed acceptable levels.

# 3.10 POPULATION AND HOUSING

## Environmental Setting

### *Population*

The population of Dixon has increased significantly in recent years, as shown from U.S. Census Bureau estimates:

**Table 3.10-1**

City of Dixon Population

| Year | Population |
|---|---|
| 1940 | 1,108 |
| 1950 | 1,714 |
| 1960 | 2,970 |
| 1970 | 4,432 |
| 1980 | 7,541 |
| 1990 | 10,401 |

Source: U.S. Census Bureau, 1990

Between 1980 and 1990 the population of Dixon grew by approximately 38 percent (i.e., from 7,541 to 10,401). Future population growth in the City is anticipated to exceed the rate expected in most other portions of California, and if population growth continues at recent rates, the population of Dixon could place pressures on the land supply currently designated for residential uses.

The land use pattern outlined in the General Plan (November 1993) is designed to accommodate additional population and employment growth within the Dixon Planning Area through the year 2010. Although the magnitude of future population growth can not be predicted with certainty, the 1993 General Plan has been developed on the assumption that the population of Dixon would continue to grow at a rate similar to that experienced since the passage of Measure "B" in 1986.

Under Measure "B", the residential growth to be permitted in the City in a given year is limited to a number of dwelling units equal to three percent or less of the total number of housing units existing in Dixon on December 31 of the previous year. This rate of residential development would result in a total of approximately 6,775 units in the Dixon area by the year 2010, or an estimated population of approximately 20,325 (based on an average of three persons per household). This level of population growth would represent nearly a doubling in the number of people living in Dixon between 1990 and 2010.

An estimated 12,431 people were living in an estimated 4,102 housing units in Dixon on January 1, 1994. The population in Dixon is fairly homogenous, composed primarily of Caucasians (81.3%), and is balanced between males and females with a slight edge toward males (50.4%) over females (49.6%). The majority of the housing units are occupied by family households (78%). The elderly population, persons 65 years and older, represent only 8.1% of the total. Children under 18 years number 3,263 (31.4%). The median age brackets account for the majority of Dixon's population with ages between 22 years and 60 years making up 52.6% of the total population. There are 3.142 persons per household according to the 1994 census.

### Housing

The Population Research Unit estimated that of the 4,102 housing units in Dixon on January 1, 1994, 3,156 (76 percent) were single family detached residences, 186 (5 percent) were single family attached residences, 305 (7 percent) were multi-family dwellings with two to four units, 417 (11 percent) were multi-family dwellings with five or more units and 38 (1 percent) were mobile homes. Of these units, an estimated 3,938 were occupied, resulting in a vacancy rate of approximately 4.0 percent.

Census data of May 1991 shows that homes in the City of Dixon are valued primarily in the range of $60,000 to $300,000, with a median value of $139,500. Rents range between $300 and $700, with a median rental cost of $484.

Although housing in the Dixon Planning Area is generally less expensive than comparable housing in many other communities in the San Francisco Bay Area, the supply of housing in the local area which is affordable to households with very low, low and moderate incomes remains limited. In 1992, a four-person household in Solano County with an annual income of $21,100 or less was considered to be a very low income household, a similar sized household with an annual income of between $21,099 and $33,750 was considered to be a low income household, and a similar sized household with an annual income of between $33,751 and $42,200 was considered to be a moderate income household. It is generally accepted that a household which pays more than 25 percent of its income in housing costs is "overpaying" for housing.

The number of households within the Dixon Sphere of Influence grew from an estimated 2,501 in 1980 to an estimated 3,490 in 1990. This growth represents an increase of nearly 40 percent in ten years. Much of the increase during the 1980s can be attributed to the relatively low cost of housing in the Dixon area relative to housing costs in other San Francisco Bay Area communities. Approximately 80 percent of Dixon households live in single family dwellings, while approximately one in ten households live in structures with five or more dwelling units.

The growth in residential development in the Dixon area has not been matched with a parallel growth in local employment opportunities and little improvement has been made in the ratio between the number of jobs and the supply of housing. Without a significant increase in the number of local jobs, Dixon residents will continue to commute to jobs in other locations, increasing traffic congestion and air pollution. Additionally, while the City strives to provide public services for the benefit of residents who are working elsewhere, those communities where Dixon residents work are able to generate revenue from those workplaces without the financial burden of providing residential support services.

In light of this issue, Dixon voters passed the aforementioned Measure "B" in 1986. This measure was taken in response to the development pressure on Solano County from San Francisco Bay Area workers who are willing to commute in order to have attractive housing at affordable costs. Housing costs are substantially higher in locations closer to the San Francisco Bay Area.

Dixon's housing stock is a mixture of older and newer homes. The central portions of Dixon are characterized by older single-family structures. The architecture, established landscaping, and tree-lined streets found in these areas contribute to the City's character. Recent residential development in Dixon has also been made up largely of single-family homes.

The 1993 General Plan is based on the assumption that residential development in the Dixon Planning Area will continue in the future, but at a slower rate of growth than experienced in the 1980s. To meet the state-mandated requirements to provide a "fair share" of affordable housing within the region, a proportion of these new housing units would have to be affordable to households with very low, low, and moderate incomes.

The Association of Bay Area Governments (ABAG) has estimated that 699 new dwelling units will be needed in Dixon between 1988 and 1995 to accommodate anticipated growth. Based on the Housing Needs Plan, the City of Dixon should strive to achieve the following distribution of income levels in new housing units by 1995 as shown in Table 3.10-2.

## Table 3.10-2

City of Dixon Income Level

| Yearly Income | Income Group | Number of Housing Units | Percent |
|---|---|---|---|
| $21,000 | Very Low | 168 | 24 |
| $21,099 - $33,750 | Low | 119 | 17 |
| $33,751 - $42,200 | Moderate | 154 | 22 |
| $42,201 - up | Above Moderate | 258 | 37 |

Source:: 1993 City of Dixon General Plan

A balanced distribution of the future additions to the housing stock of the City have been based on an 80 percent single-family (lower density) and 20 percent multiple-family (higher density) mix, has been defined by Measure B. Based on Measure B limitations, it is projected that there will be a total of 4,479 housing units in Dixon by 1996. An overall maximum of 2,499 new units would be built between 1996 and 2010, if the average annual increment is based on the three percent annual growth rate established by Measure B. This projected increase would raise the total number of housing units in Dixon to a maximum of 6,775 in the year 2010. Assuming this number of units, and an average of three persons per household, the population of the City in the year 2010 would total approximately 20,325 individuals or an increase of approximately 64 percent above the 12,431 persons estimated to be living in the City as of January 1, 1994.

According to the 1993 General Plan for the City of Dixon, future residential development within the Dixon Planning Area would take place in two fifteen-year phases. The first phase, running from 1996 through 2010, would provide a total of approximately 640 acres for residential development southwest of central Dixon (163 acres of which are the proposed Southpark planned development). The second phase, running from the year 2011 through 2025, would provide a total of 760 acres for residential development located to the south and east of central Dixon. Together, the two phases would provide sufficient acreage to accommodate the maximum amount of residential development which would be allowable under Measure B during the thirty-year period between 1996 and 2025.

Based on the existing City of Dixon average of three persons per household, the estimated number of people per acre under each General Plan residential land use designation would fall within the following ranges:

**Table 3.10-3**

Estimated Density per Acre

| | Number of People | |
|---|---|---|
| **Land Use Designation** | **Lowest** | **Highest** |
| Very Low Density | <7 per acre | 7 per acre |
| Low Density | 7 per acre | 19 per acre |
| Medium Density - Low | 19 per acre | 44 per acre |
| Medium Density - High | 44 per acre | 65 per acre |
| High Density | 65 per acre | 87 per acre |

Source: 1993 City of Dixon Draft General Plan

1 Estimated number of people based on 1990 average of 3 people per home.

## Impact Evaluation Criteria

For the purpose of this document, an impact is considered to be any alteration of the location, distribution, density, or growth rate of the local population or in the availability of local housing. An impact is considered significant if it meets the following criteria:

- the project results in a growth rate which exceeds the adopted allowable City of Dixon growth rate of three percent;
- the project results in an increase in the jobs/housing imbalance.
- the project results in less than a five percent housing vacancy rate (the minimum vacancy rate which allows for unconstrained movement of households and adequate consumer choice);
- the project does not meet or contribute to meeting the ABAG City of Dixon Housing Needs Plan; or
- the project results in the disruption or division of the physical arrangement of the City of Dixon;

## Impacts and Mitigation

**Impact: Substantial Residential Growth of the City**

Analysis: The Southpark project would be developed during phase one of the Dixon General Plan. Since Southpark proposes to develop approximately 163 acres (167 acres under the second design for the railroad overcrossing) for residential purposes, it is within the development parameters of the first phase (which plans for the development of 640 acres for residential development). According to the 1993

General Plan, the total amount of new units to be built during the first phase (year 1996 to year 2010) would be 2,499. Southpark proposes to build 951 to 964 dwelling units.

The number of acres and the number of dwelling units proposed for residential development by the Southpark Planned Development are also within the three percent growth rate permitted by the City's Measure "B". This impact is therefore considered to be less than significant.

Mitigation: No mitigation is required.

**Impact: Increase in the Housing Vacancy Rate in the City**

Analysis: The housing vacancy rate is a measure of the availability of housing in a community. A low vacancy rate is usually indicative of a tight housing market, while a high vacancy rate usually indicates an oversupply of housing. A vacancy rate of 5% generally indicates an adequate supply of housing in a community. The City of Dixon had a vacancy rate of 4.0 as of January 1, 1994. The proposed project would provide an additional 951 to 964 dwelling units in the City of Dixon which would help alleviate the low vacancy rate that currently exists. This impact is therefore considered to be less than significant.

Mitigation: No mitigation is required.

**Impact: Disruption or Division of the Physical Arrangement of the City**

Analysis: The proposed Southpark Planned Development would involve the annexation of land located adjacent to and directly to the south of the City of Dixon. The project also lies along and to the south of the Southern Pacific Transportation Company railroad right-of-way. This railroad right-of-way serves as a physical divider to the City. The majority of urban development in the City occurs north of the railroad right-of-way. Limited access across the railroad right-of-way accentuates the division of Dixon. However, because Southpark would be developed adjacent to existing and similar density single family residential development in Dixon and would develop a railroad overcrossing linking the southern portion of Dixon with the remainder of Dixon, the project would serve to diminish the existing division. This impact is therefore considered to be less than significant.

Mitigation : No mitigation is required.

**Impact: Compliance with the Housing Distribution Goals of the ABAG Housing Needs Plan**

Analysis: Assuming that the needed distribution of income levels in new housing units for the years 1996 to 2010 reflects the identified ABAG distribution goals for the years 1988 to 1995 (1993 Preliminary Draft Housing Element of the City of Dixon General Plan Update Program), Southpark would contribute to meeting the identified goals. The ABAG goals and Southpark's contribution are identified in Table 3.10-4.

## Table 3.10-4

### ABAG Income/Housing Goals

| Income Group | ABAG Percentage Goals | Southpark Estimated Units | Southpark Percentage |
|---|---|---|---|
| Very Low | 24% | 188[1] | 20% |
| Low to Moderate | 39% | 658[2] | 69% |
| Above Moderate | 37% | 105[3] | 11% |

Source: 1993 Preliminary Draft Housing Element of the City of Dixon General Plan Update Program

Notes:
1 These units represent all proposed multi-family residential.
2 These units represent the proposed manor homes and all single-family residential at densities greater than 4 DU/acre.
3 These units represent the orchard lots and single-family residential at 4 DU/acre.

All multi-family residential is assumed to meet the housing needs of the very low income group. Manor homes and Single-family residential at 5-8 dwelling units per acre would meet the housing needs of the low and moderate income groups, while single-family residential at 4 dwelling units per acre and the orchard lots would meet the housing needs of the above moderate income group.

Southpark would provide a mix of residential unit types serving the full range of income groups. Approximately 20% of the units would be within the affordability of the very low income group, 69% would be within the affordability of the low to moderate income group, and 11% would be within the affordability of the above moderate income group. This flexibility of housing types allows Southpark to respond to the actual housing needs of Dixon as each phase is developed rather than being constrained by the anticipated needs projected from 1993-1994 data.

The Southpark Planned Development does not comply with the housing distribution recommended by ABAG to meet Dixon's housing needs. However, the proposed development does attempt to provide a mix of housing types. Sixty-nine (69%) percent of the dwelling units provided in the Southpark Planned Development are low to moderate housing. This allows the developer the flexibility to build as the market demands.

The City of Dixon General Plan provides goals which address the intent of the City to provide equal housing opportunities, balanced growth, adequate and affordable housing in the City, conservation and improvement of existing residential neighborhoods, and reduction of residential energy use. Policies are provided that meet the intent of these goals. This impact is therefore considered to be less than significant.

Mitigation: No mitigation is required.

# 3.11 PUBLIC SERVICES AND UTILITIES

## Environmental Setting

### *Water Supply and Distribution*

The Dixon Planning Area is provided with water by the Dixon-Solano Municipal Water Service (DSMWS) which serves newly developing areas within the City limits, and the California Water Service Company (CWS) which serves the remainder of the developed land within the City limits and some undeveloped parcels. DSMWS was established under a Joint Exercise of Powers Agreement between the City of Dixon and the Solano Irrigation District (SID).

The current DSMWS water supply system for the City of Dixon is comprised of three groundwater deepwells (located on the north, northeast, and west sides of the city), four booster pumps and two water storage tanks. The current capacity of the system is 4,590 gallons per minute (gpm). Within the different zoning districts, the City of Dixon Fire Department requires the following fire flows, based on a two-hour period at a minimum pressure of 20 psi:

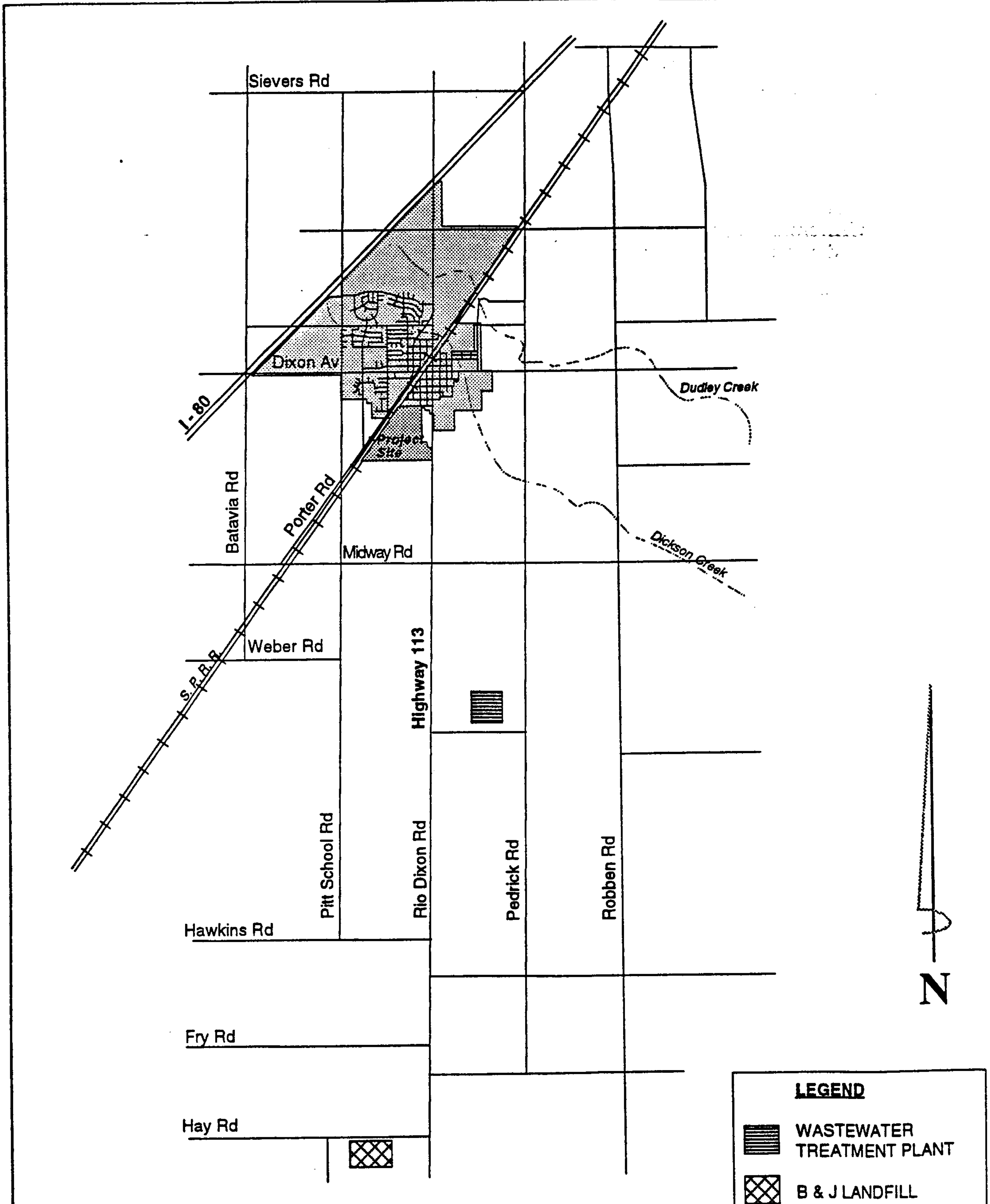
- Single Family Residential Zoning Districts 1,000 gpm
- Multiple Family Residential Zoning Districts 2,000 gpm
- Commercial or Industrial Zoning Districts 4,000 gpm

There is a 20-foot wide SID easement (Weyand Lateral B) that transects the Southpark property from west to east. This easement conveys agricultural irrigation water to the east side of Dixon. CWS has facilities in the adjacent subdivision to the west and in the West Cherry Street area north of the project site (pers. Comm. Frank Weber 6/21/94). Although SID, DSMWS, and CWS have no domestic wells on the property, the current land owners operate a private well on the site. DSMWS currently has water rights to the portion of the project site south of the SID easement, while CWS has claim to the portion north of the aforementioned easement. According to the 1992 Settlement Agreement and Mutual General Relief between the City of Dixon, SID, and CWS, the project applicant (SWD Land Company) would be allowed to choose the water purveyor for the northern portion of the project site upon development of the proposed project (pers. comm. Frank Weber 6/21/94).

### *Wastewater*

Wastewater generated in Dixon is collected by sewer lines varying in size from 6 to 15 inches in diameter. Once collected, the sewage is transported by a 27-inch outfall line to the city's wastewater treatment plant located southeast of Dixon.

The City of Dixon Wastewater Treatment Plant (WWTP) is located on a 143-acre site approximately 3.3 miles south and 0.5 miles east of the center of Dixon (Figure 3.11-1). Situated within Solano County, but outside the City limits, the facility serves most of the City of Dixon. The WWTP operates under Waste Discharge Requirements (WDRs) developed and enforced by the Regional Water Quality Control Board, Central Valley Region. The WDRs contained in Regional Board Order No. 86-026, state that the WWTP is allowed to discharge no more than 0.925 million gallons per day (mgd) of effluent to land disposal. The WDRs also prohibit discharges to surface waters and specify certain operating criteria and monitoring requirements.




File: Graphics/Dixon Land Fill Map
Layers: Text/Pub Services/Border/Base/City Limits

*City Of Dixon*
*Southpark EIR*

**Wastewater Treatment And Solid Waste Disposal Facilities**

*Figure 3.11-1*

The existing wastewater treatment plant and disposal facilities consist of a headworks and 13 unaerated ponds with distribution piping. In this system, raw wastewater is distributed to the ponds for facultative treatment, and effluent from the ponds is then disposed of on 120 acres of City-owned land through controlled flood irrigation of unharvested annual and perennial vegetation during the irrigation season (normally April through October).

The WWTP has a theoretical disposal capacity of approximately 0.73 mgd during a wetter than average year with a 25-year return interval. Average wastewater flows into the treatment plant are approximately 1.2 mgd, which means that the current facilities do not have the capacity to handle current wastewater flows under 25-year return wet season conditions. The Central Valley Regional Water Quality Control Board has indicated that it would prefer that wastewater treatment and disposal facilities be designed to prevent discharges during the wet season of 100-year return interval precipitation. However, a design to contain 25 year return interval precipitation is considered prudent if it is shown that greater capacity is cost prohibitive.

The WWTP needs to be expanded to give capacity for the existing connections plus new connections. Previous study indicated that the best way to meet the City's wastewater treatment and disposal needs through the year 2007 is to expand the facilities in two phases. Phase 1 would provide capacity to handle base flows through 2002 (1.6 mgd) under 25 year return wet season conditions while a longer term expansion (Phase 2), is being developed. Phase 2 would expand the facilities to handle base flows of 1.9 mgd during a 100 year return wet season. This expansion would handle wastewater flows through approximately year 2007 (estimated dates and capacities for the expansion of the WWTP provided by the City of Dixon Public Works Department - 6/9/94). The Regional Board agreed to the first phase having capacity for flows under 25 year precipitation conditions as long as the longer-term expansion is implemented within a few years of the short-term expansion and has capacity for 100 year return flows (Dewante and Stowell, 1991).

The sewer main that connects to the Dixon wastewater treatment plant nearest to the proposed project is located on South First Street. Sewer services for the proposed project would connect to this main.

### *Drainage*

The City of Dixon is situated on an alluvial fan associated with Putah Creek. Surface runoff through Dixon flows in a generally northwest to southeast direction and follows the natural topographic slope of the land. Development of the City and the intensive agricultural practices in the region have led to modification and redirection of the natural drainages and creeks that once carried runoff from the surrounding watershed.

Stormwater drainage from existing developed areas in the City of Dixon is conveyed through a conventional storm drainage system consisting primarily of drainage inlets located at low points in concrete gutters and reinforced concrete lateral and trunk pipelines. Drainage is carried by the trunk system to an open channel located southeast of the City. Flow is conveyed by this open channel to a network of irrigation/runoff channels operated by the Dixon Resource Conservation District (DRCD). The DRCD channels ultimately discharge into the Reclamation District 2068 V-drain outfall which enters Haas Slough.

The project site is currently in agricultural use and does not contain impervious surfaces such as roads, buildings or parking lots. Soil types underlying the project site include Brentwood clay loam and Yolo silty clay loam (see Section 3.2 - Soils and Geology).

These soil types are characterized by moderately slow soil permeability, indicating a moderately high potential for surface water runoff from the project site. Surface runoff from the site currently flows above ground and eventually enters the DRCD channel system.

The existing capacity of drainage facilities which convey runoff from the City of Dixon and downstream agricultural areas is inadequate and has caused flooding within the City and downstream. In 1989 the City of Dixon completed a Master Drainage Plan which describes the drainage system improvements needed to accommodate existing and future storm runoff from areas within the City's 50-year urban development boundary. The City's 50-year urban development boundary includes the Southpark site. The three major components of the drainage plan include new channel and levee construction, regional detention basin construction, and storm drainage system improvements.

The City of Dixon is not required to obtain a NPDES permit for wastewater discharge because the City has fewer than 100,000 residents. However, the RWQCB does require developers to obtain a construction NPDES permit.

The Master Drainage Plan divides the future City of Dixon development area into three major tributary areas. The proposed project site is located within Area C and would be served by drainage facilities which drain to Detention Basin C. The purpose of the detention basin is to store peak flows from the developed area and thus limit the rate of peak discharges to the downstream channel. The City of Dixon operates under an agreement with the DRCD which limits City drainage discharges to 77 cfs. The design of Basin C will depend upon its specific location and factors including local topography, hydraulic considerations, the upstream trunk system and other factors which will be identified in the design phase. The basin must also be designed to have sufficient capacity to allow the City to meet its obligation to discharge no more than 77 cfs to the DRCD.

### Solid Waste

Solid waste collection and disposal services are currently provided in the Dixon area by the Dixon Sanitary Service (a subsidiary of the Vacaville Sanitary Service). There is generally one collection per week in residential, commercial, and light industrial areas, although the frequency of collection increases to three times per week in some heavy industrial areas.

After collection, solid waste is transported to the B&J Landfill, located approximately nine miles south of Dixon at 6426 Hays Road (near Travis Air Force Base) on property that is zoned "A-160" and "A-80" Exclusive Agriculture. This landfill operates under a Class II-2 Permit, which allows for the disposal of municipal waste. The capacity of the landfill is currently 6 million cubic yards, but is proposed to be increased to 22.8 million cubic yards with some areas preserved for wetland habitat. The remaining life-expectancy of this landfill is 45-50 years. Vacaville Sanitary Service owns an adjacent 320-acre site which may be used for disposal purposes over the longer term.

### Police Protection

The Dixon Police Department serves the City of Dixon and divides the City into two beats. One beat is located west of the rail line, while the other is located east of the rail line. The Dixon Police Department schedules a minimum of two patrol officers (one for each beat) on a 24-hour basis, and in most instances two or three officers would be on duty during each shift (one supervisor per shift). In the event that a stationary train were to impede movement from one side of Dixon to the other, a police officer would remain available on each side. The officers are supported by an administrative services division (admin/personnel/evidence and records), investigations/youth services division, and an operations division (patrol, traffic, animal control and K-9 unit). While the Solano County Sheriff has jurisdiction outside the City of Dixon, the Department does respond as needed to urgent calls in unincorporated areas adjacent to the City.

The Department employs 17 sworn officers (11 patrolmen, 3 sergeants, 2 lieutenants, and 1 chief), and 5 civilian personnel. The police facility located at the downtown intersection of Jackson and A Streets (201 West A Street) presently consists of 12,000 square feet on the ground floor, but includes 8,500 square feet of area in the unfinished, open second story. The building was designed for a minimum of thirty years of future growth and to accommodate expansion from the current level of staff to a future staff of 65 sworn and 20 civilian employees. In addition to police services, the Department also provides animal control, youth services, and narcotics enforcement. It does not provide school crossing guards.

### Fire Protection

The Dixon Fire Department responds to fires, hazardous materials spills, and other emergencies which occur in the Dixon area. It serves a 320 square mile rural area extending from Winters to Rio Vista. Its main station, with bays for five fire engines, is located at 140 North Jackson Street between A and B Streets east of the Southern Pacific Transportation Company railroad tracks in central Dixon. A one-bay unmanned downtown station located west of the tracks at 450 North Adams Street is used for storage only. A rural District-owned station is located on Midway Road eight miles west of the city.

The Department has a force of four paid and 60 volunteer firefighters, and one part-time office clerk. Equipment consists of four pumpers, one ladder truck, one rescue van, and two water tenders. A significant part of the Dixon Fire Department workload is in response to California Highway Patrol (CHP) medical calls on Interstate 80 (I-80).

The City intends to relocate the main fire station to a site west of the railroad tracks near Industrial Way/North First Street/Regency Parkway. The City collects an AB 1600 fire protection impact fee on new development to fund the expansion of fire protection facilities.

### Ambulance Service

The Dixon area is served by Davis Ambulance, which provides basic and advanced life support, emergency and non-emergency services. The ambulance service is based in Davis and the average response time for emergency calls originating in Dixon is approximately 10 minutes.

### Schools

Southpark is located within the Dixon Unified School District (DUSD). DUSD provides public education for students living in Dixon and the rural northern part of Solano County (an area of about 200 square miles). It operates six schools at grade levels K-2, 3-5, K-5, 6-8, and 9-12. All of these facilities are located within the City of Dixon. The District is rapidly expanding its facilities to serve a growing population. A new elementary school (K-6) to be operated year-round and a Continuation High School were recently completed. Another new elementary school (K-5) is planned for a site located north of Kent Court and west of Fountain Way, but to date the land has not been purchased. The capacity of these additions is expected to be fully utilized by planned development within the existing city limits. Student enrollment in 1992 in grades K-12 was 3,006, while the capacity of existing educational facilities in the District accommodates 3,332 students divided among the five schools as shown in Table 3.11-1:

In addition, the Maine Prairie Continuation High School has the capacity to accommodate 45 students. The District intends to reallocate grades among its schools so as to gradually achieve a uniform K-5, 6-8, 9-12 grade structure.

## Table 3.11-1

### School Capacity

| | Grades | Current Capacity |
|---|---|---|
| Dixon High School | 9-12 | 852 students |
| C.A. Jacobs Middle School | 6-8 | 756 students |
| Anderson Elementary School | 3-5 | 660 students |
| Silveyville Primary School | K-2 | 684 students |
| Tremont Elementary School | K-5 | 380 students |
| Total | | 3,332 students |

Source City of Dixon General Plan, 1993

In developing new educational facilities, the DUSD intends to limit student capacities to 650 at elementary schools, 1,000 at the middle school, and 1,600 at the high school. For planning purposes, the District has established student yield factors. (Table 3.11-2)

## Table 3.11-2

### Student Yield Factor

| Grade Level | Students per Household |
|---|---|
| K-5 | 0.35 Single Family, 0.21 Multi-Family |
| 6-8 | 0.15 Single Family, 0.10 Multi-Family |
| 9-12 | 0.20 Single Family, 0.12 Multi-Family |
| TOTAL | 0.70 Single Family, 0.43 Multi-Family |

Source City of Dixon General Plan, 1993

The future demands for schools may vary, depending on the number and types of housing units which are actually constructed. Based on student generation rates established by the DUSD, the development of an estimated 2,499 housing units between 1996 and 2010 would add an estimated 1,610 public school students in grades K-12 to the local school district.

Financing methods currently used for school expansion include a formed Mello-Roos Community Facilities District that embraces the recently annexed west and north portions of the city. This district collects an annual special tax of $0.2575 per square foot to fund school facilities. Outside of the Mello-Roos District, the School District collects a one-time school impact mitigation fee of $2.58 per square foot on new residential construction.

### *Parks and Recreation*

The City of Dixon currently has four parks which serve the local area and one which is planned to serve the local area. These parks are described below (Table 3.11-3).

In addition to these facilities, the DUSD owns and maintains 6.5-acre Westside Park, which includes picnic grounds and grassy play areas.

The City of Dixon has established a standard of five acres of parkland for every 1,000 residents. Parkland dedication/acquisition and development fees are levied on all new residential development.

**Table 3.11-3**

Existing and Planned Parks

| Park | Total Acres | Developed Acres | Facilities | Operated by |
|---|---|---|---|---|
| Hall Park | 65.0 | 32.0 | tennis courts, ball fields, swimming pool, open play area, children's playground, picnic areas, amphitheater | City of Dixon |
| Northwest Park[1] | 22.5 | 22.5 | soccer field, picnic areas, open play area, hard court | City of Dixon |
| Women's Improvement Club Park | 1.0 | 1.0 | picnic area | Women's Club |
| Linear Park-Connemara | 14 | 1.4 | Par Course, open space along freeway, neighborhood park | City of Dixon |
| Pheasant Run Neighborhood Park | 4.9 | 0 | n/a | City of Dixon |
| TOTAL | 107.4 | 56.9 | | |

Source City of Dixon Planning Department and Public Works Department, 1994

1 Portions of this park serve as a retention basin for regulating flood flows in Dickson Creek.
n/a Pheasant Run Neighborhood Park has not been designed yet. Thus, there are no facilities listed for it.

### *Gas and Electrical Service*

Pacific Gas and Electric (PG&E) currently supplies the Dixon area with electricity and natural gas and would also supply services to Southpark. Service to the proposed project would be extended in accordance with PG&E's Electric and Gas Rules on file with the

California Public Utilities Commission. Specific extension rules are based on whether the project is commercial or residential in nature.

No gas transmission or distribution facilities exist within the Southpark site. In addition, no electric transmission or distribution facilities exist within the project site. However, there are some existing overhead electrical facilities on the project site that may have to be relocated or undergrounded depending on how the site is developed and compliance with City of Dixon requirements.

#### *Telephone and Cable Services*

Telephone services in the vicinity of Southpark are provided by Pacific Bell with cable TV service provided by Sonic Cable TV. Public utility easements for these services are determined at the time of subdivision formation.

### Impact Evaluation Criteria

For the purpose of this document, an impact is defined as a change in demand for public services or utilities. An impact is considered to be significant if it meets the following criteria:

- the project results in a demand for public services or utilities which exceeds existing supply or capacity of the existing infrastructure system;
- the project results in increased deterioration and therefore maintenance of existing utilities infrastructure; or
- the project requires additional staff, equipment, and/or facilities to maintain acceptable service levels.

### Impacts and Mitigation

Impact: **Increased Demand for Water**

Analysis: DSMWS currently has water available at the intersection of Pitt School Road and West A Street. As there are currently no facilities in close proximity to Southpark, a 12-inch main would have to be constructed from the intersection of Pitt School Road and West A Street to the project site. A 1,500 gpm deepwell, booster pump station (2,000 gpm), and 500,000 gallon storage tank would also be required at some point along the 12-inch alignment. If CWS is chosen by the project applicant to supply water to the northern portion of the Southpark site, services would be extended south or east from this company's current facilities in the area (this would be in addition to the aforementioned services required by DSMWS).

According to the DSMWS Master Plan, average annual water consumption is 225.0 gallons per capita day (gpcd) per person. Based on this average, Southpark would generate a need for up to 650,700 gpcd (2,892 x 225.0). This impact is considered to be significant.

Mitigation: As a condition of the issuance of a grading permit, the project applicant shall be required to build a 12-inch water main. Future attachers to the line would reimburse the applicant. The applicant shall also contribute a fair share of the costs of constructing a new 1,500 gpm deepwell, booster pump station (2,000 gpm), and a 500,000 gallon storage tank. A fair share of the costs shall be based upon the percentage of the area served by the new facilities that is represented by the developed portion of the Southpark site. Implementation of this measure would reduce the impacts to a level that is less than significant.

**Impact:** **Increased Need for Wastewater Treatment**

Analysis: Potential impacts caused by the proposed project were evaluated based on the capability of the City of Dixon Wastewater Treatment Plant (WWTP) to accommodate the projected increase in wastewater generated by the project. The City sends approximately 1.2 mgd to the WWTP per year. This total is equivalent to 97 gallons per person per day for all residential, industrial and commercial uses for one year in the average year. Based on this standard, the project will increase the amount of wastewater to the WWTP by approximately 0.28 mgd (2,892 people x 97 gallons of wastewater per day). With the expansion of the WWTP, the projected capacity of the facility through 2002 is estimated at 1.6 mgd. Accordingly, officials at the WWTP (pers. comm. 7/7/93) consider the impact of the project on wastewater disposal to be less than significant.

Mitigation: No mitigation is required.

**Impact:** **Effect of Increased Amount of Wastewater on Existing 27-inch Main**

Analysis: The existing 27-inch sewer trunk located within South First Street currently conveys all wastewater flows from the City to the treatment plant located south of Midway Road. The Public Works Department has indicated that the existing 27-inch trunk in South First Street is nearing capacity, and that a proposed parallel 36-inch trunk will soon be required to serve new development. The addition of approximately 0.28 mgd of wastewater generated by Southpark would exceed the capacity of the existing main and therefore be considered a significant impact.

Mitigation: The project applicant shall contribute a fair share of the costs of an area wide assessment, or fee, which may be established to fund the construction of the proposed 36-inch trunk. A fair share of the costs shall be based upon the percentage of the area served by the new facilities that is represented by the developed portion of the Southpark site. Implementation of this measure will reduce the impact to a level that is less than significant.

**Impact:** **Increased Amount of Solid Waste Disposal to B&J Landfill**

Analysis: Potential impacts caused by the proposed project were evaluated based on the capability of B&J Landfill to accommodate the projected increase in solid waste generated by the project. According to Janet Koster with the City of Dixon (pers. comm. 7/7/93), the City sends approximately 12,000 tons to the landfill per year. This estimate is equivalent to 1 ton per person per year or 5.5 pounds per person per day for all residential, industrial and commercial uses. Based on this standard, the project would increase the amount of refuse disposal to the B&J Landfill by approximately 15,900 pounds per day (2,892 people x 5.5 pounds of solid waste) or approximately 2,900 tons per year. Under their franchise agreement with the B&J Landfill, the City has been guaranteed full capacity until 1999 (this agreement takes into account anticipated growth of the City). According to officials at the B&J Landfill (Chris Choate, pers. comm. 7/7/93), the impact of the project on solid waste disposal would be less than significant.

Mitigation: No mitigation is required.

**Impact:** **Increased Demand for Police Services**

Analysis: Using the State of California standard of 1.5 officers per 1,000 people, the project would generate the need for approximately four additional officers (.0015 x 2,892 people). Although this necessity would not require a physical expansion of the police department (the existing facility allows for the addition of 48 officers), it would require the hiring of new officers. This impact is considered to be significant.

Mitigation: The City shall provide for the hiring of four officers in order to maintain acceptable police service levels. General funds from property taxes would provide for the hiring of new personnel. The City shall also impose an impact fee for the potential incremental increase of the need for new police officers. The project applicant shall be responsible for paying its fair share for additional staff and equipment to serve the project site. Implementation of this measure would reduce the impacts to a level that is less than significant.

**Impact:** **Increased Demand for Fire Protection Services**

Analysis: According to Dixon Fire Chief Ric Dorris (memorandum dated 7/9/93), the project would create a need for a second station with engine and personnel and one-third of a ladder truck. Based on industry standards (i.e., National Fire Protection Association (NFPA) and Insurance Services Office (ISO) used by the City of Dixon Fire Department (i.e., one professional fireman and 4-5 volunteer firemen per 1,000 people) the project would generate a sufficient population to warrant the hiring of 3 additional firemen and the recruiting of 12-15 additional volunteer firemen. In regards to the professional staff, the fire department is currently operating at a below-capacity level for the population of the City of Dixon (.001 x 12,400 people = 12). The need to hire additional professional staff and to provide a second fire station is considered to be a significant impact.

Mitigation: The City shall provide for the hiring of professional firemen and the recruiting of volunteer firemen in order to maintain acceptable fire protection service levels. General funds from property taxes would provide for the hiring of new personnel. The City shall also impose an impact fee for the potential incremental increased need for new firemen. Prior to recordation of a final map or issuance of a grading permit, the project applicant shall either dedicate land for a fire station and provide financial contributions toward equipment and personnel or shall participate in the establishment of an assessment district in which all property owners in the area would dedicate funds towards the establishment of adequate fire protection facilities. An AB 1600 fire protection impact fee shall be collected to offset the developer's portion of a new station and one-third of a ladder truck. Implementation of these measures would reduce the impacts to a level that is less than significant.

**Impact:** **Increased Demand for School Services**

Analysis: Additional residential development in the Dixon area would necessitate the construction of additional classrooms and other facilities, since existing school facilities are currently operating at or slightly below capacity. As the number of students increases, the demand for additional teachers, administrators and support staff would also be expected to increase proportionately.

Determining the number of school aged children per household is necessary to identify the impact of a project. To facilitate this estimate standards have been established that are based on historical information and trends. According to the Dixon Unified School District the average number of students (Kindergarten through 12th grade) per single-family household in the district is .70 (.50 for elementary and .20 for high school) and the average number of students (Kindergarten through 12th grade) per multi-family household in the district is .43 (.31 for elementary and .12 for high school). Based on these standards Southpark would generate approximately 615 (763 single-family households x .70 students per single-family household + 188 multi-family households x .43 students per multi-family household) total students. 439 of these new students would be of elementary school age, while 176 would be high school students.

The capacity of existing educational facilities in the district is 3,332 students. In 1992 enrollment in grades K-12 was 3,006 (2,175 students for grades K-8 and 831 students for grades 9-12). 326 additional students (305 students for grades K-8 and 21 students for grades 9-12) could be accommodated in the existing school facilities. If 305 elementary students and 21 high school students from the proposed project attended the existing school facilities, there would still be a need to accommodate 134 students from grades K-8 and 151 students from grades 9-12. The proposed project includes a 10-acre elementary school site which could be bought by the school district or used in lieu of some of the fees. Assuming 30 students per classroom, it would be required that this school provide a minimum of five classrooms for students in grades K-8. There would still be the need to accommodate 151 students of grades 9-12 (approximately five classrooms). Therefore, the project would increase the enrollment of schools (primarily high schools) within the district and exceed the capacity of current facilities. This impact is considered to be significant.

California law gives individual school districts the right to set their own mitigation fee levels. In 1987, SB2926 shifted the authority for setting and collecting "developer fees" from local agencies to the school district. The Mira and Hart (1991) decisions upheld the right of a city or county to deny a development project or to impose conditions on a project based on the inadequacy of school facilities. Furthermore, the Murrietta decision (1991) found that a local agency must consider the potential impact on school facilities during the CEQA process for a proposed development project. However, in 1992, SB 1287 temporarily suspended these court decisions and limited school mitigation fees to an additional $1.00 per square foot of new residential development. The recent failure of ACA 6 to win voter approval caused the expiration of SB 1287. This allowed the school districts to use the Mira, Hart and Murrietta decisions to ensure the full mitigation for school impacts of land use decisions, such as general plans, specific plans, and zone changes.

Mitigation: The project applicant shall meet with the Dixon Unified School District to determine the mitigation required based on the one-time school impact mitigation fee of $5.42 per square foot for new residential development and $0.28 per square foot for commercial development as referred to in the Dixon Unified School District Twenty Year Facility Master Plan. Other mitigation options include participating in a Community Services District or the provision of a school site in lieu of fees. Implementation of these measures would reduce the impact to a level that is less than significant. (It should be noted that the applicant has proposed to donate land in the Northeast corner of the project site for a continuation high school.)

**Impact:** **Increased Demand for Park and Recreation Services**

Analysis: The City of Dixon has established a standard of five acres of parkland for every 1,000 residents. Thus, the project would be required to dedicate 15 acres of parkland for the estimated population of 2,892 (2,892 x .005 = 15). The applicant has proposed to set aside 16.4 acres in parks and parkways. This acreage would be sufficient to serve the needs of the Southpark project.

It should be noted, however, that the City of Dixon is not presently able to develop planned parks because a sufficient funding mechanism to maintain the parks has not been developed. As discussed in the project description, a park maintenance fee would be required to service the proposed parklands of the proposed project site. This impact is therefore considered to be less than significant.

Mitigation: No mitigation is required.

**Impact:** **Proposed Northern Park Site Located Adjacent to Proposed School Site**

Analysis: According to the City of Dixon, it is currently against City policy to have a park located adjacent to a school site. The City requests that parklands be physically separated from school sites. The northerly park site in the Southpark design is proposed to be located adjacent to the proposed school site. Because this arrangement is contrary to current City policy, this impact is considered to be significant.

Mitigation: The project applicant shall alter the design of the area under question. In order to provide a physical separation between the proposed northern park site and the proposed school site, alternate designs would include: a roadway, a landscaped walking path and/or bike path, a wall or fence with breaks to allow for ingress and egress to and from the school site. Implementation of this measure would reduce the impact to a level that is less than significant.

**Impact:** **Increased Demand for Natural Gas and Electricity**

Analysis: According to Mike Carotenuto, Senior Business Representative of PG&E's Vaca-Valley Division, there are existing gas and electric facilities located near the Southpark site on South First Street (Rio Vista-Dixon Road). Service to the proposed project would be extended in accordance with PG&E's Electric and Gas Rules on file with the California Public Utilities Commission. Since the existing facilities are sufficient to extend and provide service to the project and would not impact PG&E's ability to provide this service, this impact is considered to be less than significant.

Mitigation: No mitigation is required.

# 3.12 HUMAN HEALTH AND SAFETY

## Environmental Setting

The Southpark site is currently in agricultural use, and does not contain a fuel source for wildfires. The potential for urban fire associated with development of the proposed project and the concomitant need for fire protection services is discussed in detail in Section 3.11 - Public Services and Utilities. The following text describes the existing environment at the Southpark project site in terms of potential hazards to persons and property from flooding, seismic activity, and hazardous waste contamination.

### *Flooding*

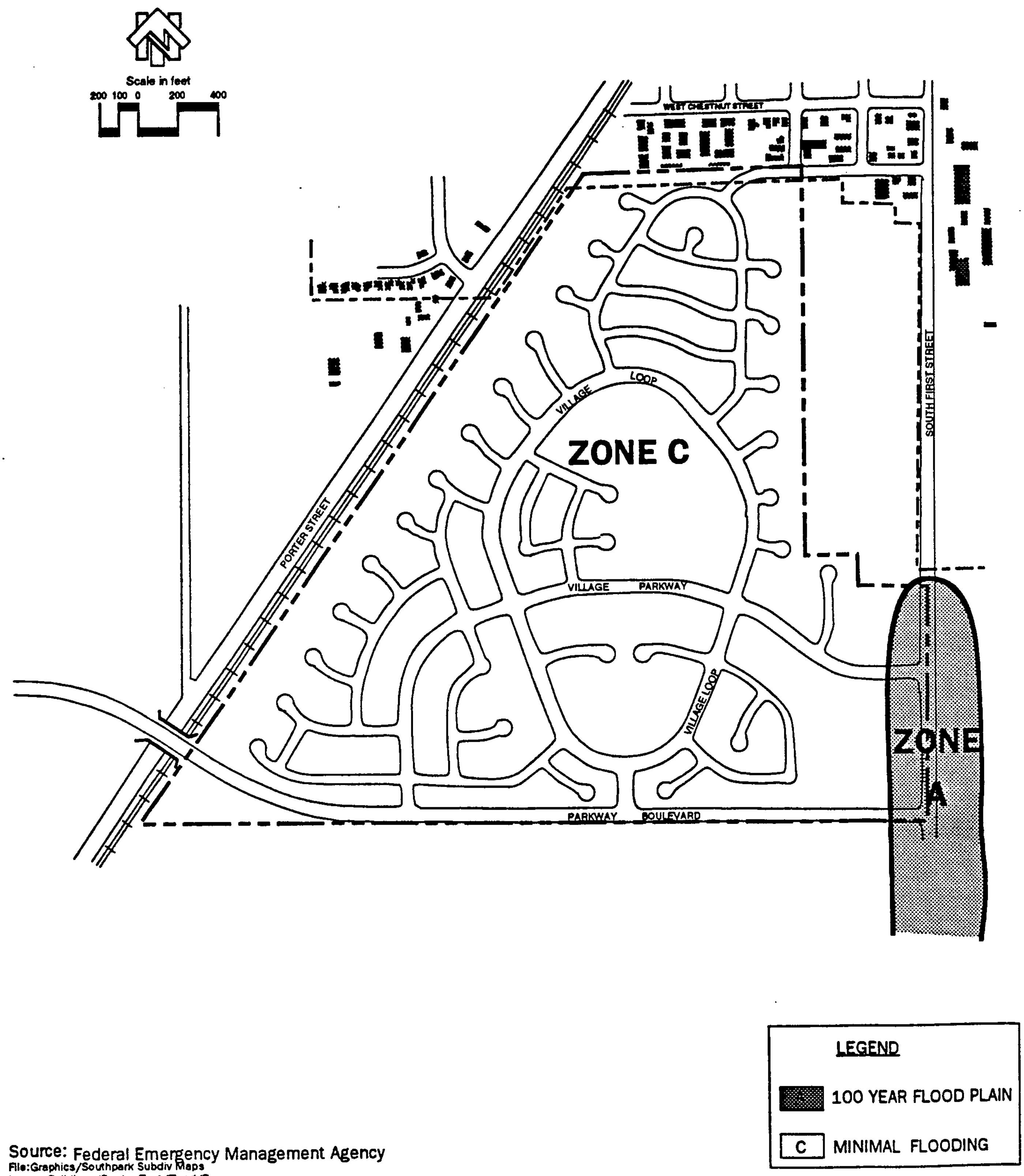
According to the Flood Insurance Rate Map prepared for the Dixon area by the Federal Emergency Management Agency (FEMA), effective August 2, 1982, the majority of the project site is located within Zone C. Zone C identifies areas of minimal flooding. However, the far southeast corner of the site lies within Zone A which identifies areas subject to a 100-year flood (Figure 3.12-1). Base flood elevations and flood hazard factors are not determined for this zone.

### *Seismicity*

The Fault Evaluation Program of the California Division of Mines and Geology (CDMG) is a long-term program designed to identify active faults that may be hazardous, in terms of surface fault-rupture, to structures which traverse such faults. As mapped by the CDMG, the northern trace of the Midland Fault transects the project site in a northwest-southeast direction (Figure 3.2-2). The Midland Fault does not show evidence of Holocene surface displacement (surface displacement occurring within the last 10,000 to 12,000 years). As such, the fault is considered to have a low potential for future surface rupture (CDMG, 1983).

Although there is very little potential for an earthquake to result in surface rupture at the Southpark site, the City of Dixon is none-the-less subject to ground shaking from seismic activity. Research of historical earthquakes has shown that the ground shaking which accompanies large earthquakes is responsible for more damage than ground rupture along the faults (CDMG, 1984). The primary source of potential ground shaking in the Dixon area is attributed to a seismically-active fold belt believed to exist in the vicinity of the Midland Fault (J. Howard, Senior Engineering Geologist, California Division of Mines and Geology, pers. comm.). In April, 1892, earthquakes originating from this fold belt caused considerable structural damage in the Dixon area, as well as in Vacaville and Winters. The estimated Richter magnitude of this earthquake was estimated at 6.5 to 7. The fold belt is also cited as the source of a 5.5 Richter magnitude earthquake centered in the vicinity of Elmira in 1902.

According to the CDMG, damage to structures during earthquakes is more commonly related to the type and quality of construction and to the foundation materials on which they are built than to the proximity to the fault producing the earthquake (CDMG, 1984). The Uniform Building Code (UBC) establishes standards and guidelines for the construction of residential and commercial structures based on established zones of seismic hazards. The City of Dixon is located within Zone 4 of the UBC. Zone 4 identifies areas of greatest seismic hazard based on the number and magnitude of historic earthquakes in that zone.




Source: Federal Emergency Management Agency
File:Graphics/Southpark Subdiv Maps
Layers: Buildings/Border/Text/Flood/Base

**City Of Dixon**
**Southpark EIR**

**Flood Zone Map**

**Figure 3.12-1**

All new construction in the City of Dixon must therefore be engineered to meet the UBC building standards for Zone 4.

Liquefaction, a loss of soil strength caused by a sudden increase in pore pressure, is a secondary seismic hazard in areas where high groundwater levels accompany unconsolidated sand deposits. Although groundwater levels in Dixon are relatively high, the soils underlying the project site are classified as clay loam and silty clay loam (see Section 3.2 - Soils and Geology). These soils have a low potential for liquefaction.

***Hazardous Waste***

The State of California Health and Safety Code defines hazardous waste as a waste, or combination of wastes, which because of its quantity, concentration, physical, chemical, or infectious characteristics, may either:

- Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Unless provided otherwise, the term "hazardous waste" is also understood to include "extremely hazardous waste." Extremely hazardous waste is a waste, or combination of wastes, which has been shown through experience or testing to pose an extreme hazard to the public health because of its carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties or persistence in the environment, when improperly treated, stored, transported, disposed of, or otherwise managed.

Individuals and businesses that produce a hazardous waste are referred to as "generators" whether they produce a few gallons of leftover paint or hundreds of tons of waste oil. Public institutions, such as schools, hospitals, civic facilities, and state and federal agencies, may also be generators. Generators include sources which produce hazardous waste routinely, such as waste oil from an automobile service station, as well as "one-time" generators, such as a hazardous waste cleanup project.

Generators are categorized according to their disposal practices, whether the waste is ongoing or one-time only, and the size of their waste stream. Federal law defines a large-quantity generator as any source that produces greater than 1,000 kg of hazardous waste per month, while a small-quantity generator is defined as a source that produces less than 1,000 kg per month. Hazardous waste generated by individuals in their homes is referred to as household hazardous waste.

The City of Dixon addresses hazardous waste concerns on an ad hoc basis during its land-use permitting and EIR processes. Development applicants are required to conduct site histories for "major" development projects to identify possible contamination from hazardous substances. However, since there has never been much industry in Dixon, and since most development occurs on land that was previously agricultural, the problem of site contamination is believed to be relatively minor. The Southpark project site has been in agricultural use for many years and is not known or suspected to contain hazardous wastes. As such, a site assessment has not been required. Existing potential sources of hazardous substances in the project vicinity include State Highway 113 and the Southern Pacific Transportation Company railroad line located adjacent to the site. Both of these transportation corridors may be used to transport hazardous materials and wastes.

Currently, the Dixon Fire Department is charged with first response to hazardous materials or waste emergencies occurring within the City of Dixon. First response procedures include analysis of the nature of the emergency, mitigation if it can be conducted safely, and restriction of access by unauthorized personnel. Second response is handled by the Solano County Department of Environmental Management, Environmental Health Division. This agency has specially equipped vehicles, protective gear and trained staff for emergency response. Major tasks include identification of unknown spilled materials; providing on-scene information on the potential health hazards of identified materials or wastes as well as information on safe handling and disposal procedures; and ensuring adequate cleanup. In the event that a hazardous material would pose a threat to human health, the Environmental Health Division would initiate the evacuation of potentially affected areas. The Environmental Health Division also responds to complaints of illegal hazardous waste disposal.

The County is currently seeking to improve emergency response coordination. The Solano County Office of Emergency Services (OES) is in the process of preparing an "Area Plan for Hazardous Materials" (Area Plan) which will formalize jurisdictional boundaries and mutual-aid systems. Key elements of the Area Plan include: the role of OES as the coordinating agency for emergency response; designation of first-response agencies as Incident Commanders in situations occurring on private, City, County, or State properties and highways; and emergency response actions that include ensuring public safety, providing information to the public, and managing cleanup activities.

Under the Area Plan, the first response agency arriving at the scene of an emergency will act as Incident Commander until the appropriate law enforcement agency arrives. The City of Dixon Police Department would be responsible for incidents occurring within city limits, with the exception of state-patrolled highways which fall under the jurisdiction of the California Highway Patrol. The Incident Commander will establish a command post in a safe area near the scene are direct activities to protect the public and secondary response agencies. The Incident Commander will obtain support services through OES. Implementation of the Area Plan will require that all agencies having initial and support responsibilities in hazardous materials emergencies identify their roles and capabilities and develop agency coordination plans covering protection of the public, evacuation procedures, training and public education.

## Impact Evaluation Criteria

For the purpose of this document, an impact is defined as a change in the existing environment which may expose people to health or safety risks. An impact is considered to be significant if it meets the following criteria:

- the project would potentially expose people to hazardous situations as a result of seismic activity or flooding;
- the project locates facilities in flood-prone areas;
- the project would potentially expose people to hazardous chemicals, radiation or disease agents;
- the project would not comply with all applicable laws regarding the handling of hazardous materials; or
- the project would potentially result in interference with an emergency response or evacuation plan.

## Impacts and Mitigation

**Impact: Exposure of Southpark Population to Localized Flooding**

Analysis: The Southpark Planned Development designates Multi-family Residential land uses within the 100-year flood zone (Figure 3.12-1). Because base flood elevations have not been determined for this zone, it is not known to what depth flooding would occur. However, the potential public safety hazards associated with exposing the future Southpark population to the identified 100-year flood zone is considered to be a potentially significant impact.

Mitigation: Drainage facilities for the proposed project shall be designed such that all new development within the Southpark Planned Development is constructed at a minimum of one foot above the 100-year base flood elevation. Implementation of this measure would reduce the impacts to a level that is less than significant.

**Impact: Exposure of Southpark Population to Seismic Hazards**

Analysis: The Southpark site is located within an area that has historically been subject to earthquakes of 6.5 to 7 Richter scale magnitude. As such, construction of residential and commercial land uses at the Southpark site would result in potential exposure of residents and employees to hazardous seismic activity. This impact is considered to be significant.

Mitigation: All structures shall be engineered to meet the Uniform Building Code construction standards for Seismic Zone 4. Implementation of this measure would reduce the impacts to a level that is less than significant.

**Impact: Exposure of Southpark Population to Hazardous Chemicals**

Analysis: The Southpark site is not known or expected to contain hazardous wastes which would pose a health hazard to Southpark residents. However, the future population at the Southpark site could be exposed to hazardous materials or wastes as a result of an accidental spill along State Highway 113 or the Southern Pacific Transportation Company railroad line.

The Southpark development plan includes a landscaped berm and wall which would separate the site from the existing railroad line located to the west. In addition, a 125-foot minimum residential building setback is provided from the railroad right-of-way. These provisions would significantly reduce the potential for Southpark residents to be exposed to a hazardous materials or waste spill occurring in the SPTCo railroad corridor. However, airborne chemical vapors could represent a potential health hazard to nearby residents in the event of a hazardous materials spill. This impact is considered to be potentially significant.

Multi-family Residential and Commercial land uses are proposed immediately adjacent to State Highway 113. As such, a hazardous materials or waste spill along highway 113 could result in the exposure of the future population to hazardous chemicals. However, the risk of a hazardous chemical spill along State Highway 113 is relatively minor. This highway is used primarily to access the Rio Vista area south of Dixon. Interstate Highway 80, located to the north of Dixon, serves as the primary regional transportation route. Considering the limited use of State

Highway 113, the potential for a hazardous materials or waste spill on highway 113 adjacent to the project site is not considered to be a significant public safety hazard.

Mitigation: If an Area Plan has not been adopted prior to issuance of building permits, the applicant, in coordination with the City of Dixon, shall develop an evacuation plan that addresses a potential hazardous wastes or materials spill on the SPTCo railroad line. Implementation of this measure would reduce the impacts to a level that is less than significant.

**Impact: Potential for Improper Disposal of Hazardous Wastes at the Project Site**

Analysis: Approval of Southpark would allow the development of 951 residential units, as well as a 3.6-acre commercial center. The primary generator of hazardous wastes in the Southpark Planned Development would be households. Common household hazardous wastes include pesticides, household cleaners and polish, adhesives and sealants, automotive products, batteries, and paint. In addition, hazardous wastes, including waste oil, solvents, and possibly perchlorethylene (used by dry cleaners), could be generated by businesses within the proposed commercial center.

Hazardous wastes may pose a threat to public safety when improperly handled or disposed. According to the Solano County Hazardous Waste Management Plan (Brown, Vence & Associates, 1989), the public is generally uninformed about the degree of hazard presented by different materials, and few residents undertake the effort and expense of delivering hazardous wastes to adequate treatment and disposal facilities. Disposal methods commonly used for household hazardous waste include pouring wastes down sewers or storm drains, placing them in trashcans, and illegal dumping. Improper disposal may also occur from small-quantity generators which are not required to manifest their hazardous wastes.

Uncontrolled releases of hazardous wastes into the environment may pose a significant health and safety hazard to any person who is unknowingly exposed to a toxic or otherwise hazardous chemical. In addition, hazardous wastes which are illegally dumped or poured into the storm drain or sewer system can migrate through the soil and contaminate the groundwater. Groundwater contamination represents a significant threat to public health and safety if the water is used for agricultural irrigation or municipal water supplies.

The Solano County Division of Environmental Health Division is responsible for oversight and inspection of businesses within the County which handle, treat, store, or dispose of hazardous materials or wastes. The Environmental Health Division also responds to complaints of illegal hazardous waste disposal within the County and manages cleanup of abandoned wastes. The City of Dixon is responsible for public education regarding residential hazardous materials and waste management, and periodically gives presentations to civic groups such as the Rotary Club and the Lions. The City is also responsible for periodic household hazardous waste collection in the Dixon area. Residents are required to bring their household hazardous wastes to periodic collection events. The hazardous wastes are then delivered to a permitted disposal facility. These measures, which are explained in detail in the 1991 Source Reduction and Recycling Elements and Household Hazardous Waste Elements (HHWE), reduce the potential for improper hazardous waste disposal to a level that is considered to be less than significant.

Mitigation: No mitigation is required.

# 3.13 VISUAL RESOURCES

## Environmental Setting

### *Site Characteristics*

The Southpark site is characterized as rural agricultural. Physical features include:

- Little to no slope;
- A lack of trees within the site boundary;
- Vegetation consisting of agricultural row crops;
- The Southern Pacific Transportation Company (SPTCo) railroad line along the western project boundary;
- Drainage canals along the site perimeter; and
- Dirt roadways along the canals.

The photographs presented in Figure 3.13-1 provide a more detailed account of the project site's physical characteristics.

### *Surrounding Environment*

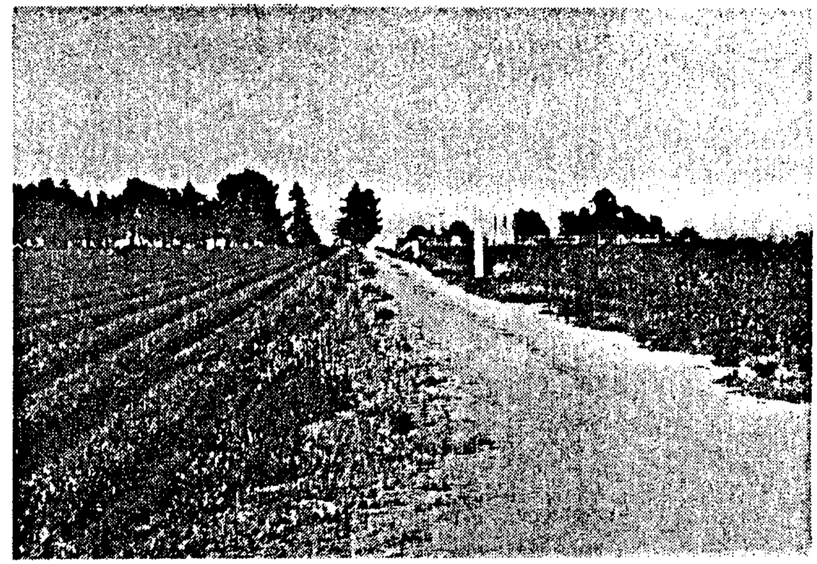
The foothills and mountains of the Coast Range are the most prominent visual feature to an observer looking west across the project site. The view from the property to the east is dominated by the huge trees which are prevalent in the Silveyville Cemetery. The southern view passes over the Sacramento-San Joaquin River Delta (Delta) area, which is not itself visible because of the level terrain. The viewscape towards the Delta extends into a flat horizon dotted with an occasional farmhouse, barn or tree. The homes of the City of Dixon are visible in the near view to the north of the property. Specifically, the four project boundaries are described as follows:

- The western-most portion of the northern project boundary consists of the backyards of several multi-family residential units separated by wooden fences, while the eastern portion of the northern project boundary consists of West Cherry Street and adjacent single family residential units;
- The western project boundary consists of the SPTCo railroad line which is raised approximately 6 to 8 feet above ground level. Porter Street lies immediately west of the SPTCo and is not visible from the project site;
- A significant portion of the eastern project boundary borders the Silveyville Cemetery. The Cemetery is the most predominant visual feature in the surrounding vicinity due to the prevalence of large trees on the site; and
- The southern project boundary includes one single-family residence and barn surrounded by large, mature California black walnuts and other non-native trees. Storm drainage detention basin A which is surrounded by chain-link and barbed wire fencing occurs along the southern project boundary.

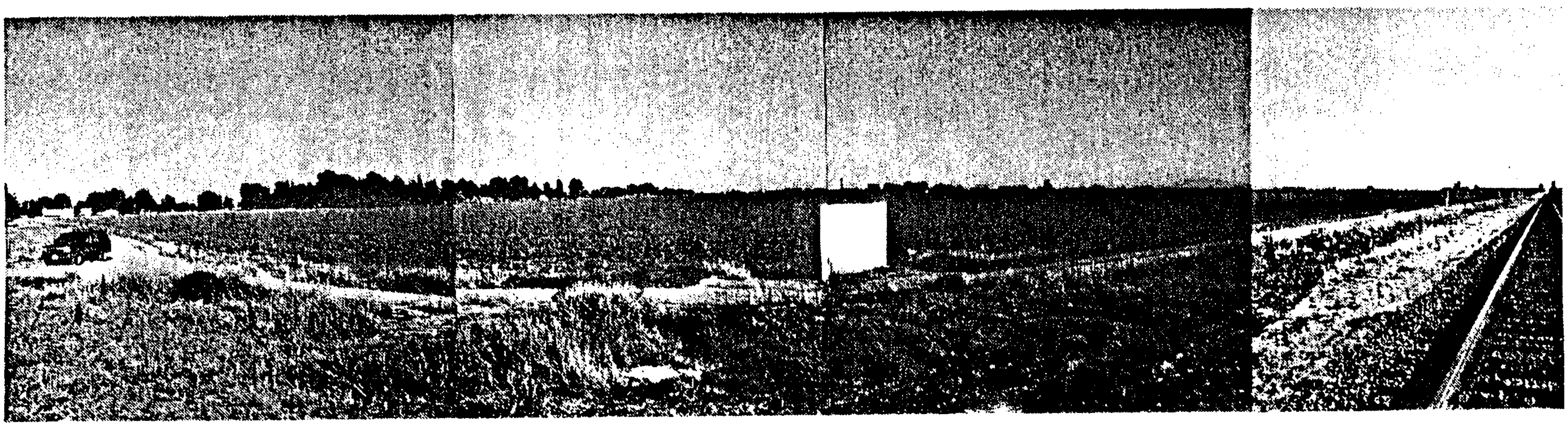
### *Light and Glare*

Light and glare is currently nonexistent within the Southpark project site. The site is located within an area that is predominantly used for agricultural purposes and is currently vacant of any building structures.

Westerly view of southern project boundary. Note the trees which surround the residence to the south of the project site.



Easterly view of the S.I.D. right of way. Note the large trees located within the Silveyville Cemetery boundary.



Southeasterly view of the project site from the Northwestern corner. Note the trees located within the cemetery boundary and note the railroad tracks that border the site.



**Visual Resources**

**Figure 3.13-1**

There is also minimal light and glare in the areas located adjacent to the project site. Existing light and glare is generated by single family residential units located to the west, north and east of the project site. Additional night lighting is generated by a single family house and barn on the southern project boundary. Street lighting exists on Highway 113 at the Country Faire subdivision entrance located directly east of the project site. Highway 113, located adjacent to the project site, provides a source of light and glare from vehicles and their headlights.

## Impact Evaluation Criteria

The City of Dixon 1993 General Plan includes goals and policies intended to accommodate new growth in a manner that will allow for the maintenance of Dixon's "small town character". For the purpose of this document, a visual impact is defined as a physical change in the visual environment of the project area. An impact is considered to be significant if it fails to meet the following General Plan policy criteria.

- The City shall ensure that entry points to the City are identified by well-designed, landscaped entrances indicating civic pride and concern for civic beauty;
- The City shall actively promote the beautification of Dixon by acquiring easement or development rights for open space, planting street trees and landscaping public rights-of-way;
- The City shall require the undergrounding of utilities in all new developments when appropriate, and shall encourage the removal of overhead utility lines and poles throughout the City; and
- The City shall strictly regulate signs and billboards in order to minimize their impact on the visual environment.

For the purpose of this document, a light and glare impact is defined as a physical change in the night lighting and glare levels in the project area. It has been assumed that nighttime lighting would be considered an impact only if it was substantial enough to disrupt normal nighttime activities in the project area. It has also been assumed that daytime glare would be considered a significant impact if it creates a safety hazard by interfering with passing motorists vision.

## Impacts and Mitigation

**Impact: Replacement of Open Space With Urban Land Uses.**

Analysis: Development of Southpark would result in the introduction of homes, fences, outdoor lights, and other residential and commercial features that would be visible to observers from adjacent residences and roadways, thereby changing the visual quality of the existing environment. Because landscaping or utility plans for the project have not yet been developed, a worse case assumption has been utilized to describe potential impacts to visual resources. This scenario assumes that above ground utilities and inadequate project landscaping and screening along roadways and project entrances would occur. Since this scenario does not comply with the goals and policies of the City's 1993 General Plan, the replacement of existing agricultural uses with urban uses is considered to have a potentially significant impact on visual resources.

Mitigation: Project plans shall provide for the undergrounding of all utilities that are visible from public rights-of-way. A landscaping program designed with an emphasis toward the South First Street (Highway 113) entrance to the City of Dixon shall be included in these plans. Prior to the issuance of any building permits, the project proponent shall submit these plans to the City Planning Department for approval. The Planning Department will make a determination as to whether project landscaping conforms to the City of Dixon's landscaping requirement as found in the Zoning Ordinance (Section 12.26). Implementation of these mitigation measures would reduce visual impacts from Southpark to a level that is less than significant.

**Impact:** **Introduction of New Sources of Night Lighting**

Analysis: New light sources that would be introduced by the project include residential and commercial development, street lighting, schools, and headlights from additional vehicular traffic (Table 3.13-1). The introduction of new light sources to a previously undeveloped site with no sources of night lighting is considered a potentially significant impact.

**Table 3.13-1**

Comparison of New Light Sources

| Condition | Residential [1] Lots | Commercial [2] Acreage | School [3] Acreage | Vehicles [4] Per Day |
|---|---|---|---|---|
| Existing Site | 1 | 0 | 0 | 0 |
| Proposed Project Buildout | 951[5] | 3.7 | 12.5 | 9,980 |

Source: Southpark Planned Development Land Use Summary, 6/93

1 Includes all multi-family, manor home, single family and orchard lots.
2 Includes all commercial use parcels.
3 Includes all school use parcels.
4 New trips generated by the proposed project.
5 964 with Proposed Alternate Design for railroad overcrossing.

Mitigation: As lighting plans are formulated, design of lighting for specific building projects shall be guided by the following principles:

- avoid interference with reasonable use of adjoining properties;
- minimize on-site glare; provide adequate on-site lighting;
- limit height of pole lighting to avoid excessive illumination;
- provide lighting structures which are compatible with landscape design along roadways and commercial structures;
- use trees to screen lighting;
- outdoor lighting shall be hooded and directed downward to minimize direct light and glare impacts on public rights-of-way;
- driveway lights shall be of a height which minimizes light and glare impacts;
- indirect "box" lights shall be used for driveways and parking lot lighting; and
- prior to the issuance of occupancy permits, the project proponent shall submit a lighting plan to the City Planning Department for a conformance determination.

In addition, building materials that reflect minimal light and glare shall be used on all on-site structures. Prior to issuance of building permits, the project proponent shall be subject to the City Planning Department's regular design review.

Implementation of these mitigation measures would reduce project specific light and glare impacts from interior and exterior lights on neighboring residential areas and roadways to a level that is less than significant.

**Impact: Introduction of New Sources of Glare.**

Analysis: Daytime glare and reflection from the project site would be minimal due to the proposed landscape corridors along South First Street and Parkway Boulevard. Furthermore, the landscape treatment would minimize glare exchange between vehicular traffic and the project's proposed land uses. Glare from this project would not interfere with passing motorist or create any other safety hazard and is therefore considered to be less than significant.

Mitigation: No mitigation is required.

# 3.14 CULTURAL RESOURCES

## Environmental Setting

### *Historic Background*

Euroamerican settlement of the project area began in the mid-1800s with the acquisition of Mexican land grants. The 1848 discovery of gold in the Sierra Nevada foothills had direct impacts on the future of this section of Solano County as some of the people traveling to and from the gold fields later returned to settle and claim land in the Dixon area.

Ghost towns Silveyville and Maine Prairie contributed to the initial building of Dixon. Elijah S. Silvey in 1852 established a stopping place on the old route from Benicia to Sacramento. A trading center of one long street was soon developed with a post office called Putah. The California Pacific Railroad came through Solano County in 1868, and Silveyville moved four miles east to meet it. Pioneer Peter Timm hauled some of the buildings intact to the new town called Dixon.

Maine Prairie, an embarcadero on Cache Slough, was settled in 1859 by Captain Merrithew. A village sprang up at this location as a grain shipping port at the head of navigation . In 1863 only 50,000 tons of grain were water-bound there. This shippable tonnage was exceeded that year by the Port of Stockton. As with Silveyville, the coming of the railroad resulted in the relocation of the business firms to Dixon.

Thomas Dickson gave ten acres for a railroad depot and townsite in 1868. Although named after Mr. Dickson, the area was misspelled Dixon. W.R. Ferguson of Maine Prairie erected the first house. Grain brokers, Eppinger & Co., and Blum and Sons moved their businesses there because of the rail connections. The excellent soils near Dixon attracted such thrifty pioneers as the Rohwers, Ellis, Mayes, Halls, and Peters. The Bank of Dixon was chartered in 1874 by J.C. Merrifield. The Dixon Tribune was founded by editor R.D. Hopkins on November 14th of that year. By 1876, the town had a population of 1200 and ranked second only to Vallejo in general prosperity. Seven hotels, fourteen stores, four warehouses, a flour mill, and a brewery were listed when Dixon City was incorporated in 1877.

Within the Dixon city limits there are over 40 houses which were constructed prior to 1900. In addition, a number of non-residential structures in Dixon meet National Register of Historic Places criteria. These structures include the following:

| Structure | Location |
|---|---|
| California Mealfalfa Company Warehouse | West E and North Jackson Streets |
| Silveyville Lodge R & A.M. No. 201 | 165 North First Street |
| C.D. Schulze Jeweler Building | 158 North First Street |
| Montezuma Lodge No. 172 | 100 First Street |
| Dixon Public Library | 135 East B Street |
| Catholic Church | 105 South Second Street |
| Dixon High School | East A at South Fifth Street |
| Anderson Elementary School | East C at North Fourth Street |
| Oliviera Signs Building | 290 South Jefferson |
| Dixon Unified Methodist Church | 340 West B Street |
| Dixon Theater | 140 First Street |
| Barbara's Women's Store Building | 120 North First Street |

Settlement in the 212.5-acre project site is reflected by property ownership and is documented on historic county maps. This property originally belonged to a gentleman named Riddle. In 1863 John S. Mayes bought the north portion of this land from Riddle and it remained in his family until the 1920's. The family trail is lost in the 1920's when Anna Mayes married and became Anna Hope.

In 1872 the Silveyville Cemetery, which is at the northwest corner of the project site, came into existence. The adjacent project site has been farmland since that time. From 1872 to 1909 there was no change in owners and the business on the farm consisted primarily of cattle/hog raising and wheat farming.

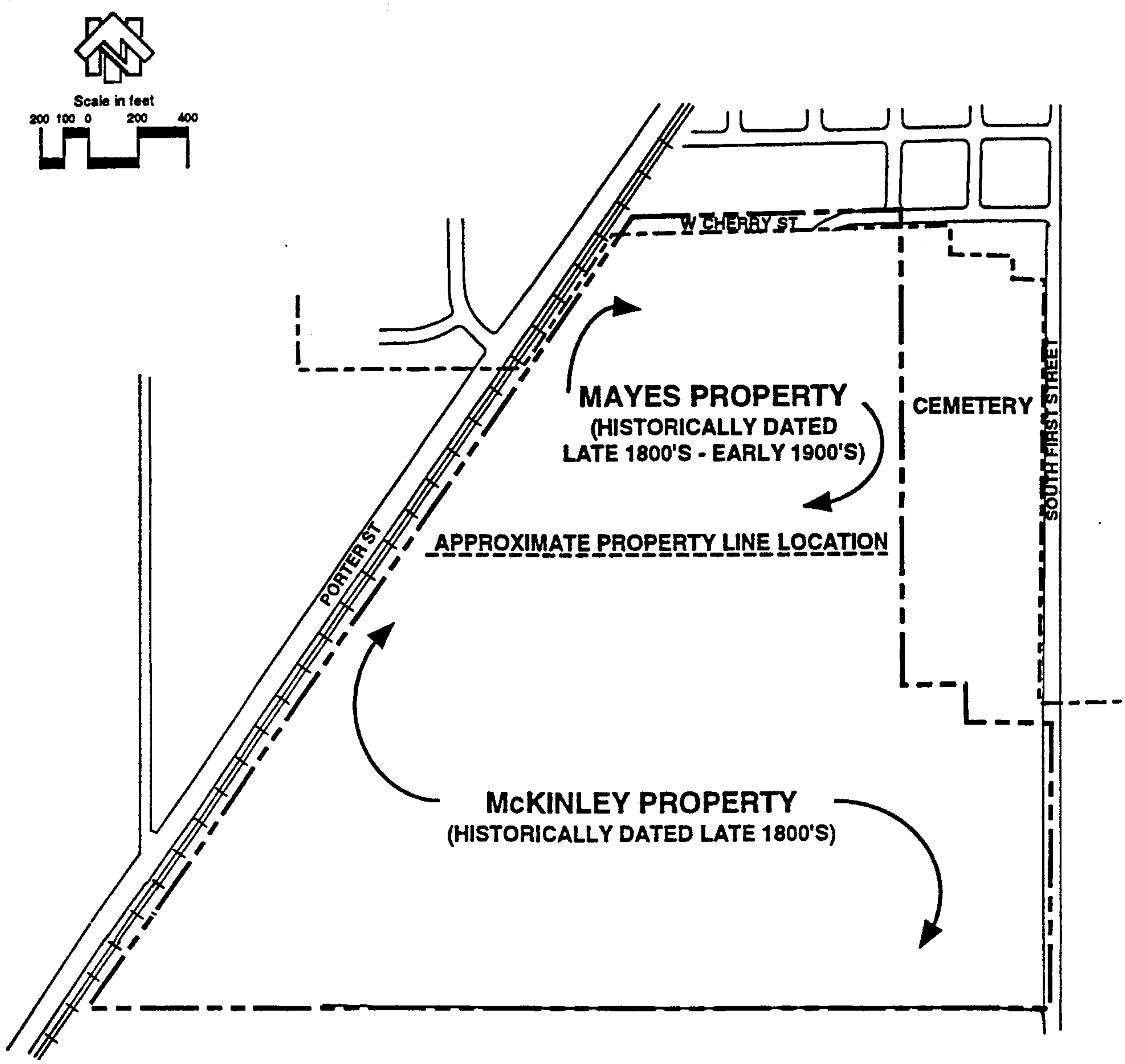
The Historical Atlas Map of Solano County, California (Thompson and West, 1878) identifies a homestead on the Mayes property during the late 1800's. The map depicts the portion of the Mayes property located north of West Cherry Street. According to the Solano Historical Society, the Mayes property extended south to the boundary which is currently identified by the SID easement. In addition, it is recorded that a man by the name of McKinley owned the south portion of Section 23 (Figure 3.14-1). There is no further record of McKinley.

### *Ethnographic Background*

The project site falls within territory commonly attributed to the ethnographic Patwin. The Patwin occupied a strip of land approximately 90 miles long (in a north-south direction) centered on the lower foothills on the eastern slope of the North Coast Range. This strip of land was roughly 40 miles wide and included a portion of the Sacramento River in the northeastern portion of Patwin ethnographic territory. The Patwin, also referred to as the Southern Wintu, belong to the Penutian language family. The use of the terms River and Hill Patwin for the eastern and western populations, respectively, is commonly accepted (PAR, 1991).

How long this group occupied Solano County is undetermined, but artifacts of Stone age men have been found in Green Valley and have been dated as being created during approximately 2000 B.C. (Jordan, 1966). The Patwin at the time the Spanish arrived lived in village sites which had been continually occupied for as long as a thousand years or more. The native flora and fauna provided abundant food with acorns and buckeye balls representing the diet staples. In the distant past the Indians of California had learned to leach the bitterness from acorns and the poison from the buckeye balls. They dug out wildflower bulbs such as common brodiaea and bluebells. Their meat supply consisted of antelope, tule elk, deer, wild ducks and rabbit. A cider was made from manzanita berries.

The Patwin basket art was highly developed and imitated the basket making of the Pomo who lived to the northwest. These stone age men made great use of the rocks of Solano County in the manufacture of their implements. Points and diggers were fashioned from Putman Peak basalts found near Vacaville. Pendants for their shell chains were ground into shape from onyx mined at Tolenas Springs. Scrapers, diggers, and points were made from the jaspers and chalcedonies of the Allendale area. They gathered collections of petrified wood from the same area. The sandstone concretions in the foothills yielded yellow and red ochre for face and body paint while the sandstone boulders were turned into mortars and pestles. From outside the Solano County area they brought obsidian for arrowheads and various kinds of shells for basket decorations and money.




Source: Solano Historical Society
File: Graphics/Southpark Subdiv Maps
Layers: Border/Historical/Base

***City Of Dixon***
***Southpark EIR***

**Historical Depiction of Project Site**

***Figure 3.14-1***

Euroamerican contact with the Patwin began with the arrival of Spanish missionaries and explorers beginning around 1800. By the time of mission secularization in the late 1830s, the native populations were being decimated by introduced Old World diseases (PAR, 1991). Euroamerican influence within Patwin territory increased dramatically as ranching and farming became popular in the area. The Patwin Indians departed from the county over a century ago, but their stone implements are still often found during spring plowing. Many of these implements also lie unmolested in centuries old village mounds like the one at the Pena Adobe (Jordan, 1966).

A field survey of the project site has not been conducted. However, a California Archaeological Inventory database search identified the existence of one prehistoric archaeological site (CA-SOL-264) near the Southpark project site. Described as serrated points, mortar and pestle, the site is located approximately 800 feet east of the project site. An exact location of this prehistoric archaeological site cannot be divulged in order to protect it from damage and trespassing.

### Impact Evaluation Criteria

For the purpose of this document, an impact is considered to be the alteration or destruction of a historic or prehistoric site or resource. Appendix K of the CEQA Guidelines identifies significant impacts on archaeological resources as those actions that will result in disruption of, or adversely affect, a prehistoric or historic archaeological site, a property of historic or cultural significance to a community, ethnic or social group, a paleontological resource, or a local landmark of cultural importance. Appendix K defines an "important archaeological resource" as a resource that:

- is associated with an event or person of;
    1. Recognized significance in California or American history; or
    2. Recognized scientific importance in prehistory.
- can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable historical or archaeological research questions;
- has special or particular quality such as oldest, best example, largest or last surviving example of its kind;
- is at least 100 years old and possesses substantial stratigraphic integrity; or
- involves important research questions that historical research has shown can be answered only with archaeological methods.

A similar set of federal criteria is used to determine eligibility for inclusion in the National Register of Historic Places (36 CFR 800). These legal and professional guidelines, grounded in federal law, are summarized below.

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

- that are associated with events that have made a significant contribution to the broad patterns of our history;
- that are associated with the lives of persons' significant contribution to the broad patterns of our history;
- that embody the distinctive characteristics of a type, period, or method of construction, or that possesses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- that have yielded, or may be likely to yield, information important in prehistory or history.

## Impacts and Mitigation

**Impact:** **Potential Disturbance of Archaeological Resources**

Analysis: Although no archaeological resources have been identified in the project area, the existence of one prehistoric archaeological site (CA-SOL-264) within 800 feet of the area allows the possibility that other prehistoric or historic sites may exist in the area. Therefore, the potential for buried resources to be unearthed or disturbed during the construction phase of the project exists and is a potentially significant impact.

Mitigation: All trenching and excavation associated with the project shall be monitored by an archaeologist. If any buried archaeological resources are discovered during construction activities, all work will be halted in the vicinity of the find in order for the monitoring archaeologist to determine whether the find is an isolated example or part of a more complex resource. Upon determining the significance of the resource, the consulting archaeologist, in coordination with the City, shall determine the appropriate actions to be taken. The appropriate measures may include as little as recording the resource with the California Archaeological Inventory database or as much as excavation, recording, and preservation of sites that have outstanding cultural or historic significance.

Archaeological resources include artifacts of stone, shell, bone, or other natural materials. Associated with artifacts are hearths, house floors, and dumps. Historic artifacts include all byproducts of human use greater than 50 years old. Human burials, if encountered, require notification of the county coroner. Implementation of these mitigation measures would reduce the potential for disturbance to buried archaeological or historic resources to a level that is less than significant.

# 4 CUMULATIVE IMPACTS

This chapter describes changes in the environment which would result from the incremental impacts of the project when added to the effects of other closely related past, present, or reasonably foreseeable future projects. The cumulative impact analysis is based on the assumption that all land uses designated within the City of Dixon General Plan (November, 1993) would be developed to the maximum extent expected under phase 1 of the 1993 General Plan. The General Plan would allow for the development of the following land uses through the year 2010:

- 640 acres of residential uses; and
- 5,600,000 square feet of non-residential uses (i.e., commercial and industrial).

The above non-residential square footage is based on the assumption that 80 percent of existing city land and the Southpark and Southwest annexations, 50 percent of the highway commercial and 30 percent of the industrial commercial in the northwest quadrant would be built out by the year 2010. The environmental impacts associated with build-out of the General Plan are analyzed in the Environmental Assessment (EA) for the City of Dixon General Plan (Duncan and Jones, 1993). The following cumulative impact analysis has been prepared to be consistent with the findings and conclusions of the General Plan EA. Cumulative impacts are identified for each of the issue sections included in Chapter 3 - Environmental Setting, Impacts and Mitigation of this document. Each cumulative impact discussion is followed by a list of mitigation measures recommended to reduce the cumulative impacts to a level that is less than significant. The analysis also identifies impacts for which mitigation measures are not available to reduce the impact to a level that is considered to be less than significant.

**Impact:** **Cumulative Urban Stormwater Runoff Impacts to Surface Water Quality**

Analysis: Cumulative urban development within the City of Dixon General Plan area would increase the level of urban pollutants released to the City's surface water drainage system. These pollutants would enter the DRCD drainage channel system and eventually be released to Haas Slough. As discussed in Section 3.3 - Hydrological Resources, a cumulative increase in urban pollutants entering the City of Dixon drainage system would have the potential to impact water quality in a short segment of Haas Slough west of its juncture with the Reclamation District 2068 V-drain outfall. Degradation of the water quality in this portion of Haas Slough would affect existing riparian and aquatic habitats and could impair other beneficial uses of the water such as irrigation. This impact is considered significant.

Mitigation: The City of Dixon shall implement the water quality monitoring program as detailed in the Final Environmental Impact Report prepared for the Dixon Master Drainage Plan. Surface water quality monitoring data may then be used to assess cumulative water quality impacts and develop appropriate stormwater discharge controls. The project applicant shall contribute a fair share toward the implementation of the City of Dixon water quality monitoring program. This fair share shall be based on the runoff calculations of the Southpark site relative to the total runoff calculations for the City of Dixon. Implementation of these measures would reduce the impact to a level that is less than significant.

**Impact:** **Cumulative Loss of Swainson's Hawk Foraging Habitat**

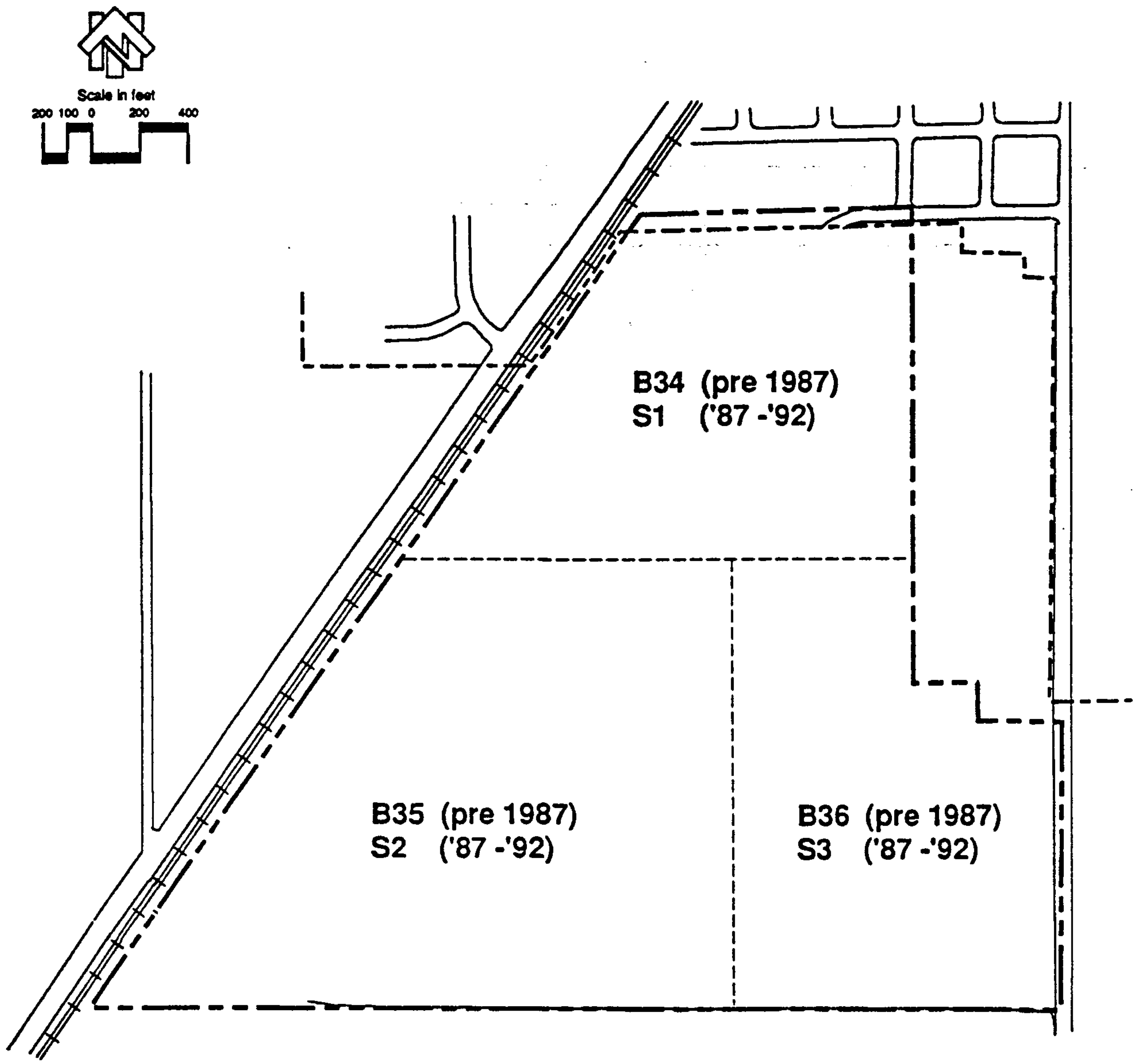
**Analysis:** Swainson's hawk historically occurred in open grassland communities throughout lowland California, but due to agricultural conversion of native habitats, the breeding population of this species declined by an estimated 91 percent by 1980 (Bloom, 1980). The Central Valley population of Swainson's hawk now occurs only where there are compatible agricultural crops that provide foraging habitat, and large trees which provide secure nesting sites. Studies conducted under the supervision of the California Department of Fish and Game (DFG) have demonstrated that field crops such as alfalfa, and row crops such as tomatoes and sugar beets, provide high value foraging habitat for this species.

Recent and increasing development pressure on Central Valley agricultural lands has increased DFG's concern for the long-term preservation and enhancement of Swainson's hawk nest territories in the Central Valley portions of Sutter, Sacramento, Yolo, San Joaquin, and Solano Counties. As a result of this concern, DFG has developed mitigation guidelines that provide a standard response to local agency and private project consultations. Key components of these guidelines include criteria for assessing significant impacts to the species and a goal of maintaining a viable (self-sustaining) breeding population in California. Two fundamental objectives of this goal are the preservation of existing nest sites and the maintenance of sufficient foraging habitat to support successful nesting pairs.

The DFG draft mitigation guidelines (October 1993) have established that significant impacts to Swainson's hawk occur whenever there is a conversion of agricultural land to a use that involves the following: (1) the conversion involves land that has been used to produce an agricultural crop that has foraging habitat value for Swainson's hawk; and (2) the conversion occurs within 10 miles of a current or historic (occupied in any year since 1988) Swainson's hawk nest site.

A review of Solano County Agriculture Commission files indicates that the Southpark site has been involved in the production of alfalfa, tomatoes, wheat, and barley during the last seven years (Table 4-1). The site is comprised of three fields (Figure 4-1) that provide approximately 212.5 acres of foraging habitat for Swainson's hawk.

Since Swainson's hawks are known to be nesting immediately south of the project site (i.e., within a half mile) and elsewhere within 10 miles of the site, development of Southpark would result in the loss of approximately 212.5 acres of foraging habitat for locally nesting Swainson's hawks. This loss of habitat is considered to be a significant, cumulative impact of project development in eastern Solano and southern Yolo Counties.

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Page Q

Source: Solano Co. Agriculture Commissioner
File:Graphics/Southpark Subdiv Maps
Layers: Border/Ag Uses/Base

*City Of Dixon*
*Southpark EIR*

**Agricultural Field Designations**

*Figure*
*4-1*

## Table 4-1

### Agricultural Crops History on the Southpark Site During the Years 1987-1993

| | Field Number | | |
|---|---|---|---|
| **Year** | **S1** | **S2** | **S3** |
| 1987 | Alfalfa | Alfalfa | Alfalfa |
| 1988 | Alfalfa | Alfalfa | Alfalfa |
| 1989 | Alfalfa | Alfalfa | Alfalfa |
| 1990 | Alfalfa | Alfalfa | Alfalfa |
| 1991 | Alfalfa | Alfalfa | Alfalfa |
| 1992 | Barley | Wheat | Barley |
| 1993 | Tomatoes | Tomatoes | Tomatoes |

Source: Harland Bartholomew & Associates, 1994

1 The grower during the years 1986-1992 was Robert Schulze and the fields were identified as fields S1, S2 and S3. In 1993 Holdner Farms was the grower and the three fields were consolidated and identified as field Q.

Mitigation: No disturbance, construction or other project-related activities which may cause abandonment or forced fledgling shall occur within 1/2 mile of the active Swainson's hawk nest located immediately to the south of the Southpark site during March 1 - August 15 or until the fledglings are no longer dependent upon the nest tree.

Alternatively, the applicant shall fund an intensive monitoring program of the nest site by a California Department of Fish and Game-approved raptor biologist to determine if construction or project-related activities are affecting the behavior of the adults or fledglings in such a way that nest abandonment or forced fledgling may occur. Should behaviors be observed that are recognized as preceding nest abandonment or forced fledgling, all construction or project-related activities within a 1/2 mile of the nest shall cease.

The applicant shall also participate in one of the following mitigation programs to reduce the impacts from loss of Swainson's hawk foraging habitat to less than significant.

- The applicant shall prepare a Swainson's Hawk Habitat Management Plan (HMP) as a condition of approval for a California Fish and Game Code Section 2081 Management Agreement that will allow for "incidental take" of Swainson's Hawk habitat.

- Alternatively, the applicant shall join the City of Dixon as a participant in a countywide effort to prepare a Swainson's hawk HMP for a California Fish and Game Code Section 2081 Management Agreement that will comprehensively address the "incidental take" of all Swainson's hawk that would occur as a consequence of the City's project approvals.

**Impact:** **Intersections Meet Peak Hour Warrant for Signalization with Cumulative Traffic**

Analysis: Cumulative traffic volumes without the project are shown in Tables D-4A and D-4B. Cumulative plus project traffic volumes are shown on Tables D-5A and D-5B. Cumulative without project traffic volumes were developed by Dan Takacs at the request of the City of Dixon. Cumulative plus project traffic volumes were obtained from the Hearing General Plan Environmental Assessment for the year 2010. The year 2010 assumptions include complete buildout of the residential uses at Southpark and 80% buildout of the commercial uses. The year 2010 assumptions also included development of a 5 acre site located north of the proposed Southpark commercial site. Consequently, the year 2010 traffic volumes closely resemble those that would be estimated for full development of the Southpark project. As shown in Table 4-2, increased traffic from cumulative growth produces warrants for signalization at study intersections 1, 4, 5, 6, 7, 9, 12, 13, and 14. Study intersections 6, 7, 9, and 14 are associated with I-80 interchanges which will be analyzed in additional studies as defined in the Dixon General Plan Environmental Assessment. This impact is considered to be significant. The remaining intersections that meet the peak hour warrant for signalization with cumulative traffic growth are as follows:

- Intersection 1: First Street/A Street;
- Intersection 4: Pitt School Road/A Street;
- Intersection 5: Evans Road/A Street;
- Intersection 12: First Street/H Street; and
- Intersection 13: First Street/Vaughn Road.

Mitigation: Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of constructing traffic signals at the intersections of First Street/A Street, Pitt School Road/A Street, Evans Road/ A Street, First Street/H Street, and First Street/Vaughn Road. Since signalization and other intersection turn lane improvements have been identified at these locations as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the impact to a level that is less than significant.

**Impact:** **Signalized Intersection Levels of Service Less than D with Cumulative Traffic**

Analysis: Two intersections not associated with I-80 interchanges require additional turn lane capacity as a result of the LOS E and F conditions shown in Table 4-2. These intersections require additional capacity improvements as a result of cumulative and project traffic growth. This impact is considered to be significant. The two intersections are listed as follows:

- Intersection 5: Evans Road/A Street; and
- Intersection 13: First Street/Vaughn Road.

# Table 4-2

## Cumulative Intersection Levels of Service

| No. | N-S Street | E-W Street | Cumulative No Project | | | | | | Cumulative Plus Project | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM Peak Hour | | | PM Peak Hour | | | AM Peak Hour | | | PM Peak Hour | | |
| | | | V/C or MVMNT | LOS | Urban Warrant | V/C or MVMNT | LOS | Urban Warrant | V/C or MVMNT | LOS | Urban Warrant | V/C or MVMNT | LOS | Urban Warrant |
| 1 | First St. | A Street | 0.63 | B | N | 0.76 | C | Y | 0.74 | C | Y | 0.89 | D[1] | Y |
| 2 | Jackson St. | A Street | NBL | C | N | NBL | E | N | NBL | C | N | NBL | E | N |
| 3 | Adams St. | A Street | 0.61 | B | na | 0.73 | C | na | 0.63 | B | na | 0.74 | C | na |
| 4 | Pitt School | A Street | 0.60 | B | Y | 0.78 | C | Y | 0.62 | B | Y | 0.81 | D | Y |
| 5 | Evans Rd. | A Street | 0.86 | D | Y | 1.22 | F | Y | 0.88 | D | Y | 1.34 | F[2] | Y |
| 6 | Batavia | Dixon Rd | 1.37 | F | Y | 1.83 | F | Y | 1.38 | F | Y | 1.96 | F[3] | Y |
| 7 | Batavia | I-80 EB Ramps | 1.24 | F | Y | 1.71 | F | Y | 1.26 | F | Y | 1.81 | F[3] | Y |
| 8 | Schroeder | I-80 WB Ramps | 0.73 | C | N | 0.82 | D | N | 0.70 | C | N | 0.82 | D[3] | N |
| 9 | Schroeder | Dixon Rd | 1.94 | F | Y | 2.13 | F | Y | 2.09 | F | Y | 2.19 | F[3] | Y |
| 10 | Highway 113 | Midway | WBL | A | N | EBL | A | N | WBL | A | N | EBL | A | N |
| 11 | First St. | W. Cherry | EBL | A | N | EBL | B | N | EBL | C | N | EBL | C | N |
| 12 | First St. | H Street | 0.63 | B | Y | 0.80 | C | Y | 0.66 | B | Y | 0.85 | D[4] | Y |
| 13 | First St. | Vaughn Rd | 0.76 | C | Y | 0.93 | E | Y | 0.76 | C | Y | 0.96 | E[5] | Y |
| 14 | First St. | I-80 EB Ramps | 2.79 | F | Y | 1.87 | F | Y | 2.80 | F | Y | 1.94 | F[3] | Y |
| 15 | Pitt School | Porter Rd. | EBL | A | N | WBL | A | N | EBL | A | N | WBL | A | N |
| 16 | Pitt School | Parkway Blvd. | WBL | A | N | WBL | A | N | WBL | A | N | WBL | A | N |
| 17 | Village Pkwy. West | Parkway Blvd. | na | na | na | na | na | na | SBL | A | N | SBL | A | N |
| 18 | Village Pkwy. East | Parkway Blvd. | na | na | na | na | na | na | SBL | A | N | SBL | A | N |
| 19 | First St. | Parkway Blvd. | na | na | na | na | na | na | EBL | A | N | EBL | A | N |
| 20 | First St. | Village Pkwy. | na | na | na | na | na | na | EBL | A | N | EBL | A | N |

MVMNT The turn movement at the intersection with the worst LOS
NBL Northbound left
WBL Westbound left
EBL Eastbound left
SBL Southbound left

1 LOS D with signalization.
2 LOS D with signalization, second WBL, separate NBR, second EBT, and separate EBL turn lanes.
3 Future interchange requirements to be determined as part of additional studies.
4 LOS D with signalization.
5 LOS D with signalization, second EBL turn lane.

Intersection 5: Evans Road/A Street. This intersection would operate at LOS D during the a.m. peak hour and LOS F during the p.m. peak hour assuming the existing intersection design with the North First Street Improvements is maintained.

Intersection 13. First Street/Vaughn Road: This intersection would operate at LOS C during the a.m. peak hour and LOS E during the p.m. peak hour based on existing intersection configurations with the North First Street Improvements.

Mitigation: The following mitigation measures would reduce identified intersection level of service impacts so that they would meet the LOS D criteria for signalized intersections. The improved intersection configurations are shown in Figure 4-2.

Intersection 5: Evans Road/A Street. The intersection would operate at LOS B (V/C=0.68) during the a.m. peak hour and LOS C (V/C=0.78) during the p.m. peak hour with the following intersection design:

- northbound approach - - one exclusive left turn lane, one exclusive through lane and one exclusive right turn lane;
- southbound approach - - one exclusive left turn lane, one exclusive through lane and one exclusive right turn lane;
- eastbound approach - - one exclusive left turn lane, two exclusive through lanes and one exclusive right turn lane; and
- westbound approach - - two exclusive left turn lanes, one exclusive through lane and one shared through/right turn lane.

Intersection 13: First Street/Vaughn Road. The provision of a second left turn lane at the eastbound intersection approach would result in LOS C (V/C = 0.77) operations during the a.m. peak hour and LOS D (V/C = 0.86) operations during the p.m. peak hour. This improvement is required as mitigation that is additional to the planned North First Street Improvements.

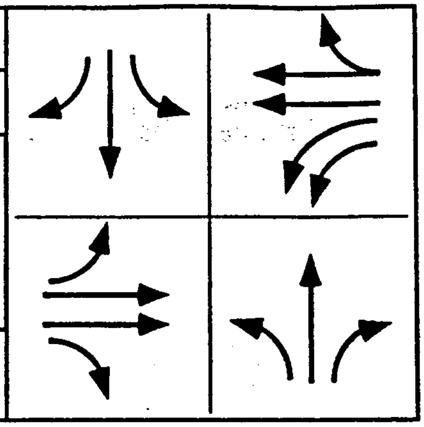
In summary, project cumulative mitigation measures are listed below and can be implemented via application of the following mitigation measure discussion. Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of constructing the following improvements. Since these intersection turn lane improvements have been identified as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the impact to a level that is less than significant.

- Construction of a separate left turn lane eastbound and westbound at the First Street/A Street intersections.
- Construction of an additional left turn lane westbound for a total of two left turn lanes, a separate right turn lane northbound, a separate left turn lane eastbound and a second through lane eastbound at the Evans Road/A Street intersection;
- Construction of a separate right turn lane eastbound at the First Street/H Street intersection; and
- Construction of a second left turn lane eastbound at the First Street/Vaughn Road intersection.

**Intersection:** 5

**Control:** Minor Street Stop

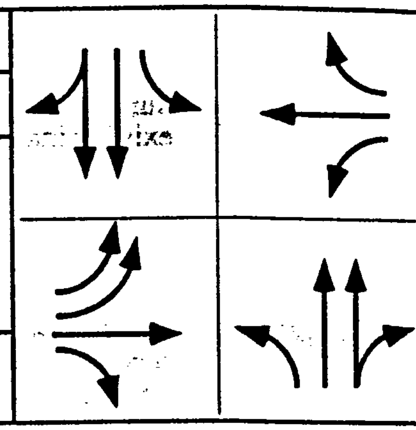
Evans Road
and
A Street



**Intersection:** 13

**Control:** Minor Street Stop

First Street
and
Vaughn Road





## Cumulative Intersection Configurations

*Figure 4-2*

**Impact:** **Interchange Level of Service Less than D with Cumulative Traffic**

Analysis: Study intersections 6, 7, 8, 9 and 14 are associated with interchanges at I-80. These locations are estimated to reach LOS E and F conditions as a result of increased traffic from cumulative traffic. This impact is considered to be significant.

Mitigation: Although specific interchange details have not been developed at this time, the City of Dixon acknowledges that additional studies of future interchange requirements are needed. To serve the projected year 2010 traffic volumes, each interchange would require additional capacity including reconstruction of the interchange, grade separations and, in some cases, reconfiguration of the interchange ramps. Detailed design studies that evaluate alternative interchange concepts should be performed in coordination with Caltrans to establish long-range designs for the interchanges. Right-of-way requirements should be established at the earliest possible time to provide a basis for preserving additional right-of-way that may be necessary.

Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of improving the I-80 interchanges. Since these improvements were acknowledged as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the impact to a level that is less than significant.

**Impact:** **Unsignalized Intersection Level of Service Less than E with Cumulative Traffic**

Analysis: The intersection of Jackson Street/A Street would not warrant signalization by year 2010 based on the projected traffic volumes. Operated as a two-way stop controlled intersection, the northbound approach to the intersection would operate at LOS E during the PM peak hour. This remains within the level of service criteria (LOS E) for unsignalized intersections and requires no mitigation. This impact is considered to be less than significant.

Mitigation: No mitigation is required.

**Impact:** **Street Segment Level of Service Less than D with Cumulative Traffic**

Analysis: Table 4-3 shows the year 2010 a.m. and p.m. peak hour levels of service for the mid-block street segments. Existing intersections geometrics were utilized to determine the capacity of each street segment with the exception of First Street between H Street and I-80. The widening of North First Street from H Street to I-80 was assumed and intersection geometrics currently proposed for the First Street improvement were assumed (four travel lanes with left turn lanes).

Traffic operations at several locations on the Dixon road network are forecast to deteriorate to unacceptable conditions by year 2010 with Cumulative traffic volumes. LOS F operations are forecast at the four primary I-80 interchanges (Pedrick Road, SR 113, Pitt School and Dixon Avenue) that serve Dixon. The street segments serving the approaches to the interchanges are also forecast to exceed the LOS D threshold in the year 2010. This impact is considered to be significant.

Mitigation: To provide acceptable street segment levels of service, the following mitigation measures are recommended:

- A Street east of Pitt School Road widening to 2 minor arterial travel lanes in each direction;
- Dixon Avenue widening to 3 major arterial travel lanes in each direction from I-80 to Pitt School Road; and
- Batavia Road widening to 2 minor arterial travel lanes in each direction from Dixon Avenue to South of the I-80 ramp.

Prior to issuance of a building permit, the project proponent shall pay a fair share of the cost of these road widenings. Since these roadway improvements have been identified at these locations as part of the traffic analysis for the General Plan, this mitigation may be satisfied as a result of project participation in the transportation financing plan described in the Transportation and Circulation chapter of the General Plan. It should be noted, that this latter financing plan has not yet been developed. Implementation of these measures would reduce the impact to a level that is less than significant.

## Table 4-3

Cumulative Plus Project Street Segment Levels of Service

| Road Segment | Travel Direction | Travel Lanes | Capacity | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Vol | V/C | LOS | Vol | V/C | LOS |
| 1 | NB | 2 | 1,600 | 409 | 0.26 | A | 625 | 0.39 | A |
| | SB | 2 | 1600 | 389 | 0.24 | A | 679 | 0.42 | A |
| 2 | NB | 1 | 800 | 378 | 0.47 | A | 223 | 0.28 | A |
| | SB | 1 | 800 | 143 | 0.18 | A | 417 | 0.52 | A |
| 3 | EB | 1 | 800 | 689 | 0.86 | D | 1,381 | 1.73 | F |
| | WB | 2 | 1,600 | 828 | 0.52 | A | 1,198 | 0.75 | C |
| 4 | EB | 1 | 800 | 515 | 0.64 | B | 813 | 1.02 | F |
| | WB | 1 | 800 | 439 | 0.55 | A | 770 | 0.96 | E |
| 5 | NB | 1 | 1,000 | 505 | 0.51 | A | 551 | 0.55 | A |
| | SB | 1 | 1,000 | 346 | 0.35 | A | 698 | 0.70 | B |
| 6 | NB | 1 | 1,000 | 604 | 0.60 | A | 511 | 0.51 | A |
| | SB | 1 | 1,000 | 280 | 0.28 | A | 703 | 0.70 | B |
| 7 | EB | 1 | 800 | 363 | 0.45 | A | 501 | 0.63 | B |
| | WB | 1 | 800 | 398 | 0.50 | A | 498 | 0.62 | B |
| 8 | EB | 1 | 800 | 474 | 0.59 | A | 433 | 0.54 | A |
| | WB | 1 | 800 | 344 | 0.43 | A | 475 | 0.59 | A |

## Table 4-3 (Continued)

Cumulative Plus Project Street Segment Levels of Service

| Road Segment | Travel Direction | Travel Lanes | Capacity | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Vol | V/C | LOS | Vol | V/C | LOS |
| 9 | NB | 2 | 2,000 | 1,012 | 0.51 | A | 1,556 | 0.78 | C |
| | SB | 2 | 2,000 | 1,406 | 0.70 | B | 1,268 | 0.63 | B |
| 10 | NB | 2 | 2,000 | 928 | 0.46 | A | 1,106 | 0.55 | A |
| | SB | 2 | 2,000 | 859 | 0.43 | A | 1,178 | 0.59 | A |
| 11 | EB | 1 | 800 | 741 | 0.93 | E | 1,523 | 1.90 | F |
| | WB | 2 | 1,600 | 984 | 0.62 | B | 744 | 0.47 | A |
| 12 | EB | 1 | 800 | 1,258 | 1.57 | F | 2,380 | 2.98 | F |
| | WB | 2 | 1,600 | 1,807 | 1.13 | F | 1,676 | 1.05 | F |
| 13 | EB | 1 | 800 | 1,562 | 1.95 | F | 1,838 | 2.30 | F |
| | WB | 1 | 800 | 1,592 | 1.99 | F | 1,584 | 1.98 | F |
| 14 | NB | 1 | 800 | 718 | 0.90 | D | 1,560 | 1.95 | F |
| | SB | 1 | 800 | 1,237 | 1.55 | F | 1,110 | 1.36 | F |
| 15 | NB | 1 | 800 | 645 | 0.81 | D | 1,088 | 1.36 | F |
| | SB | 1 | 800 | 983 | 1.23 | F | 886 | 1.11 | F |
| 16 | EB | 1 | 800 | 52 | 0.07 | A | 83 | 0.10 | A |
| | SB | 1 | 800 | 92 | 0.12 | A | 83 | 0.10 | A |
| 17 | NB | 1 | 800 | 109 | 0.14 | A | 175 | 0.22 | A |
| | SB | 1 | 800 | 149 | 0.19 | A | 161 | 0.20 | A |
| 18 | EB | 1 | 800 | 82 | 0.10 | A | 34 | 0.04 | A |
| | WB | 1 | 800 | 24 | 0.03 | A | 82 | 0.10 | A |
| 19 | EB | 1 | 800 | 31 | 0.04 | A | 23 | 0.03 | A |
| | WB | 1 | 800 | 183 | 0.23 | A | 57 | 0.07 | A |

**Source:** City of Dixon Environmental Assessment of the Hearing General Plan, October 29, 1993

**Impact:** **Generation of Carbon Monoxide Emissions From Cumulative Plus Project-Induced Motor Vehicle Traffic**

Table 4-4 shows estimated CO concentrations for cumulative plus project conditions at the intersection of First Street/A Street. CO concentrations are estimated at 2.4 ppm, below the 20.0 ppm state standard. Therefore, this impact is considered to be less than significant.

## Table 4-4

Cumulative Peak Hour Carbon Monoxide Analysis
at First Street/A Street Intersection

| Alternative | Concentration (ppm) |
|---|---|
| Cumulative | 2.4 |

Source: Harland Bartholomew & Associates, 1994

ppm: parts per million

Mitigation: No mitigation is required.

**Impact: Generation of Ozone Precursor Emissions with Cumulative Growth**

Analysis: Cumulative growth in Solano County, the City of Dixon, the Southpark project, as well as growth in the San Francisco Bay Area, would significantly contribute to the overall ozone levels in the City of Dixon. The primary source of this pollution would be increased vehicular traffic that generates hydrocarbon and nitrogen oxide emissions. Cumulative increases in ozone precursor emissions and the general issue of regional growth effects on ozone formation are the responsibility of the Yolo-Solano AQMD. In the future, technological, social, or economic factors may create conditions in which motor vehicle emissions are drastically reduced with a corresponding reduction in regional ozone levels. However, assuming these factors do not affect ozone creation and formation, the impact would remain at significant levels.

Mitigation: As part of project development, Southpark shall include on-site amenities that promote use of forms of transportation that are alternatives to the use of the automobile. Such amenities include bicycle parking spaces at the multi-family and commercial sites, and adequate road width for on-street bicycle lanes off-street bike paths.

The City of Dixon shall implement the Circulation Plan contained in the Dixon General Plan to provide adequate traffic circulation in order to reduce congestion and air emissions.

Prior to issuance of any tract of a parcel map, the project proponent shall dedicate the necessary right-of-way for a future bus turn out southbound on the First Street project frontage. The City of Dixon shall coordinate with the project proponent regarding the specific location and design requirements.

These mitigation measures would lessen the impact, but would not reduce the impact to less than significant, Therefore, the impact would remain significant and unavoidable.

**Impact: Cumulative First Street and Parkway Boulevard Traffic Noise Effects**

Analysis: Noise level estimates on Parkway Boulevard and First Street for cumulative plus project traffic are similar to noise levels estimated for existing plus project traffic.

Traffic volume estimates on First Street for cumulative conditions show only a small increase in daily traffic volume over and above the volume of traffic estimated for existing plus project traffic. This small increase is due to the extension of Parkway Boulevard. With Parkway Boulevard extended to Pitt School Road from First Street, some Southpark traffic would be diverted away from First Street, thereby reducing the project share of traffic on this roadway. The net affect of this reduction on the cumulative traffic increase is an increase in daily traffic on First Street of approximately 200 vehicles. Estimated noise levels for cumulative plus project traffic result in an Ldn of 68.1 dB at 50 feet from the centerline of First Street. Existing plus project traffic noise are estimated to be 68.0 dB at 50 feet from the centerline. The difference in noise impacts is therefore minimal. Consequently, cumulative impacts associated with noise on First Street would be mitigated by measures required to address other project related noise impacts. Assuming other noise mitigation measures are implemented, no additional mitigation would be required.

Similarly, traffic noise conditions on Parkway Boulevard do not differ from those in the project analysis. Due to the low number of vehicles projected on Parkway Boulevard, even with its connection to Pitt School Road, the estimated Ldn noise contour for 60 dB remains less than 50 feet from the centerline of Parkway Boulevard. Consequently, cumulative noise impacts on Parkway Boulevard would also be mitigated by measures required to address other project related noise impacts. Cumulative noise impacts on First Street and Parkway Boulevard are therefore considered to be less than significant.

Mitigation: No mitigation is required.

**Impact: Cumulative Increases in Wastewater Generation**

Analysis: At year 2010 build-out of the 1993 City of Dixon General Plan, a total of 2.0 mgd of wastewater would be generated. This estimate is based on per capita wastewater generation rates used in Section 3.11 - Public Services and Utilities. Wastewater generated by Southpark would comprise 0.28 mgd of this total. With expansion of the City of Dixon Wastewater Treatment Plant (WWTP), the projected capacity of the facility through 2007 will be 1.9 mgd. Thus, the WWTP will not have sufficient capacity to accommodate wastewater generated by Southpark and other new development within the City of Dixon Planning Area through the year 2010. This impact is considered to be significant.

Mitigation: The City of Dixon shall ensure that the capacity of the WWTP is expanded concurrently with development of urban land uses in the Dixon Planning Area. The project applicant shall pay a fair share toward these expansion costs. This fair share shall be based on the percentage of additional wastewater generated by the developed portion of Southpark relative to the total amount of wastewater generated by new development. Implementation of these measures would reduce the impact to a level that is less than significant.

**Impact: Cumulative Increase in Solid Waste Disposal to B&J Landfill**

Analysis: Urban land uses of the City of Dixon General Plan would increase the rate of solid waste disposal to the B&J Landfill to 55.9 tons per day, or approximately 20,400 tons per year. This estimate is based on per capita solid waste generation rates used in Section 3.11 - Public Services and Utilities. Southpark would contribute approximately 2,940 tons of solid waste per year to this total. The City has been guaranteed capacity at the B&J Landfill until 1999 (an agreement which takes into account the anticipated growth of the City through 1999). However, solid waste generated within the City of Dixon between the year 1999 and 2010 would potentially exceed the capacity of the B&J Landfill. This impact is considered to be potentially significant.

Mitigation: The City of Dixon shall negotiate an agreement with the B&J Landfill, or another appropriate solid waste disposal facility, to ensure capacity for solid waste disposal is adequate for the development of urban land uses in the Dixon Planning Area through the year 2010. The project applicant shall contribute a fair share toward any expansion costs that may occur. This fair share shall be based on the percentage of additional solid waste generated by the developed portion of Southpark relative to the total amount of solid waste generated by new development. Implementation of these measures would reduce the impact to a level that is less than significant.

**Impact: Cumulative Increase in the Jobs/Housing Imbalance**

Analysis: The City of Dixon currently maintains a jobs/housing imbalance due to the lack of employment opportunities and its prime location to serve as a bedroom community for the San Francisco Bay Area. By extrapolating from the ABAG employment estimates in Projections 92, the jobs/housing ratio as of January 1, 1993 was 0.98 (3,834 jobs ÷ 3,911 housing units) or less than 1 job for each housing unit. The proposed Southpark Planned Development would provide a small commercial center that would provide a maximum of 172 peak period employees (based on 750 square feet of net site area per peak period employee). The commercial center would provide only a small number of jobs that would allow residents to buy a home in the surrounding community. Given the 951 to 964 new dwelling units which would be developed by the project, Southpark would add to the current jobs/housing imbalance. However, when the Projections 92 estimate of jobs and housing units in the year 2010 are compared, the jobs/housing ratio increases to 1.12 (7,580 jobs ÷ 6,775 housing units). It is the cumulative jobs/housing ratio that is important to the City of Dixon, rather than the individual contribution of any single project. Because the jobs/housing ratio is projected to increase, this impact is considered to be less than significant.

Mitigation: No mitigation is required.

# 5 ALTERNATIVES ANALYSIS

## 5.1 INTRODUCTION

The following alternatives analysis provides a qualitative assessment of the significant environmental impacts associated with development of the Southpark Planned Development and each of the identified project alternatives. The project alternatives which are analyzed in relation to the proposed Southpark Planned Development are as follows:

- No Project Alternative;
- Reduced Density Development Alternative; and
- Increased Density Development Alternative.

A complete description of each alternative can be found in Chapter 2 - Project and Alternatives Descriptions.

Table 5-1 illustrates the relative level of significance of each impact with respect to the magnitude of impact that would be expected to occur if the Southpark Planned Development was developed. Each significant impact identified in Chapter 3 - Environmental Settings, Impacts and Mitigation and Chapter 4 - Cumulative Impacts of this document has been listed in Table 5-1, followed by an entry which identifies the relative magnitude of the impact that is anticipated to occur due to the development alternative. Table 5-1 thus facilitates a comparison between the levels of environmental impact associated with each project alternative and the proposed project.

**Table 5-1**

Comparative Alternatives Analysis

| Impact Statement | No Project Alternative | Reduced Density Development Alternative | Increased Density Development Alternative |
|---|---|---|---|
| **Soils and Geology** | | | |
| High Potential for Shrink/Swell of On-site Soils | | 0 | 0 |
| Erosion of Soils as a Result of Construction Activities | - | 0 | 0 |
| Permanent Disruption, Displacement, Compaction and Overcovering of On-site Soils | - | - | + |
| **Hydrology and Drainage** | | | |
| Increased Runoff Due to the Creation of Impervious Surfaces | - | - | + |
| Addition of Urban Pollutants to Surface Runoff | - | - | + |
| Contamination of Groundwater from Urban Surface Water Pollutants | - | - | + |

+ This alternative has a substantially greater impact than the Southpark Planned Development.
\- This alternative has a substantially lesser impact than the Southpark Planned Development.
0 There is no substantial difference between the level of impact associated with Southpark and this alternative.

## Table 5-1 (Continued)

### Comparative Alternatives Analysis

| Impact Statement | No Project Alternative | Reduced Density Development Alternative | Increased Density Development Alternative |
|---|---|---|---|
| **Wildlife** | | | |
| Potential Loss of Burrowing Owls and Burrowing Owl Habitat | - | 0 | 0 |
| **Traffic and Circulation** | | | |
| Intersection Meets Peak Hour Warrant for Signalization | - | 0 | 0 |
| Signalized Intersection Level of Service Less than D | - | 0 | 0 |
| Unsignalized Intersections Level of Service Less than E | - | 0 | 0 |
| Street Segment Level of Service Less than D | - | 0 | 0 |
| **Air Quality** | | | |
| Generation of Construction Related Air Pollutant Emissions | - | 0 | 0 |
| Generation Of Long-Term $PM_{10}$ Emissions | - | 0 | 0 |
| Generation of Ozone Precursor Emissions | - | 0 | 0 |
| **Noise** | | | |
| First Street Traffic Noise Effects on Southpark Multi-Family Residential Uses | - | 0 | 0 |
| Railroad Noise Effects on Southpark Single-Family Residential Uses | - | 0 | 0 |
| **Land Use** | | | |
| Project Consistency with General Plan and Zoning Designations | - | 0 | 0 |
| Conversion of 212.5 Acres of Prime Farmland to Non-agricultural Uses | - | 0 | 0 |
| Cancellation of a 212.5-acre Williamson Act Contract | - | 0 | 0 |
| Conflicts Between Southpark Land Uses and Adjoining Agricultural Uses | - | 0 | 0 |
| Conflicts Between Proposed Development and Existing SID Easements | - | 0 | 0 |
| Conflicts Between Proposed Development and Existing Mineral Rights Easements | - | 0 | 0 |
| **Public Services and Utilities** | | | |
| Increased Demand for Water | - | - | + |

+ This alternative has a substantially greater impact than the Southpark Planned Development.
- This alternative has a substantially lesser impact than the Southpark Planned Development.
0 There is no substantial difference between the level of impact associated with Southpark and this alternative.

## Table 5.1-1 (Continued)

### Comparative Alternatives Analysis

| Impact Statement | No Project Alternative | Reduced Density Development Alternative | Increased Density Development Alternative |
|---|---|---|---|
| Increased Demand for Police Services | - | - | + |
| Increased Demand for Fire Protection Services | - | - | + |
| Increased Demand for School Services | - | - | + |
| **Human Health and Safety** | | | |
| Exposure of Southpark Population to Localized Flooding | - | 0 | 0 |
| Exposure of Southpark Population to Seismic Hazards | - | - | + |
| Exposure of Southpark Population to Hazardous Chemicals | - | - | + |
| **Visual Resources** | | | |
| Replacement of Open Space With Urban Land Uses | - | 0 | 0 |
| **Cultural Resources** | | | |
| Potential Disturbance of Archaeological Resources | - | 0 | 0 |
| **Cumulative Impacts** | | | |
| Cumulative Urban Stormwater Runoff Impacts to Surface Water Quality | - | 0 | 0 |
| Cumulative Loss of Swainson's Hawk Foraging Habitat | - | 0 | 0 |
| Intersections Meet Peak Hour Warrant for Signalization with Cumulative Traffic | 0 | 0 | 0 |
| Signalized Intersection Level of Service Less than D with Cumulative Traffic | 0 | 0 | 0 |
| Interchange Level of Service Less than D with Cumulative Traffic | 0 | 0 | 0 |
| Unsignalized Intersection Level of Service Less than E with Cumulative Traffic | 0 | 0 | 0 |
| Street Segment Level of Service Less than D with Cumulative Traffic | 0 | 0 | 0 |
| Traffic Noise Levels on First Street and Parkway Boulevard with Cumulative Growth | - | 0 | 0 |
| Cumulative Increases in Wastewater Generation | - | 0 | 0 |
| Cumulative Increase in Solid Waste Disposal to B&J Landfill | - | 0 | 0 |

Source: Harland Bartholomew & Associates, 1994

+ This alternative has a substantially greater impact than the Southpark Planned Development.
- This alternative has a substantially lesser impact than the Southpark Planned Development.
0 There is no substantial difference between the level of impact associated with Southpark and this alternative.

## 5.2 NO PROJECT ALTERNATIVE

The No Project Alternative assumes the project site would remain undeveloped and would continue to support land uses allowed under the existing Solano County General Plan designation of Extensive Agriculture. The Solano County zoning for the site is A-40, indicating a minimum parcel size of 40 acres. Land uses allowed under the existing zoning include one single-family residence per parcel, accessory farm buildings, and processing of agricultural products produced on-site. A variety of other rural land uses, including farm laborer housing, are allowed in this zoning district, but are subject to a conditional use permit. Although the 212.5 acre property is currently zoned for 40-acre minimum parcels, subdivision of the land would require the discretionary approval of a tentative map. Therefore, the analysis of the No Project Alternative assumes that the property would remain under one ownership and, as such, only one single-family residence would be permitted on-site.

Soils and hydrology impacts associated with development of Southpark would be significantly reduced under the No Project Alternative. The agricultural zoning district significantly limits the amount of construction that can occur on-site. Therefore, significant impacts associated with extensive grading and construction would not occur. Soils and hydrology impacts which would be substantially reduced due to the existing construction limitations include the following:

- Erosion of Soils as a Result of Construction Activities;
- Permanent Disruption, Displacement, Compaction and Overcovering of On-Site Soils;
- Increased Runoff Due to the Placement of Impervious Surfaces;
- Addition of Urban Pollutants to Surface Runoff; and
- Contamination of Groundwater from Urban Surface Water Pollutants.

The No Project Alternative assumes that agricultural production would continue at the Southpark site. Thus, adoption of the No Project Alternative would not result in the conversion of Prime Farmland to non-agricultural land uses. Continued agricultural use of the project site would also eliminate the potential for land use conflicts with surrounding agricultural properties and with existing property easement holders.

With a maximum buildout of only one-single family residence, project-related traffic and circulation impacts resulting from additional daily and peak hour vehicle trips would be significantly reduced under the No Project Alternative. Existing levels of service at signalized and unsignalized intersections would decrease, but only with cumulative effects of other projects. Existing street segment levels of service would be affected similarly. Additionally, because site-related vehicle trips would be limited to those generated by one single-family residence, there would be no appreciable increases in ozone precursor, carbon monoxide and $PM_{10}$ emissions generated by project-related motor vehicle traffic. With only minimal additional construction allowed at the project site, construction related air pollutant emissions and noise impacts associated with construction and increased motor vehicle traffic would also be significantly reduced.

As previously stated, a maximum of one-single family residence may be constructed under the No Project Alternative. Additionally, farm laborer housing may be constructed under a conditional use permit. Construction of housing units at the Southpark site, as permitted under the existing land use regulations, would result in minimal growth of the City of Dixon population. However, the number of housing units permitted at the Southpark site under the No Project Alternative would significantly affect the City of Dixon's overall need for affordable housing.

With the limited population growth projected under the No Project Alternative, there would be no expected additional demand for public services and facilities at the project site. No substantial increase in the demand for water, wastewater, solid waste disposal, police services, fire protection services, schools, park and recreation services, or natural gas and electricity would also be anticipated.

Adoption of the No Project Alternative would also significantly reduce impacts to public health and safety, visual resources, wildlife resources, and cultural resources. Public exposure to flooding, seismic, and hazardous chemical safety hazards would be reduced since only a small population increase could occur under the existing zoning, whereas Southpark would be associated with a projected 2,891 to 2,931 new residents. The potential for improper disposal of hazardous chemicals would also be reduced in proportion to the reduction in projected population at the site. The visual character of the site would remain essentially unchanged, and potential sources of night lighting and glare would be significantly reduced with the existing limitations on allowable development. Under the No Project Alternative the site would remain in agricultural production and would be expected to continue to provide foraging habitat for local nesting pairs of Swainson's hawks. The potential for disturbance of buried archaeological or historical resources would also be significantly reduced as a result of existing construction limitations.

## 5.3 REDUCED DENSITY DEVELOPMENT ALTERNATIVE

The Reduced Density Development Alternative would include development of the same land uses proposed by the Southpark Planned Development with the exception that all manor home residential and single family residential densities greater than four dwellings unit per acre (RD-4) would be replaced by single family residential densities of four dwelling units per acre (RD-4). A total of 747 residential units would be developed, along with 16.4 acres of parks, 4.3 acres of landscape corridors, 12.5 acres of schools, and 8.8 acres of major streets.

With fewer residential units, the Reduced Density Development Alternative would reduce the amount of surface grading and construction activities that would occur at the site. Soils impacts associated with soil displacement and overcovering would therefore be reduced. A reduction in residential construction would also reduce potential sources of urban pollutants which may contaminate surface water and groundwater. It should be noted however, that soils and hydrology impacts that would occur due to the Reduced Density Alternative may not be substantially different from those impacts which would occur due to the Southpark project. The following summary lists those soils and hydrology impacts that would be reduced under the Reduced Density Development Alternative:

- Erosion of Soils as a Result of Construction Activities;
- Permanent Disruption, Displacement, Compaction and Overcovering of On-site Soils;
- Increased Runoff Due to the Placement of Impervious Surfaces;
- Addition of Urban Pollutants to Surface Runoff; and
- Contamination of Groundwater from Urban Surface Water Pollutants.

Although fewer residential units would be constructed on-site, the Reduced Density Development Alternative would effectively preclude the continuation of agricultural production at Southpark. Therefore, this alternative would result in the conversion of 212.5-acres of Prime Farmland to non-agricultural land uses and the potential cancellation of a Williamson Act contract. This alternative maintains the distribution of residential land uses proposed by Southpark, and thus fails to eliminate the potential for land use conflicts associated with the placement of residential land uses adjacent to on-going agricultural operations. The Reduced Density Development Alternative also fails to reduce the potential for land use conflicts with the existing SID and mineral rights easements holders.

Under the Reduced Density Development Alternative, project-related daily and peak hour vehicle trips would be reduced from the proposed project as a result of a smaller buildout population at

Southpark. Fewer vehicle trips would reduce level of service impacts at signalized and unsignalized intersections and along mainline street segments. In addition, air quality and noise impacts associated with increased vehicle trips, including generation of ozone precursor, carbon monoxide and $PM_{10}$ emissions as well as increased traffic noise, would also be reduced under this alternative. Construction related air pollutant emissions and noise impacts would be reduced in proportion to the proposed reduction in site construction activities.

Approximately 747 new residential units would be added to the City of Dixon under the Reduced Density Development Alternative. This rate of residential construction would be consistent with the 1993 City of Dixon General Plan and the growth restrictions of Measure B. Thus, development of the Reduced Density Development Alternative would not result in significant population and housing impacts.

The Reduced Density Development Alternative would result in fewer projected residents at the Southpark site. This reduction in the project population would correlate with a proportional reduction in the demand for public services and facilities. The Reduced Density Development Alternative would also significantly reduce the demand for the following public services and facilities: water, wastewater, solid waste disposal, police services, fire protection services, schools, park and recreation services, and natural gas and electricity.

With a lower projected population, the Reduced Density Development Alternative would expose fewer residents to significant public health and safety hazards such as seismic activity and hazardous chemicals. The reduced number of residents that are potentially exposed to hazards is considered significant. Lower levels of residential construction would also reduce potential impacts to visual resources. However, the visual character of the site would continue to be dominated by residential structures, landscaping and associated facilities. A similar potential to unearth buried archaeological or historic resources would also be anticipated.

## 5.4 INCREASED DENSITY DEVELOPMENT ALTERNATIVE

The Increased Density Development Alternative would include the same land uses proposed by the Southpark Planned Development with the exception that all single family residential densities less than seven dwelling units per acre (RD-7) would be replaced by single family residential densities of seven dwelling units per acre RD-7, with the exception that 6.0 acres of RD-5 sited adjacent to Silveyville Cemetery would be increased to multi-family residential at 20 dwelling units per acre. The manor home residential and orchard lot residential would be maintained as in the Southpark Planned Development. A total of 1200 residential units would be developed, along with 16.4 acres of parks and parkways, 4.3 acres of landscape corridors, 12.5 acres of schools, and 8.8 acres of major streets.

Additional residential construction which would occur under the Increased Density Development Alternative would have the effect of increasing soils and hydrology impacts associated with grading and construction activities. These impacts include the following:

- Permanent disruption, displacement, compaction and overcovering of on-site soils;
- Increased runoff due to the placement of impervious surfaces;
- Addition of urban pollutants to surface runoff; and
- Contamination of groundwater from urban surface water pollutants.

Development of the Increased Density Development Alternative would result in the conversion of 212.5-acres of Prime Farmland to non-agricultural land uses and cancellation of a Williamson Act contract. Therefore, this alternative has essentially the same effect on agriculture as Southpark. There is also no significant difference in the potential for land use conflicts associated with adoption of the Increased Density Development Alternative. Potential lands use conflicts, including conflicts with surrounding agricultural properties and with the existing SID and mineral rights easements holders, would continue to represent a potentially significant impact.

The Increased Density Development Alternative assumes that Southpark would be developed with an increased number of residential units. The proposed increase in the Southpark population would generate additional project-related daily and peak hour vehicle trips beyond those associated with Southpark, resulting in higher level of service impacts at signalized and unsignalized intersections and along mainline street segments. Air quality and noise impacts associated with the added number of vehicle trips would also increase under this alternative. The additional construction proposed under the Increased Density Development Alternative would result in higher levels of construction related air emissions and noise. These latter transportation, air quality and noise impacts are not however expected to be substantially different from the impacts associated with Southpark.

The Increased Density Development Alternative would result in the addition of approximately 1,200 new residential units to the City of Dixon. Assuming no other project comes on-line during Phase I of the General Plan, this growth rate would be consistent with Measure B.

The Increased Density Development Alternative would increase the project population to approximately 3,650 residents. This additional population would correlate with a proportional increase in the demand for public services and facilities. Public services and facilities that would experience a significant increased demand include the following: water, wastewater, solid waste disposal, police services, fire protection services, schools, park and recreation services, and natural gas and electricity.

Development of the Increased Density Development Alternative would have the effect of exposing a larger population to public health and safety hazards such as seismic activity and hazardous chemicals. The increased potential exposure is significant. Impacts to visual resources would be minimally increased with the additional residential construction. However, the overall visual character of the Southpark site would be dominated by residential land uses under either the Increased Density Development Alternative or Southpark. New potential sources of night light and glare would be incrementally increased under this alternative due the increase in residential construction, but would not be significantly different. A similar potential to unearth buried archaeological or historic resources would also be anticipated.

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# APPENDIX A
# CEQA INITIAL ENVIRONMENTAL CHECKLIST

# THE CITY OF DIXON

600 EAST "A" ST.

DIXON, CALIF. 95620-9990

## ENVIRONMENTAL CHECKLIST

I. File No: ANX 91-01, GPA 91-1, ZN 91-1 Date: 2/13/91
Project Title: Schultz Annexation, General Plan Amendment and Prezoning
Location/Address: South of W. Cherry St., east of Southern Pacific Railroad
Applicant: David Schultz
Notes: (SWD Land Co. - Agent)

## II. ENVIRONMENTAL IMPACTS
(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

| | YES | MAYBE | NO |
|---|---|---|---|
| **1. Earth.** Will the proposal result in: | | | |
| a. Unstable earth conditions or in changes in geologic substructures? | | | ✓ |
| b. Disruptions, displacements, compaction or overcovering of the soil? | | ✓ | |
| c. Change in topography or ground surface relief features? | | ✓ | |
| d. The destruction, covering or modification of any unique geologic or physical features? | | | ✓ |
| e. Any increase in wind or water erosion of soils, either on or off the site? | | ✓ | |
| f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake? | | | ✓ |
| g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards? | | | ✓ |
| **2. Air.** Will the proposal result in: | | | |
| a. Substantial air emissions or deterioration of ambient air quality? | | ✓ | |
| b. The creation of objectionable odors? | | | ✓ |
| c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? | | | ✓ |
| **3. Water.** Will the proposal result in: | | | |
| a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters? | | | ✓ |
| b. Changes in absorption rates, drainage patterns or the rate and amount of surface water runoff? | ✓ | | |
| c. Alterations to the course or flow of flood waters? | | | ✓ |
| d. Change in the amount of surface water in any water body? | | | ✓ |

| | YES | MAYBE | NO |
|---|---|---|---|
| e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? | | | ✓ |
| f. Alteration of the direction or rate of flow of ground waters? | | | ✓ |
| g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? | | | ✓ |
| h. Substantial reduction in the amount of water otherwise available for public water supplies? | | | ✓ |
| i. Exposure of people or property to water related hazards such as flooding or tidal waves? | | | ✓ |
| **4. Plant Life.** Will the proposal result in: | | | |
| a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)? | | ✓ | |
| b. Reduction of the numbers of any unique, rare or endangered species of plants? | | ✓ | |
| c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species? | | | ✓ |
| d. Reduction in acreage of any agricultural crop? * | ✓ | | |
| **5. Animal Life.** Will the proposal result in: | | | |
| a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)? | | ✓ | |
| b. Reduction of the numbers of any unique, rare or endangered species of animals? | | ✓ | |
| c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? | | | ✓ |
| d. Deterioration to existing fish or wildlife habitat? | ✓ | | |
| **6. Noise.** Will the proposal result in: | | | |
| a. Increases in existing noise levels? | ✓ | | |
| b. Exposure of people to severe noise levels? | ✓ | | |
| **7. Light and Glare.** Will the proposal produce new light or glare? | ✓ | | |
| **8. Land Use.** Will the proposal result in a substantial alteration of the present or planned land use of an area? * | ✓ | | |
| **9. Natural Resources.** Will the proposal result in: | | | |
| a. Increase in the rate of use of any natural resources? | | | ✓ |
| b. Substantial depletion of any nonrenewable natural resource? | | ✓ | |
| **10. Risk of Upset.** Will the proposal involve: | | | |
| a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions? | | ✓ | |
| b. Possible interference with an emergency response plan or an emergency evacuation plan? | | | ✓ |

*Property under Williamson Act, Contract #3

| Item | Yes | Maybe | No |
|---|---|---|---|
| 11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area? | ✓ | | |
| 12. Housing. Will the proposal affect existing housing, or create a demand for additional housing? | ✓ | | |
| 13. Transportation/Circulation. Will the proposal result in: | | | |
| a. Generation of substantial additional vehicular movement? | ✓ | | |
| b. Effects on existing parking facilities, or demand for new parking? | | ✓ | |
| c. Substantial impact upon existing transportation systems? | | ✓ | |
| d. Alterations to present patterns of circulation or movement of people and/or goods? | ✓ | | |
| e. Alterations to waterborne, rail or air traffic? | | | ✓ |
| f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians? | ✓ | | |
| 14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas: | | | |
| a. Fire protection? | ✓ | | |
| b. Police protection? | ✓ | | |
| c. Schools? | ✓ | | |
| d. Parks or other recreational facilities? | ✓ | | |
| e. Maintenance of public facilities, including roads? | ✓ | | |
| f. Other governmental services? | | | |
| 15. Energy. Will the proposal result in: | | | |
| a. Use of substantial amounts of fuel or energy? | | ✓ | |
| b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? | | ✓ | |
| 16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to the following utilities: | | | |
| a. Power or natural gas? | ✓ | | |
| b. Communications systems? | ✓ | | |
| c. Water? | ✓ | | |
| d. Sewer or septic tanks? | ✓ | | |
| e. Storm water drainage? | ✓ | | |
| f. Solid waste and disposal? | ✓ | | |
| 17. Human Health. Will the proposal result in: | | | |
| a. Creation of any health hazard or potential health hazard (excluding mental health)? | | | ✓ |
| b. Exposure of people to potential health hazards? | | ✓ | |
| 18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view? | | ✓ | |

| Item | Yes | Maybe | No |
|---|---|---|---|
| 19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities? | | ✓ | |
| 20. Cultural Resources. | | | |
| a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archeological site? | | | ✓ |
| b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object? | | | ✓ |
| c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? | | | ✓ |
| d. Will the proposal restrict existing religious or sacred uses within the potential impact area? | | | ✓ |
| 21. Mandatory Findings of Significance. | | | |
| 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? | | ✓ | |
| b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.) | | ✓ | |
| c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.) | ✓ | | |
| d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | | ✓ | |

## III. DETERMINATION

___ Planning Director finds the proposed project COULD NOT have significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

___ Planning Director finds that although the proposed project could have a significant effect on the envi ment, there will not be a significant effect in thi case because the mitigation measures have been adde to the project. A NEGATIVE DECLARATION will be pre

✓ Planning Director finds the proposed project MAY hav a significant effect on the environment, and an ENV MENTAL REPORT is required.

City of Dixon
Community Development Department
600 East A Street Dixon, CA 95620
Ph: (916) 678-7000

No. ______
Fee $3,500
Date 2/12/91
Rec.# 11356
By TMP

# ENVIRONMENTAL INFORMATION FORM

This initial environmental study is designed to meet the requirements of the California Environmental Quality Act. You may attach additional pages or exhibits if needed to fully explain your project. The fee for the review, which is separate from the project application fee, is based on the value of the project.

PLEASE PRINT OR TYPE APPLICATION

## APPLICANT

Name: SWD Land Company

Address: P.O. BOX 255009, Sacramento, California 95865-5009

Contact Person: Timothy S. Lien Phone: (916) 737-8640

Applicant is: ( X ) Owner ( ) Lessee ( ) Purchaser ( X ) Agent

## PROPERTY OWNER

Name: David W. Schulze, et al.

Address: 44696 Fairway Estates Place
El Macero, California 95618

## SITE INFORMATION

Parcel Number: 114-033-020 Acreage: 212.26

Zoning: Agricultural General Plan: Agricultural

Project Location (Address or if no address, describe the location in terms of nearest cross street, landmarks, etc.):

South of West Cherry Street, East side of the Southern Pacific Railroad Tracks, West of Rio Dixon Road and the Cemetery.

1. Briefly describe your proposed project and project objectives

Annexation to the City of Dixon. Zoning to be residential with a small amount of neighborhood commercial.

2. Briefly describe the project site as it now exists. Describe the present land use. Describe all significant existing features including topography, structures, roads, offstreet parking, bodies of water, utilities, plants and animals, and soil stability. You may attach a plot plan (with a north arrow and a scale) in order to describe some or all of these conditions.

The site is currently being farmed. The site is flat. There are no significant features. There is a 20' SID easement traversing the property in an east-west direction. The site is located within the sphere of influence of the City of Dixon.

3. Briefly describe the surrounding land uses. Describe roads and other significant features.

North - Residential, West Cherry Street ROW. East - Cemetery and Agriculture, Rio - Dixon Road, South - Agriculture, West - Residential and Agriculture, Southern Pacific Railroad Tracks, Porter Street, Lincoln Street

4. Attach a plot plan (with a north arrow, scale, and dimensions) showing all significant features of the proposed project. No construction details are necessary. This plot plan should include all property lines, easements, rights-of-way, topography, structures, roads, offstreet parking, loading facilities, bodies of water, utilities, landscaping, night lighting, and any other significant features.

N/A Plot plan of the proposed project attached.

5. Attach at least two typical elevations of the proposed project. These elevations should clearly indicate the design and appearance of the project, including the architecture, building materials, landscaping, signs, etc.

N/A Typical elevations attached.

6. Attach at least one typical cross section of the proposed project showing both the existing and proposed grade and outline of the proposed structures. A section key should appear on the project plot plan.

N/A Typical cross section attached.

7. If any significant earth moving will occur, attach a preliminary cut and fill map. Indicate proposed excavation and fill areas, and quantities of earth to be moved. If the earthwork will not balance onsite, describe the borrow and disposal sites.

N/A Preliminary cut and fill map attached.

8. What is the total site size? 212.26 acres

9. What will be the gross floor area of all structures? Specify types of structures and number of stories. Unknown at this time

10. How many offstreet parking spaces will be provided? Who will assume responsibility for maintenance and liability? N/A

11. If the project is residential, describe or estimate the following:

Total number of units 950

Unit sizes(floor area, no. of bedrooms) Unknown

Unit type(detached, apartment, etc.) Detached, attached, apartment

Sales price or rent Unknown

Household type(elderly,families with children, etc.)

All

12. If the project involves commercial sales, describe the kind of tenants, the number of employees, and the hours of operation.

N/A

13. If the project involves manufacturing, describe the manufacturing process, the number of employees, and the hours of operation.

N/A

14. If the project involves public assembly, describe the maximum occupancy and the hours of operation.

N/A

15. If the project involves any parks, open spaces, or landscaping, describe the provisions for maintenance and liability.

City of Dixon

16. When do you plan to start and complete your project? If this is a multiple or phased project, describe your phasing plans.

Beginning in 1992 - 1993 with build out over 5 to 10 years

17. What will be the domestic water source? City of Dixon/SID

What will be the method of sewage disposal? City of Dixon

What will be the method of solid waste(garbage) disposal?

City of Dixon

List suppliers of other utilities and services to the site:

Electricity PG & E

Telephone Pacific Bell

Fire/Emergency City of Dixon

Police/Security City of Dixon

Other

18. Will any significant trees, vegetation, or animal habitat be removed or altered? If so, describe any protective measures which you propose.

None

19. Will the project involve the use of any hazardous materials which could pollute the soil, air, or water or threaten public health and safety? If so, describe any protective measures which you propose.

No

20. Will the project create any noises which might be cause for public nuisance? If so, describe any protective measures which you propose.

None, other than normal construction noise

21. Describe what you think will be the overall benefits of your project. Include enhancement of the local economy, employment, and lifestyle. Include conservation of water, energy, and resources. Include preservation of any scenic, historical, natural or esthetic resources.

Our project will provide the City of Dixon a high quality residential development with a true neighborhood feeling. Two schools sites (approximately 13 acres) are included, one for the continuation school and one for an elementary school. A five acre park site is included. The project also will be the location of a key portion of the east-west arterial which will traverse the southern part of the City of Dixon. The project will provide an important alternative in both land planning and location to the residential projects being developed today in the City of Dixon.

CERTIFICATION: I hereby certify that the statements furnished above and in any attached exhibits, are true and correct to the best of my knowledge and belief.

Date 1/22/91

Signature

TIMOTHY S. LIEN
Print or type name
FOR: SWD LAND COMPANY

( ) Staff comments attached

( ) Comments from other agencies attached

( ) Public comments attached

# APPENDIX B
# NOTICE OF PREPARATION (NOP) AND RESPONSES

To: ______________________
(Agency)
______________________
(Address)
______________________

Subject: Notice of Preparation of a Draft Environmental Impact Report

Lead Agency:

**City of Dixon**

600 East A Street, Dixon, CA 95620
Ph: (916) 678-7000

Contact: Jim Louie
Community Development Director

Consulting Firm (If applicable):

Firm Name ______________________

Street Address ______________________

City/State/Zip ______________________

Contact ______________________

The City of Dixon will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study ( ☒ is ☐ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but *not later than 30 days* after receipt of this notice.

Please send your response to Community Development Department at the address shown above. We will need the name for a contact person in your agency.

Project Applicant: David W. Schultz (SWD Land Company)

Project Title: Schultz Annexation, General Plan Amendment and Prezoning (ANX 91-1, GPA 91-1) ZON 91-1

Project Location: South of West Cherry Street, West of S. First St.(S.R. 113) City of Dixon, County of Solano
City (nearest) County

Project Description: (brief) Annexation, General Plan Amendment and Prezoning of 212± acres, located south of West Cherry Street, east side of the Southern Pacific Railroad Tracks and west of Rio Dixon Road. The current General Plan designates the property for agricultural uses. The applicants are proposing to annex the property to the City of Dixon. General Plan Amendment and Prezoning to Residential uses are requested.

Date February 15, 1991

Signature James Louie, kmp

Title Community Development Director

Telephone (916) 678-7000

*Reference:* California Administrative Code, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

*Revised October 1989*

DESCRIPTION

All that certain real property situate in the County of Solano, State of California, described as follows:

BEGINNING at the corner common to Sections 23, 24, 25 and 26, Township 7 North, Range 1 East, M.D.B.&M., which is on the centerline of County Road No. 92, and extending thence North 00°08' East along said centerline 1973.9 feet to the Southeasterly corner of Dixon Cemetery; thence, North 89°36' West along the Southerly boundary line of said cemetery, 509.4 feet; thence, North 89°43' West 182 feet; thence, North 00°13' East 846.2 feet; thence, North 0°06' West 599.1 feet to the Southerly line of said Cherry Street to the Easterly boundary line of the right-of-way of the Southern Pacific Company; thence, South 34°57' West along said Easterly boundary line to the line between Sections 23 and 26; thence, South 89°31' East along said line between Sections 23 and 26, 4289.0 feet to the point of beginning, and being a part of Section 23, Township 7 North, Range 1 East, M.D.B.&M., Solano County, California.

EXCEPTING THEREFROM that parcel of land described in deed from Annie Evelyn Kilkenny, a widow to Thornton Elsen Glide, dated May 23, 1946, and recorded August 19, 1946, in Book 347 of Official Records, Page 249, Instrument No. 11565, as follows:

A parcel of land in the Southeast 1/4 of Section 23, Township 7 North, Range 1 East, M.D.B.&M., described as follows:

BEGINNING at a point on the South line of Dixon Cemetery, said point being the middle of County Road No. 92 running from Dixon to Rio Vista, and being North 00°08' East 1973.9 feet from the section corner between Sections 23, 24, 25 and 26, Township 7 North, Range 1 East, M.D.B.&M.; thence, from said point of beginning, North 89°36' West along the South line of said cemetery, 452.00 feet, more or less; thence, South 00°08' West 513.00 feet, more or less, to a point about 25 feet North of a fence; thence, South 89°36' East 452.00 feet, more or less, to the centerline of County Road No. 92; thence, North 00°08' East along said centerline of road, 513.00 feet, more or less, to the point of beginning.

ALSO EXCEPTING THEREFROM the parcel of land described in the deed form Helen Bernice Mikos, as executrix, to Clinton Crouch, Jr., et ux, dated May 13, 1963, recorded May 31, 1963, in Book 1203 of Official Records, Page 67, Instrument No. 13845, as follows:

BEGINNING at a point in the centerline of County Road No. 92 bearing North 00°08' East 1420.90 feet from the section corner between Sections 23, 24, 25 and 26, Township 7 North, Range 1 East, M.D.B.&M.; thence, from said point of beginning, North 89°36' West 381.12 feet; thence, South 00°08' West 171.44 feet; thence, South 89°36' East 381.12 feet to the centerline of County Road No. 92; thence, North 00°08' East along said centerline a distance of 171.44 feet to the point of beginning.

850252

ALSO EXCEPTING THEREFROM the parcel of land described in the deed from Helen Bernice Mikos, as executrix, to SilveyVille Cemetery District, dated May 13, 1963, recorded July 8, 1963, in Book 1209 of Official Records, Page 407, Instrument No. 17214, as follows:

BEGINNING at a point in the centerline of County Road No. 92, being the Southeast corner of that certain 5.323-acre parcel of land described in deed to Dixon Game Conservation Club, a non-profit corporation, dated January 26, 1961, and recorded February 2, 1961, in Book 1064 at Page 155, as Instrument No. 2283 of Official Records of Solano County, said point of beginning also bears North 00°08' East 1460.90 feet from the section corner between Sections 23, 24, 25 and 26, Township 7 North, Range 1 East, M.D.B.&M.; thence, from said point of beginning, North 89°36' West along the Southerly line of the 5.323-acre parcel a distance of 452.00 feet to the Southwest corner thereof; thence, North 00°08' East along the Westerly line of said 5.323-acre parcel a distance of 513.00 feet to the Northwest corner thereof, being on the Southerly line of the Dixon Cemetery; thence, North 89°36' West along said Southerly line a distance of 57.40 feet to the Southeast corner of that certain 3.54-acre parcel of land described in deed to SilveyVille Cemetery District dated March 28, 1928, and recorded June 19, 1928, in Book 16 at Page 299, as Instrument No. 2305 of Official Records of Solano County; thence, North 89°43' West along the Southerly line of said parcel a distance of 182.00 feet to the Southwest corner thereof; thence, South 00°08' West 553.37 feet; thence, South 89°36' East 691.40 feet to the centerline of County Road No. 92; thence, North 00°08' East along the centerline of said County Road No. 92 a distance of 40.00 feet to the point of beginning.

EXCEPTING THEREFROM 50 percent of all oil, gas, hydrocarbons, asphaltum and all other mineral substances lying within or under said land as reserved in the deed from Robert Tobias Kilkenny, et al, recorded December 10, 1975, Book 1975, Page 55446, Series 34942, Solano County Official Records.

YOLO SOLANO AIR POLLUTION CONTROL DISTRICT

P.O. Box 1006, Woodland, CA 95695
FAX 916-666-8999 (916) 666-8146

MAR - 8 1991

March 6, 1991

TO: Jim Louie Comm. Dev. Dir.
600 East A Street
Dixon, CA 95620

FROM: David B. Smith, DBS Air Pollution Control Specialist II

SUBJECT: Schultz Annexation DEIR

The Yolo-Solano APCD presents the following comments on the above referenced project:

The DEIR should present the minimum:

1) Projected emissions for the project at major phases and at buildout. The Evaluation should include emissions estimates for both vehicular and residential sources. All supporting data used should be included.

2) The project's impacts on both local and regional air quality should be addressed in the context of the California Clean Air Act. Cumulative impacts should be considered with other proposed developments in the Dixon area.

3) A project of this size will have considerable emissions. Any increase in emissions within the Yolo-Solano APCD will make it more difficult for the District to attain the emissions reductions required by the California Clean Air Act.
The Yolo-Solano APCD is currently developing an Indirect Source Rule (ISR) to address emissions from new commercial and residential developments. The DEIR, therefore, should present a discussion of proposed measures to mitigate the impacts of the project. The discussion should include an implementation schedule for the measures and potential emissions reductions.

DBS:ih

STATE OF CALIFORNIA—THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF CONSERVATION
DIVISION OF ADMINISTRATIVE SERVICES
DIVISION OF MINES AND GEOLOGY
DIVISION OF OIL AND GAS
DIVISION OF RECYCLING

1416 Ninth Street
SACRAMENTO, CA 95814
TDD (916) 324-2555
ATSS 454-2555

RECEIVED MAR 29

(916) 322-5873
TDD (916) 324-2555

March 25, 1991

Mr. Jim Louie
City of Dixon
600 East A Street
Dixon, CA 95620

Dear Mr. Louie:

Subject: Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Schultz Annexation

The Department of Conservation has reviewed the City of Dixon's Notice of Preparation for the annexation, general plan amendment and prezoning of 212 acres of agricultural land for proposed residential development. The Department is responsible for monitoring farmland conversion on a statewide basis and also administers the California Land Conservation (Williamson) Act (no Williamson Act contracts exist on the site). Since the annexation could have environmental impacts on prime agricultural land, the Department offers the following comments.

The loss of prime agricultural land should be identified and treated as a significant environmental impact. The California Administrative Code (Section 15000 et seq., Appendix G (y)) states that a project will normally have a significant effect on the environment if it will convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land. Since it appears that the annexation will have such an effect, the Draft Environmental Impact Report (DEIR) should provide information on the number of acres of agricultural land to be developed, the potential agricultural value of the site, the impacts of farmland conversion, and possible mitigation actions. Specifically, we recommend that the DEIR contain the following information.

- The agricultural character of the annexation area, including:
  - Types and relative yields of crops grown in the affected areas.
  - Agricultural potential of the area's soils, as defined

by the Department of Conservation's Important Farmland Series map designations.

- Farmland Conversion Impacts:

  - The type, amount and location of farmland conversion that would result from implementation of the annexation.
  - The impacts on current and future agricultural operations.
  - The cumulative and growth-inducing impacts of the annexation and commercial development.

- Mitigation measures and alternatives that would lessen farmland conversion impacts. A public agency shall adopt a reporting or monitoring program for adopted project changes which mitigate or avoid significant efforts on the environment (Chapter 1232, Statutes of 1988) (AB 3180)). Some of the possibilities are:

  - Directing urban growth to lower quality soils in order to protect prime agricultural land.
  - Protecting other, existing farmland of equivalent, or better, quality through planning policy that relies on an active and strategic use of the Williamson Act.
  - Establishing buffers such as setbacks, berms, greenbelts and open space areas to separate farmland from urban uses. Many communities have considered 300 feet as a sufficient buffer for impacts such as pesticide spraying, noise and dust.
  - Implementing right-to-farm ordinances to diminish nuisance impacts of urban uses on neighboring agricultural operations, and vice-versa.
  - Adopting a farmland protection program that utilizes such land use planning tools as transfer of development rights, purchase of development rights or conservation easements, and farmland trusts.

The Department appreciates the opportunity to comment on the NOP. We hope that the farmland conversion impacts are given adequate consideration in the DEIR. If I can be of further assistance, please feel free to call me at (916) 322-5873.

Sincerely,

Dennis J. O'Bryant

Dennis J. O'Bryant
Environmental Program Coordinator

cc: Kenneth E. Trott
Office of Land Conservation
Suisun Resource Conservation District

DIXON SOLANO
MUNICIPAL WATER SERVICE

RECEIVED
MAR 28 1991

March 26, 1991

James Louie, Planning Director
Community Development Department
City of Dixon
600 East A Street
Dixon, CA 95620

Dear Jim:

**NOTICE OF PREPARATION OF A DRAFT EIR**
**DAVID W. SCHULZE (SWD LAND COMPANY)**
**GPA 91-1/ZON 91-1/ANX 91-1/APN 114-033-02**

Our staff has completed its review of the Notice of Preparation of a Draft EIR for the David W. Schulze (SWD Land Company) to the City of Dixon. The subject property is located within the Solano Irrigation District boundary and, therefore, is subject to the assessments and charges of the District. The subject annexation is also located within the Dixon-Solano Municipal Water Service area (DSMWS) which will serve domestic water service to this area. The following are the District's requirements for the development of this property:

1. Page 4, Item 17 of the Environmental Information Form should be changed to reflect DSMWS as the water source.

2. The developer will be responsible for all infrastructure; i.e., water, sewer, etc., at his expense.

3. A deep-well, pumping plant and storage tank may be required as part of the improvements to this property.

4. Any Solano Irrigation District agricultural irrigation facility affected by this development must be relocated/reconstructed at the developer's expense.

5. We request that the District review, approve and sign all Final/Parcel Maps and Improvement Plans of this development.

6. The DSMWS Plan Review Fees apply and are due upon submittal of maps/plans for review.

7. We request that the District be sent a copy of the Draft EIR for review and comments.

508 ELMIRA ROAD, VACAVILLE, CA 95687 • TELEPHONE: (707) 448-6847 • (916) 678-4414 • FAX NO. (707) 448-7347

These requirements are a result of the Notice of Preparation of a Draft EIR, Environmental Checklist, Environmental Information Form, Zone Amendment Applications and General Plan Amendment Application. Additional comments may be required upon review of the Draft EIR, Final/Parcel Maps and Improvement Plans of this development.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding this information, please contact Frank Weber of my staff.

Sincerely,

Robert L. Isaac
Assistant Manager, S.I.D.
On Behalf of DSMWS

RLI:FW:jl

cc Virgil Mustain
Ron Bernal
Jay Jones
Darrell Rosenkild
Frank Weber

<Joleenewp>schulzeltr

## MEMORANDUM

March 15, 1991

TO: Jim Louie, Community Development Director

FROM: Randy Davis, Recreation Director

SUBJECT: **Schultz Annexation, General Plan Amendment, and Prezoning (ANX 91-1, ZON 91-1, GPA 91-1)**

The Environmental Information Form states that there will be 950 units if the land annexed and developed. Assuming a 80% / 20% housing split, this project would be required to dedicate 14.06 acres of parkland. The City may of course elect to receive a fee in lieu land dedication for some of the acreage.

950 Units (Assuming a 80% / 20% split)

| | | |
|---|---|---|
| 760 Single Family Homes x 4 | = | 3,040 |
| 190 Multi-Family x 2.5 | = | 475 |
| Total Persons | | 3,515 |

.004 x 3,515 persons = 14.06 acres ?

The Environmental Information Form states that only a five acre park will be included in the development. Based on the information I now have, five acres does not appear to be adequate.

Rd/tmp

**Pacific Gas and Electric Company**
Dixon Office
275 North First Street
Dixon, CA 95620
916/678-2317

- 1 1991

February 28, 1991

PG&E

Attn: Jim Louie
City of Dixon
Community Development Department
600 East A St.
Dixon, CA 95620

Subject: Schultz Annexation
Anx 91-1, Zon 91-1, and Gpa 91-1
South of West Cherry St, West of S First St.

Dear Jim:

We have reviewed the project referenced above and have the following comments:

1. No gas distribution facilities exist within the project.
2. No gas transmission facilities exist within the project.
3. No electric distribution facilities exist within the project.
4. No electric transmission facilities exist within the project.
5. Public utility easements will be determined at time of subdivision formation.

Please phone Bill Carroll: PG&E's Senior New Business Representative, at (707) 449-5795 to determine the location of future gas and electric distribution facilities within this project.

Sincerely,

James A. Redman

JAMES A. REDMAN
Manager

JAR:sls

cc: Bill Carroll

140 North Jackson Street, Dixon, California (916) 678-7060

FAX: (916) 678-4251

# MEMORANDUM

**TO:** Jim Louie, Community Development Director

**FROM:** Ric Dorris, Fire Chief

**DATE:** March 14, 1991

**SUBJECT:** Proposed Annexations: Flying J, Schultz & BDM Properties

---

I have reviewed each of the above-proposed annexations. I feel that individually, as well as collectively, this will cause an impact on our Department. Concerns to be addressed are:

1. Increased calls for service.
2. Extended response time and distance - need for new station locations.
3. Additional equipment and manpower.

Mitigation measures on these items need to be addressed.

cc: Al Benefield

SOLANO COUNTY
Department of
Environmental Management
601 TEXAS STREET
FAIRFIELD, CALIFORNIA • 94533

RECEIVED
M 27 1991
CIT

March 25, 1991

Jim Louis, Director
Department of Community Development
City of Dixon
600 East "A" Street
Dixon, CA 95620

Re: Notice of Preparation for:
General Plan ANX 91-2 Smarks (BDM) Annexation
General Plan ANX 91-3 Flying J. Annexation
General Plan ANX 91-1 Schultz Annexation

Dear Jim:

Solano County LAFCO is in receipt of a Notice of Preparation (NOP) for each of the above projects. These projects along with the previously noticed annexations (ANX 90-6 Azevedo and Weyand Annexation, ANX 90-4 Garcia Annexation, and ANX 90-5 Orchard Estates Annexation) will require action by LAFCO. Therefore, LAFCO is a responsible agency with respect to these projects and will be utilizing the environmental documentation in its review of these projects.

Based on the mapping submitted with the NOP, up to nine separate applications may be processed. Applications which are identified but for which no notice has been issued include ANX 90-3 Bayside-Dixon Gateway Annexation, ANX 90-1A Vaughn Nelson Annexation and ANX 90-2 Dixon Main Station Annexation. All of the listed annexation except ANX 90-4 Garcia and ANX 90-5 Orchard Estates will require General Plan Amendments. These represent significant amendments to the City's Existing General Plan. While they are separate applications, their review should be done in a coordinated fashion to ensure internal consistency in maintaining your General Plan.

Section 15165 of the CEQA guidelines allows an agency with multiple projects to prepare either "one EIR for all projects or one for each project, but shall in either case comment upon the cumulative effect". To prepare separate EIR's with each project, a full analysis of the cumulative impacts, would be a difficult task. We request that one EIR be prepared which encompasses all of the projects. A comprehensive EIR can through the alternative process evaluate various combinations of projects. For LAFCO purposes, it is imperative that a complete and thorough analysis of each impact be done on a cumulative basis.

In addition, under LAFCO adopted standards, several address environmental concerns and should be considered in the preparation of the environmental documentation. They include Standard No. 6, Effect on the National Resources; Standard No. 8, Likelihood of Significant Growth and Effect on other Incorporated or Unincorporated Territory; Standard No. 9, Protection of Prime Agricultural Land as defined under the Cortese/Knox Act; Standard No. 10, Provision of Cost of Community Services; and Standard No. 11, The Effect of the Proposed Action on Adjacent Areas, Mutual Social and Economic Interest and Local Governments Structure. A copy of the standards is attached. A full analysis is essential with respect to these standards since the City does not have a Comprehensive Annexation Plan. The City may wish to consider preparation of a Comprehensive Annexation Plan in light of these proposals. In addition, while not required under CEQA, a Market Analysis and Fiscal Impact Analysis will need to be undertaken as part of the annexation proposals and could be incorporated as part of the environmental review.

Annexation proposals ANX 91-2 Smarks and ANX 91-3 Flying J. would be discontiguous annexations without ANX 90-1A Vaughn-Nelson and ANX 90-2 Dixon Main Station. I assume that NOP's on these two annexations will be forthcoming. Finally, ANX 91-1 Schultz would result in a near island along South First Street (Assessor Parcel Nos. 114-033-03, 114-033-04, 114-033-05 and 114-075-01). The EIR should include these parcels in the proposed annexation as an alternative to the project.

If you have any questions concerning our comments, please feel free to contact me.

Sincerely,

Harry L. Englebright
Principal Planner

HLE/jp
zhelouis

**Dixon Resource Conservation District**

1170 N. Lincoln, Suite 110, Dixon, CA 95620 - Phone (916) 678-1655

February 22, 1991

RECEIVED
FEB 25 1991

Jim Louie
Community Development Director
City of Dixon
600 A Street
Dixon, Ca 95620

Subject: Schultz Annexation, General Plan Amendment and Prezoning (ANX 91-, ZON 91-1, GPA 91-1)

We appreciate this opportunity to responed to this preparation of a draft Environmental Impact Report. The District's concern is how this annexation will effect the Master Drainage Plan. Will it be incorporated into the facilities of the Master Drainage Plan, or will it be considered separate and need other ways of drainage. If it is incorporated into the Master Drainage Plan, how will this effect the design of the basin and the channel to Hass Slough. And how would this effect the 3% growth limit.

The loss of Prime Framland must be viewed as a significant unavoidable and irreversible adverse impact. The following measures would help to mitigate the impacts to adjacent agricultural uses, but would not reduce the impact on agricultural resources to a level of insignificance.

* Provide for phasing of project construction outward from existing development boundaries toward existing agricultural use.

* Provide for a buffer between final build out of residential areas and other areas subject to pesticide spraying such as a roadway or a greenway or a combination of methods.

* Provide for a method to increase residential density standards now used by the City of Dixon.

**Dixon Resource Conservation District**

1170 N. Lincoln, Suite 110, Dixon, CA 95620 - Phone (916) 678-1655

* Provide for a method of implementation and contribution to agricultural land preservation programs.

Contact person at the Dixon Resource Conservation District is Kevin Keefer.

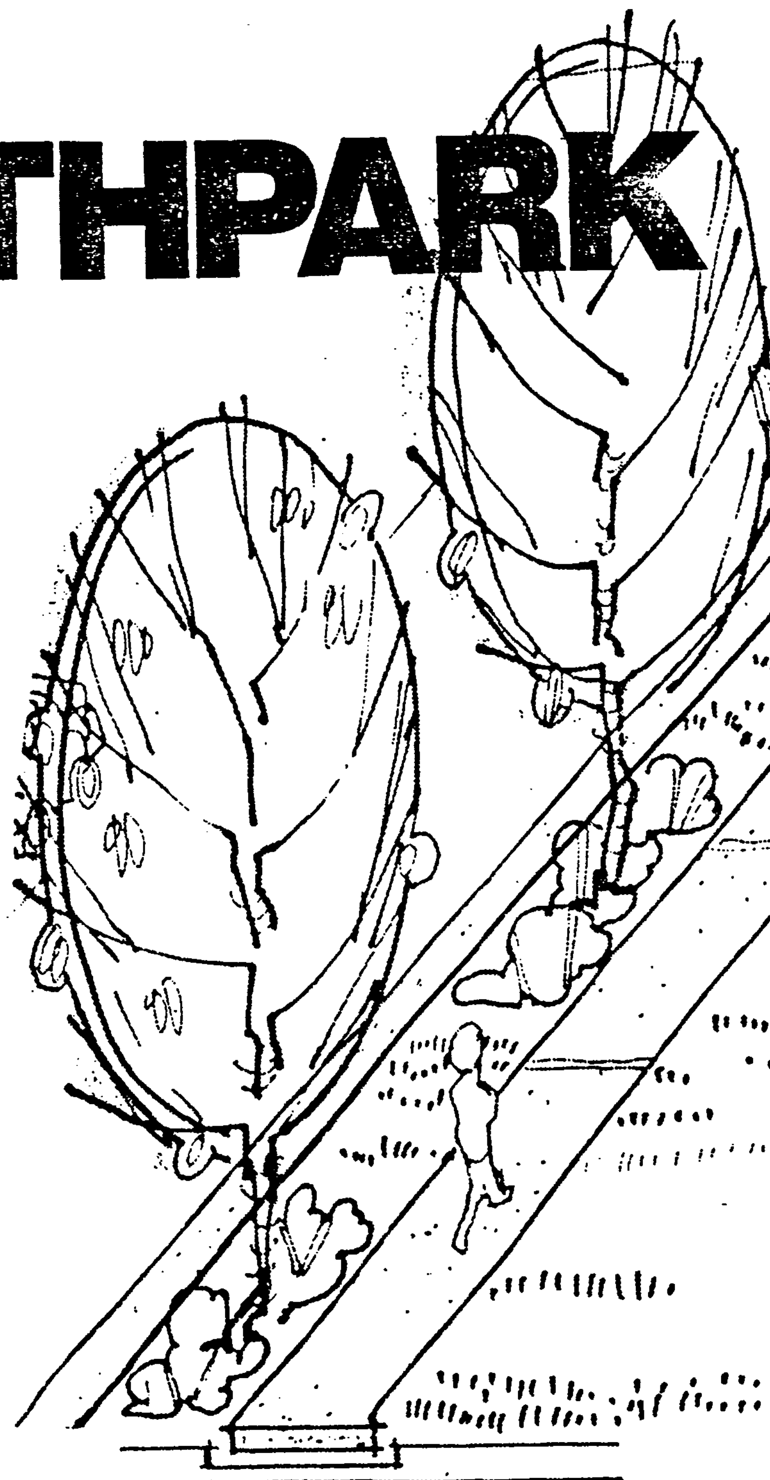
Sincerely,

Pete J Braun

Pete Braun
President, Dixon RCD

# APPENDIX C
# SOUTHPARK PLANNED DEVELOPMENT AND APPLICATIONS FOR ZONING AND GENERAL PLAN AMENDMENTS

# SOUTHPARK



## A MASTER PLANNED COMMUNITY

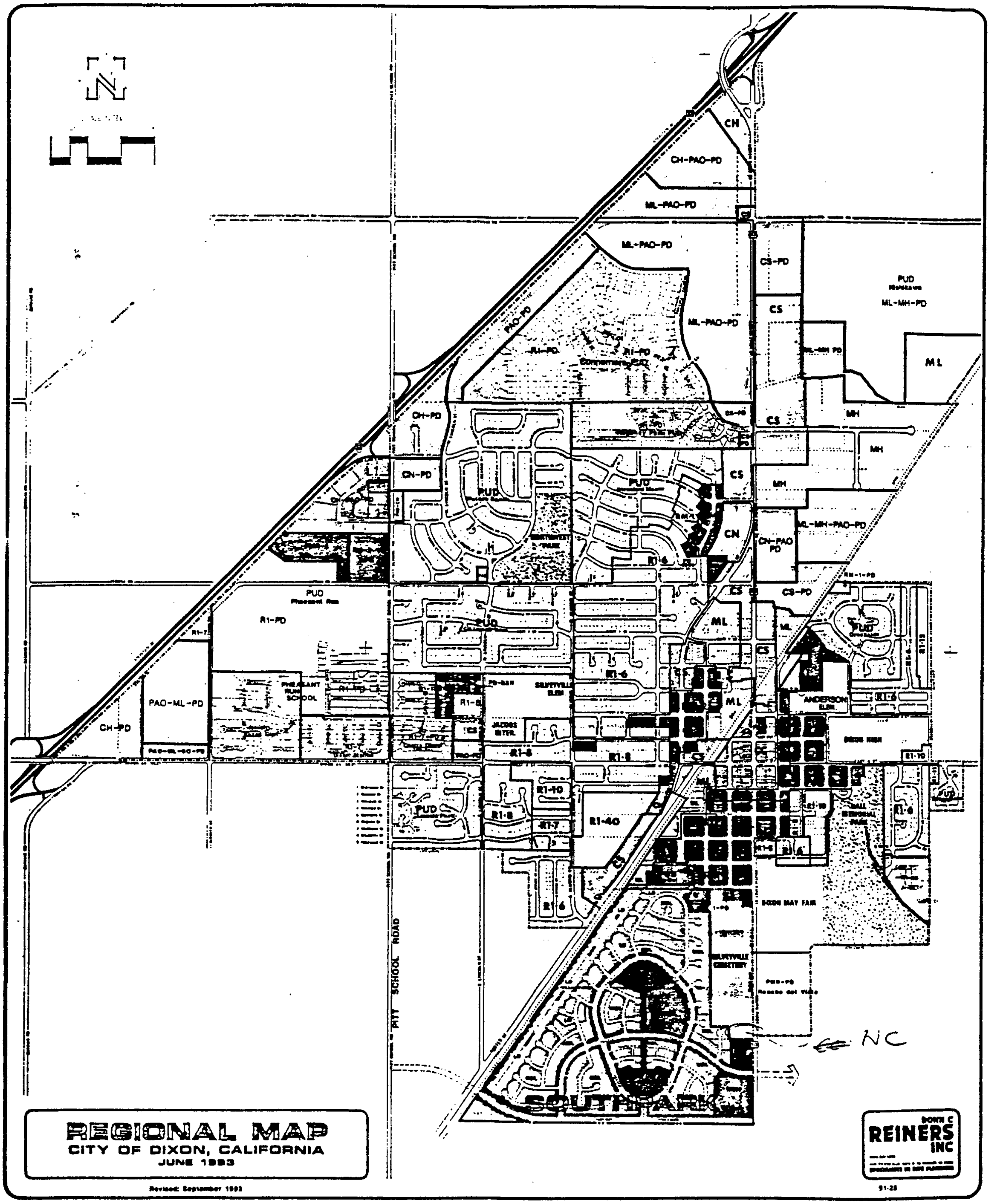
CITY OF DIXON,
CALIFORNIA

# SOUTHPARK PLANNED DEVELOPMENT

## PROJECT LOCATION AND DEVELOPER

**SOUTHPARK** is a 210 acre, master planned Village Community, adjacent to the Dixon city limits, which includes a variety of housing types, extensive park lands, a mini-shopping plaza, and two school sites. **SOUTHPARK** is bounded by the Silveyville Cemetery and South First Street on the east, by West Cherry Street on the north, by the Southern Pacific Railroad tracks on the west, and by the West "A" Street Assessment District retention pond on the south (see attached regional map).

**SOUTHPARK** is a development of the SWD Land Company, a joint venture of the Schulze family and Walker, Donant and Company. The Schulzes have been long time residents of Dixon, respected in the agricultural and business communities since the early 1900's. Walker, Donant and Company is a builder and developer with a continuous history of residential development in the Sacramento Valley since 1945 and in the Dixon Community since 1976.



CH
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PAO-PD
R1-PD
PUD
R1-6
CS-PD
R1-10
R1-8
R1-7
R1-40
PAO-ML-PD
ANDERSON
PITT SCHOOL ROAD
SOUTHPARK
NC
REGIONAL MAP
CITY OF DIXON, CALIFORNIA
JUNE 1993
Revised: September 1993
REINERS INC

## PLANNED DEVELOPMENT CONCEPT/FEATURES

The design concept of the **SOUTHPARK** planned development is that of a Village Community comprised of smaller neighborhoods. The concept is developed through the careful arrangement of land uses and the hierarchy of the street pattern within the project (see attached illustrative lotting plan map). **SOUTHPARK** is comprised of small groupings of homes on quiet cul-de-sacs in various density mixes. The cul-de-sacs are linked to local collector streets, the Village Loop Street and the Village Parkway. Park spaces, bicycle paths and walkways are interwoven throughout the neighborhoods of **SOUTHPARK**. These elements will help create an interactive community and maintain the small town character that is the essence of Dixon.

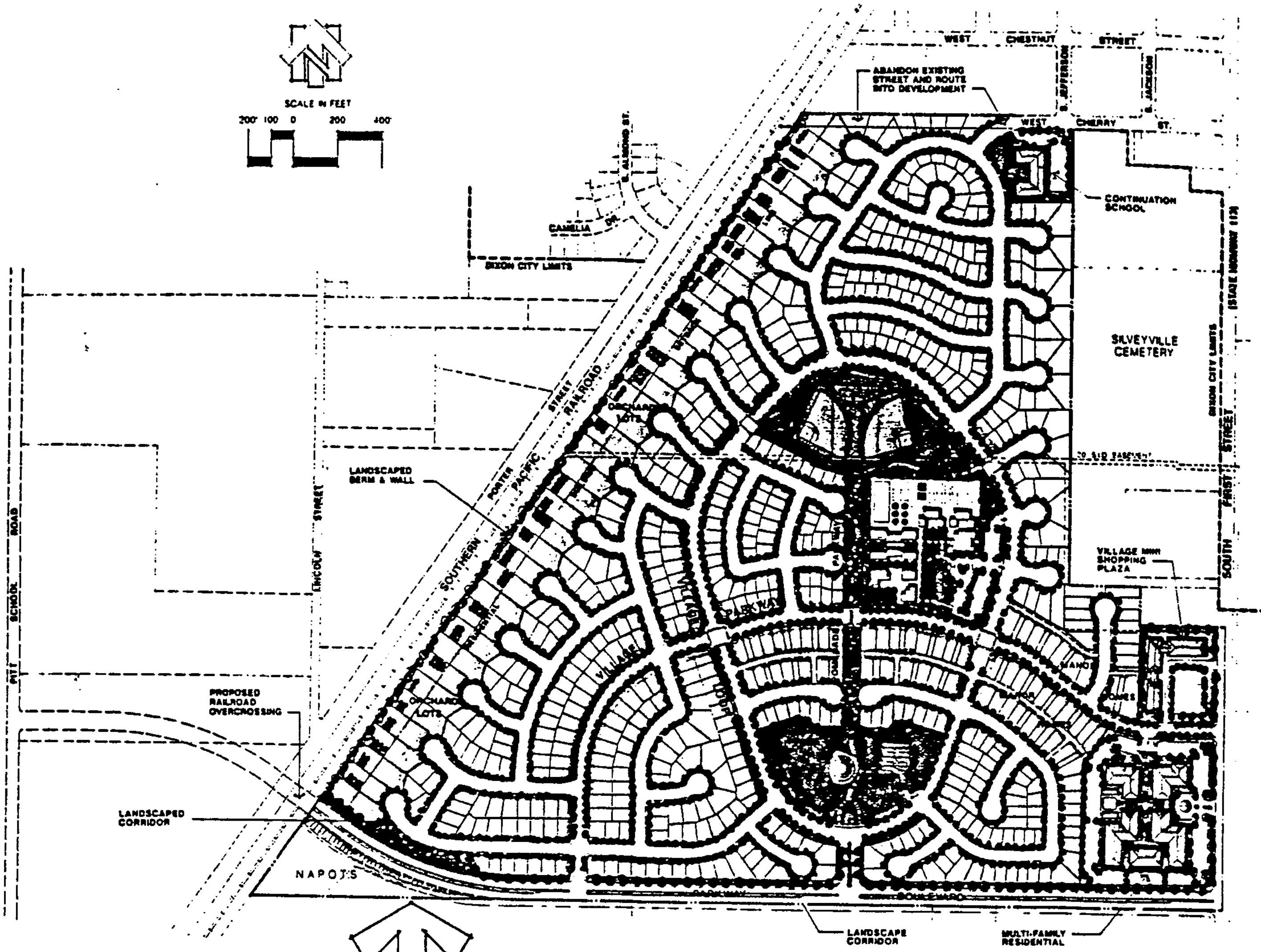
The heart of **SOUTHPARK** is shown on the attached Village Focus map. The major elements of the planned development concept; pedestrian orientation, parks, an elementary school site, and housing, are all represented within this central core area bounded by the Village Loop Street.

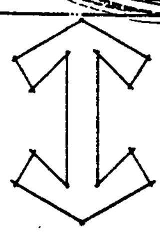
Pedestrian orientation is the key element of this concept. The plan focuses on reducing vehicular traffic through the network of walkways and bicycle paths and the arrangement of streets. This pedestrian orientation, coupled with the project's proximity to central Dixon, will result in less vehicular use and congestion, and therefore less impact on air quality within the community and throughout the city.

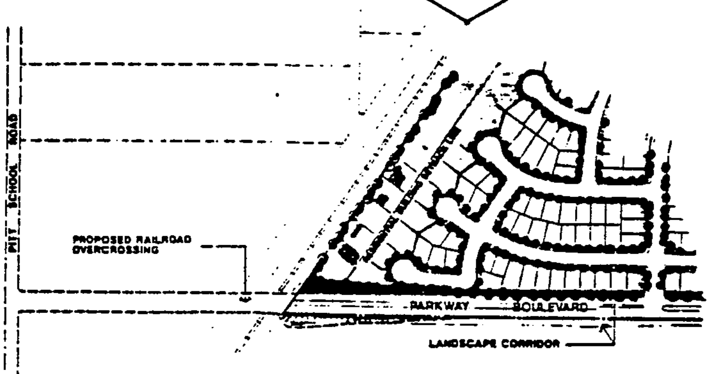
Another key element of the planned development is parks. There are two large park areas connected by a Promenade Parkway which have been designed to serve the varying needs of all the residents of **SOUTHPARK**. The northernmost park within the village, adjacent to the elementary school site, is designed for youth oriented recreational activities while the southern park provides an area for more passive pursuits. A large, fully landscaped Promenade Parkway provides a non-vehicular link between the parks and offers room for smaller recreational pursuits or a place for quiet relaxation and conversation.

The elementary school site, located within the Village Focus is a vital element of the concept. The 10 acre site is ideally located to serve the needs of all of the residents of **SOUTHPARK.** The school can be sized not only to meet the anticipated demands of **SOUTHPARK**, but also other neighboring communities as well.

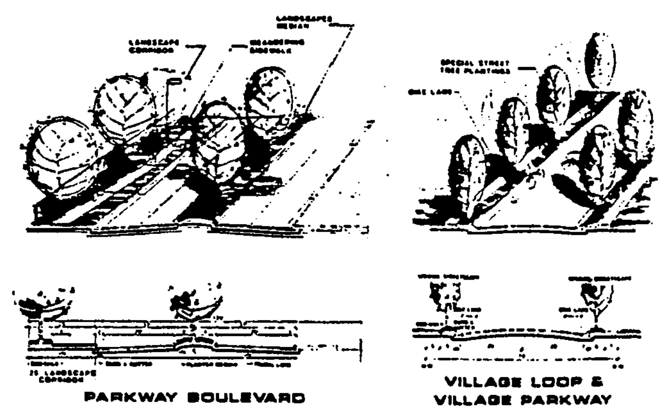
Variety of housing is a particularly strong component of the planned development. **SOUTHPARK** provides for a number of different densities and corresponding lot sizes throughout the project. This variety of densities allows for a mixture of housing types covering a broad range of prices, with special attention to the issue of affordable housing. The affordable homes will vary in design and density as well, and be located throughout the village.






## ALTERNATE DESIGN
FOR RAILROAD OVERCROSSING
(SOUTHWEST CORNER)

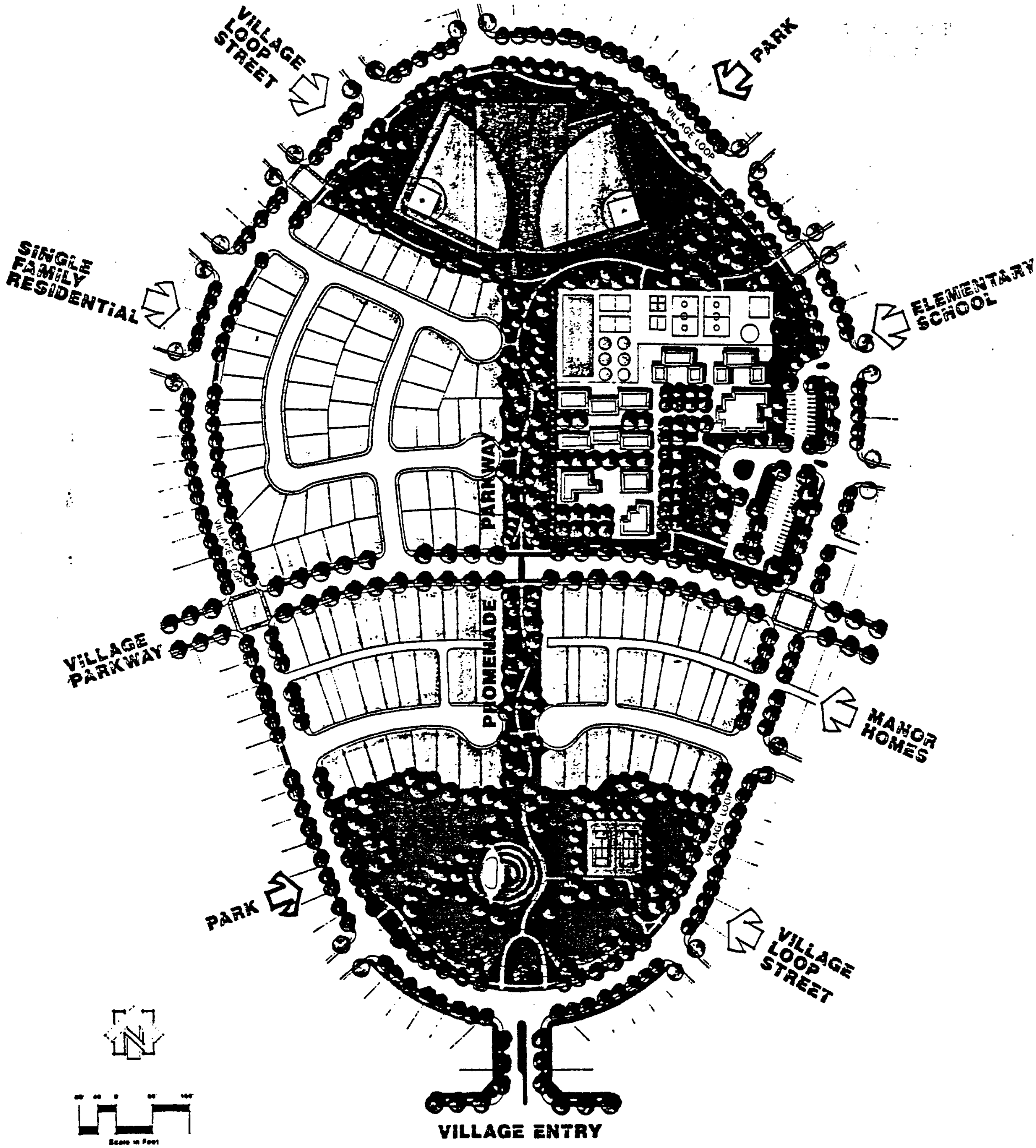



## STREET SCAPES

**ILLUSTRATIVE LOTTING PLAN**

**SOUTHPARK PLANNED DEVELOPMENT**
**SWD LAND COMPANY**
CITY OF DIXON JUNE 1993
Revised: September 1993

JOHN C
REINERS
INC




**VILLAGE FOCUS**

**SOUTHPARK PLANNED DEVELOPMENT**
**SWD LAND COMPANY**
CITY OF DIXON JUNE 1993
Revised: September 1993

DONN C
**REINERS**
INC

## PLANNED DEVELOPMENT LAND USES/DENSITIES

The Land Use Summary Chart, presented on the attached planned development map, provides a breakdown of all land uses associated with **SOUTHPARK**. A brief description of the uses follows:

MANOR HOMES - RESIDENTIAL (Medium Density - Low, MDL)

The planned development includes a total of 97 manor homes designed to focus on the Village Parkway. These homes, built in clusters of two and three units per building, will face the Parkway with garages at the rear. This provides an added traffic safety element in the planned development by eliminating driveway access to the most heavily traveled portions of the Village Parkway. The manor home concept allows for a wide range of pricing possibilities. These homes can be scaled for pricing at affordable levels or upgraded suitably for move-up buyers.

SINGLE FAMILY RESIDENTIAL (Medium Density - Low, MDL)

The planned development includes a total of 561 single family detached homes in densities ranging from five to eight dwelling units per acre. These homes will be priced for families with varying levels of income, addressing the critical need for affordable housing in the City of Dixon. The homes planned for the lowest density (5 dwelling units/acre) will be targeted for the first time move-up buyer and will be up- scaled accordingly.

SINGLE FAMILY RESIDENTIAL (Low Density, LD)

The planned development includes a total of 68 single family detached homes at a density of four dwelling units to the acre. These homes will be larger in size than those in the MDL category and will contain more features and amenities, targeting second and third time move up buyers.

ORCHARD LOTS - RESIDENTIAL (Low Density, LD)

A special group of 37 large "orchard lots" is included in **SOUTHPARK**. These are the largest lots in the planned development and are designed to accommodate surface drainage for the project in the form of a channel/detention pond along the western edge of **SOUTHPARK**. The lots are also designed to address the issue of sound attenuation from the railroad with an earthen berm and sound wall located at the rear of the properties.

MULTI-FAMILY RESIDENTIAL (Medium Density - High, MDH)

The project includes a 9.4 acre site for the development of a multi-family residential complex located at the easterly entry to **SOUTHPARK**. The site provides for 188 units at a density of 20 units per acre.

PARKS & PARKWAYS (P)

A major feature of the design of **SOUTHPARK** is the interrelationship of parks and residents. The planned development includes two parks and a connecting Promenade Parkway which will have a combined area in excess of 5 acres per 1000 residents. The parks are strategically located within and adjacent to the Village Loop Street for easy access for all residents, and have been sized for sports activities including baseball, soccer and tennis, as well as picnic areas and a small community amphitheater.

The Promenade Parkway serves as the connector between the larger park areas, and facilitates convenient pedestrian and bicycle movement throughout the planned development and provides safe access to the elementary school for children. The Promenade is approximately 80 feet in width, fully landscaped, and includes walkways, bicycle paths, park benches, and areas for limited recreational activities.

SCHOOLS (S)

Two school sites are located within the boundaries of **SOUTHPARK.** A ten acre site for an elementary school is centrally located within the Village Loop Street. A 2.5 acre site for the Maine Prairie Continuation High School is located in the northeast corner of the planned development. This smaller site will be donated to the Dixon Unified School District as a part of the overall project.

LANDSCAPE CORRIDORS (P)

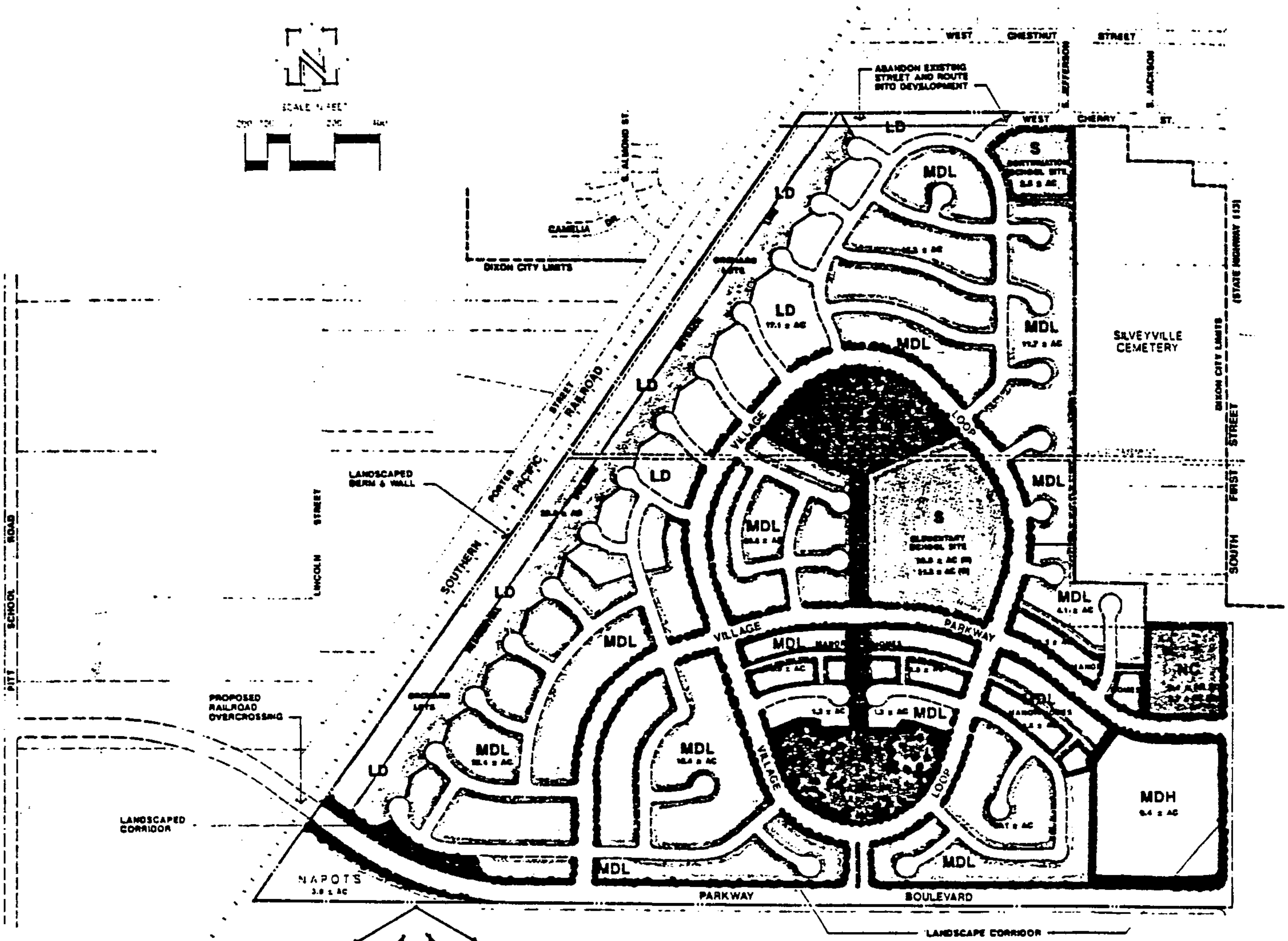
The landscaped corridors are buffer zones between the major vehicular arteries (South First Street and the Parkway Boulevard) and the residential areas of **SOUTHPARK**. These corridors will be fully landscaped with a meandering walkway for pedestrian and bicycle movement.

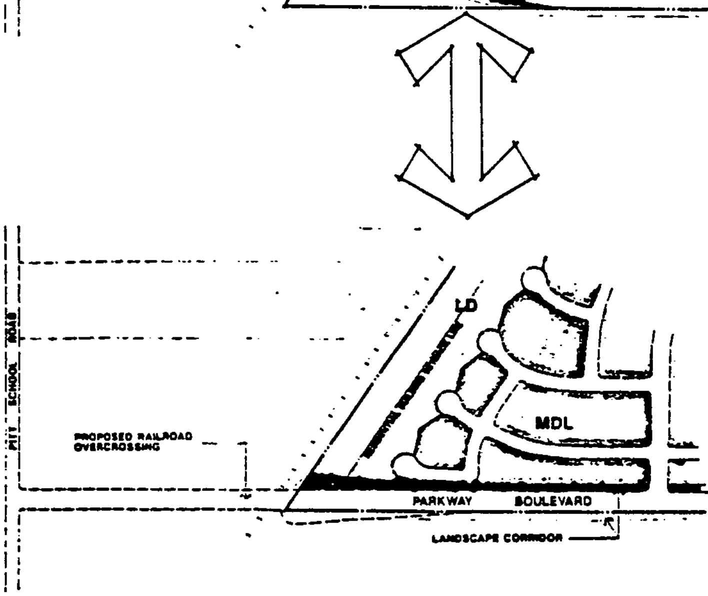
NEIGHBORHOOD COMMERCIAL (NC)

A 3.4 acre mini-shopping plaza is included in the village master plan to provide neighborhood services of a retail, office or special use nature such as a day care center.

CIRCULATION - MAJOR STREETS

The Parkway Boulevard and the railroad overcrossing in the southwest corner of the planned development are critical elements in providing new circulation patterns for cross-town traffic. The extension of the Parkway will link South First with Pitt School Road, relieving pressure from the growing congestion on West A Street. The railroad overcrossing is a regional improvement which will benefit the City of Dixon as a whole and will likely be funded by a special assessment district.




## LAND USE SUMMARY

| KEY | USE | AREA (GROSS) | # UNITS / LOTS | DENSITY |
|---|---|---|---|---|
| NC | NEIGHBORHOOD COMMERCIAL | 3.7 ± AC | | |
| MDH | MEDIUM DENSITY - HIGH | 9.4 ± AC | 188 | 20 DU'S/AC |
| MDL | MEDIUM DENSITY - LOW MANOR HOMES | 16.2 ± AC | 97 | 6 DU'S/AC |
| MDL | MEDIUM DENSITY - LOW | 97.2 ± AC | 561 | 5 to 8 DU'S/AC |
| LD | LOW DENSITY | 17.1 ± AC | 68 | 4 DU'S/AC |
| LD | LOW DENSITY ORCHARD LOTS | 22.8 ± AC | 37 | 1.6 DU'S/AC |
| | PARKS & PARKWAYS | 16.4 ± AC | | |
| | LANDSCAPE CORRIDORS | 4.3 ± AC | | |
| S | SCHOOLS | 13.8 ± AC | | |
| | MAJOR STREETS (SOUTH FIRST STREET, PARKWAY BOULEVARD) | 8.8 ± AC | | |
| | TOTALS | 209.7 ± AC | 951 | |

## ALTERNATE DESIGN

### FOR RAILROAD OVERCROSSING (SOUTHWEST CORNER)

| | | | |
|---|---|---|---|
| ADD TO LAND USE SUMMARY | MDL | 2.0 ± AC | 10 LOTS |
| | LD | 2.1 ± AC | 3 LOTS |

# LAND USE

SOUTHPARK PLANNED DEVELOPMENT
SWD LAND COMPANY
CITY OF DIXON JUNE 1993
Revised: September 1993

DONN C REINERS INC

## SUMMARY

The planned development of **SOUTHPARK** provides a logical direction for growth for the City of Dixon. Close to downtown and adjacent to the mixed use area north of West Cherry Street, the project completes the land use transition from downtown commercial to a fully integrated residential community. Existing infrastructure can be readily extended to the project, essentially as an "in-fill" condition. **SOUTHPARK**, with its proximity to the central core of Dixon, will enhance the viability of downtown and will serve as a stimulus to revitalizing the retail and service sectors. The inclusion of **SOUTHPARK** in the General Plan will create new traffic circulation possibilities, relieving congestion on the main east-west roadways through town. The innovative land use patterns will provide a variety of housing types and densities with emphasis placed on providing affordable housing, and will maintain the small town atmosphere that is so important to the current residents of Dixon.

September 1993

# City of Dixon

600 East A Street Dixon, Ca. 95620
(916) 678-2326

NO. ____________
DATE 2-7-91
FEE 8,990.40
REC.# ____________
BY ____________

## ZONE AMENDMENT APPLICATION

PROPERTY OWNER(S) David W. Schulze, et al.

MAILING ADDRESS 44696 Fairway Estates Place PHONE ____________

CITY El Macero STATE California ZIP 95618

AGENT NAME SWD Land Company PHONE (916) 737-8640

ADDRESS P.O. Box 255009

CITY Sacramento STATE California ZIP 95865-5009

PROPERTY LOCATION(ATTACH LEGAL DESCRIPTION) South of West Cherry Street, East side of the Southern Pacific Railroad tracks

THE PETITIONER IS REQUESTING THE PROPERTY TO BE RECLASSIFIED FROM ZONE Agricultural TO ZONE Residential with a small portion of Neighborhood Commercia

Explain the reason for the proposed zone change. Use separate sheet to answer the following:

1. Such change is necessary for the preservation and enjoyment of a substantial property right because
2. Such change will not be materially detrimental to the public welfare nor the property of other persons located in the vicinity because
3. The Granting of this change of zone will not adversely affect the General Plan or any specific plan adopted by the City of Dixon because

NOTE: State in detail wherein the conditions applicable to this property establish the above statements.

ATTACH A MAP, accurately drawn to scale, showing the area to be rezoned, existing lot sizes, location of all structures, roads, and other information that will aid the City in understanding the proposed zone change. Eighteen (18) copies shall be provided and it is suggested that you have a professional draftsman, engineer, architect or surveyor prepare the map.

INCLUDE A LEGAL DESCRIPTION OF THE SITE(S) INVOLVED IN THE REZONING

OTHER INFORMATION MAY BE NEEDED DEPENDING UPON THE COMPLEXITY AND LOCATION OF THE PROJECT.

AN ENVIRONMENTAL QUESTIONNAIRE FORM MUST BE COMPLETED AND SUBMITTED WITH THIS APPLICATION

STATE OF CALIFORNIA,

________ County of Sacramento } ss.

On this 4th day of February in the year one thousand nine hundred and ninety one before me, Deborah L. Boersma, a Notary Public in and for the County of Sacramento, State of California, duly commissioned and sworn, personally appeared Kathleen Schulze proven to ~~known to~~ me to be one of the partners of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal, in the County of Yolo the day and year in this certificate first above written.

OFFICIAL SEAL
DEBORAH L. BOERSMA
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Sept. 3, 1994

Deborah L. Boersma

Notary Public in and for the County of Sacramento, State of California.

My Commission Expires September 3, 1994

STATE OF CALIFORNIA,

________ County of Sacramento } ss.

On this 4th day of February in the year one thousand nine hundred and ninety one before me, Deborah L. Boersma, a Notary Public in and for the County of Sacramento, State of California, duly commissioned and sworn, personally appeared DAVID Ward Schulze proven to ~~known to~~ me to be one of the partners of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal, in the County of Yolo the day and year in this certificate first above written.

OFFICIAL SEAL
DEBORAH L. BOERSMA
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Sept. 3, 1994

Deborah L. Boersma

Notary Public in and for the County of Sacramento, State of California.

My Commission Expires September 3, 1994

STATE OF CALIFORNIA,

County of Sacramento } ss.

On this 4th day of ~~Sacramento~~ February in the year one thousand nine hundred and ninety one before me, Deborah L. Boersma, a Notary Public in and for the County of Sacramento, State of California, duly commissioned and sworn, personally appeared Jeanette Swanson Curry proven to ~~known to~~ me to be one of the partners of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal, in the County of Yolo the day and year in this certificate first above written.

OFFICIAL SEAL
DEBORAH L. BOERSMA
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Sept. 3, 1994

Deborah L. Boersma
Notary Public in and for the County of Sacramento, State of California.

My Commission Expires September 3, 1994

STATE OF CALIFORNIA,

County of Sacramento } ss.

On this 4th day of February in the year one thousand nine hundred and ninety one before me, Deborah L. Boersma, a Notary Public in and for the County of Sacramento, State of California, duly commissioned and sworn, personally appeared Robert Curry Schulze proven to ~~known to~~ me to be one of the partners of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal, in the County of Yolo the day and year in this certificate first above written.

OFFICIAL SEAL
DEBORAH L. BOERSMA
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Sept. 3, 1994

Deborah L. Boersma
Notary Public in and for the County of Sacramento, State of California.

My Commission Expires September 3, 1994

Applicant SWD Land Company

We, the undersigned, depose and state that we are the owners of property involved in this petition:

**THE SIGNATURES MUST BE NOTARIZED**

David W. Schulze — SIGNATURE — 2-4-91 DATE

Karlen A. Schulze — SIGNATURE — 2-4-91 DATE

Robert Currey Schulze Jr. — SIGNATURE — 2-4-91 DATE

Jeanette Swanson Schulze — SIGNATURE — 2-4-91 DATE

I HEREBY CERTIFY THAT THE FACTS AND INFORMATION CONTAINED IN THE ABOVE APPLICATION ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

APPLICANT OR AGENT ______________________
SIGNATURE
TIMOTHY S. LIEN, FOR: SWD LAND COMPANY

SWD LAND COMPANY
P. O. BOX 255009
SACRAMENTO, CALIFORNIA 95865-5009
(916) 737-8640

City of Dixon
Zone Amendment Application
Response to Questions 1, 2, and 3

We are proposing to amend the General Plan from Agricultural to Residential use. The property is becoming less and less viable as an agricultural use. The property is already contiguous to the City of Dixon on the north and partially on the west. There will soon be development to the east (Rancho del Vista). As the City of Dixon continues to grow and look toward expanding its boundaries to the south, agricultural use of the property will be more and more inhibited by surrounding properties. Conversely, the growth of Dixon will cause this property to become an important part of and benefit to the southerly part of Dixon and the City as a whole. It will provide needed high-quality residential development and important infrastructure to the City.

2/7/01

# City of Dixon


600 East A Street Dixon, Ca. 95620
(916) 678-2326


## GENERAL PLAN AMENDMENT APPLICATION

PROPERTY OWNER(S): David W. Schulze, et al.

MAILING ADDRESS: 44696 Fairway Estates Place PHONE:

CITY: El Macero STATE: California ZIP: 95618

AGENT NAME: SWD Land Company PHONE: (916) 737-8640

ADDRESS: P.O. Box 255009

CITY: Sacramento STATE: California ZIP: 95865-5009

PROPERTY LOCATION: (Attach Legal Description) South of West Cherry Street, East side of the Southern Pacific Railroad tracks

THE PETITIONER IS REQUESTING THE PROPERTY'S LAND USE DESIGNATION TO BE RECLASSIFIED FROM Agricultural

TO Residential with a small portion of Neighborhood Commercial

---

Explain the reasons for the proposed General Plan Amendment. Use separate sheets to answer the following:

1. Such change is necessary for the preservation and enjoyment of a substantial property right because
2. Such change will not be materially detrimental to the public welfare nor the property of other persons located in the vicinity because
3. The granting of this change of land use classification will not adversely affect the General Plan or any specific plan adopted by the City of Dixon because

NOTE: State in detail wherein the conditions applicable to this property establish the above statements.

ATTACH A MAP, accurately drawn to scale, showing the area to be reclassified, existing lot sizes, location of all structures, roads, trees and other information that will aid the City in understanding the proposed General Plan Amendment. Eighteen (18) copies shall be provided and it is suggested that you have a professional draftsman engineer, architect or surveyor prepare the map. ADDITIONALLY, A 8 1/2" x 11" CLEAR TRANSPARENCY FOR USE ON AN OVERHEAD PROJECTOR, SHALL BE SUBMITTED WITH APPLICATION.

INCLUDE A LEGAL DESCRIPTION OF THE SITE(S) INVOLVED IN THE GENERAL PLAN AMENDMENT.

OTHER INFORMATION MAY BE NEEDED DEPENDING UPON THE COMPLEXITY AND LOCATION OF THE PROJECT.

AN ENVIRONMENTAL INITIAL STUDY MUST BE COMPLETED AND SUBMITTED WITH THIS APPLICATION.

STATE OF CALIFORNIA,

County of Sacramento } ss.

On this 22nd day of January in the year one thousand
.ne hundred and ninety one before me, Deborah L. Boersma, a Notary Public in
id for the

County of Sacramento, State of California, duly commissioned and sworn, personally appeared David Ward Schulze.

proved to me on the basis of satisfactory evidence ~~known to me~~ to be one of the partners of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal, in the County of Yolo the day and year in this certificate first above written.

OFFICIAL SEAL
DEBORAH L. BOERSMA
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Sept. 3, 1994

Deborah L. Boersma

Notary Public in and for the County of Sacramento, State of California.

My Commission Expires September 3 1994

STATE OF CALIFORNIA,

County of Sacramento } ss.

On this 22nd day of January in the year one thousand
ine hundred and ninety one before me, Deborah L. Boersma, a Notary Public in
id for the

County of Sacramento, State of California, duly commissioned and sworn, personally appeared Kathleen H. Schulze.

proved to me on the basis of satisfactory evidence ~~known to me~~ to be one of the partners of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal, in the County of Yolo the day and year in this certificate first above written.

OFFICIAL SEAL
DEBORAH L. BOERSMA
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Sept. 3, 1994

Deborah L. Boersma

Notary Public in and for the County of Sacramento, State of California.

My Commission Expires September 3 1994

TATE OF CALIFORNIA,

County of Sacramento } ss.

On this 22nd day of January in the year one thousand ne hundred and ninety one before me, Deborah L Boersma, a Notary Public in for the County of Sacramento State of California, duly commissioned and sworn, personally appeared Robert Curry Schulze proved to me on the basis of satisfactory evidence ~~known to me~~ to be one of the partners of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal, in the County of Yolo the day and year in this certificate first above written.

OFFICIAL SEAL
DEBORAH L. BOERSMA
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Sept. 3, 1994

Deborah L. Boersma
Notary Public in and for the County of Sacramento, State of California.

My Commission Expires September 3, 1994

STATE OF CALIFORNIA,

County of Sacramento } ss.

On this 22nd day of January in the year one thousand hundred and ninety one before me, Deborah L. Boersma, a Notary Public in for the County of Sacramento, State of California, duly commissioned and sworn, personally appeared Jeanette Swanson Schulze proved to me on the basis of satisfactory evidence ~~known to me~~ to be one of the partners of the partnership that executed the within instrument, and acknowledged to me that such partnership executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal, in the County of Yolo the day and year in this certificate first above written.

OFFICIAL SEAL
DEBORAH L. BOERSMA
NOTARY PUBLIC - CALIFORNIA
SACRAMENTO COUNTY
My Comm. Expires Sept. 3, 1994

Deborah L Boersma
Notary Public in and for the County of Sacramento, State of California.

My Commission Expires September 3, 1994

GENERAL PLAN AMENDMENT APPLICATION - Page 2

Applicant: SWD Land Company

WE, THE UNDERSIGNED, DEPOSE AND STATE THAT WE ARE THE OWNERS OF PROPERTY INVOLVED IN THIS PETITION:

(THE SIGNATURES MUST BE NOTARIZED)

David W. Schulze 1-22-91
SIGNATURE DATE

1-22-91
SIGNATURE DATE

Robert C. Schulze 1-22-91
SIGNATURE DATE

Jeanette S. Schulze 1-22-91
SIGNATURE DATE

I HEREBY CERTIFY THAT THE FACTS AND INFORMATION CONTAINED IN THE ABOVE APPLICATION ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

OWNER OR AGENT: ______________________
SIGNATURE
TIMOTHY S. LIEN, FOR: SWD LAND COMPANY

**SWD LAND COMPANY**
**P.O. BOX 255009**
**SACRAMENTO, CALIFORNIA 95865-5009**
**(916) 737-8640**

January 21, 1991

City of Dixon
General Plan Amendment Application
Response to Questions 1, 2, and 3

We are proposing to amend the General Plan from Agricultural to Residential use. The property is becoming less and less viable as an agricultural use. The property is already contiguous to the City of Dixon on the north and partially on the west. There will soon be development to the east (Rancho del Vista). As the City of Dixon continues to grow and look toward expanding its boundaries to the South, agricultural use of the property will be more and more inhibited by surrounding properties. Conversely, the growth of Dixon will cause this property to become an important part of and benefit to the southerly part of Dixon and the City as a whole. It will provide needed high-quality residential development and important infrastructure to the City.

# APPENDIX D
# EXISTING TRAFFIC VOLUMES

## Table D-1A

## Existing AM Peak Hour Volumes

| sting AM Peak Hour ffic Volumes | Northbound | | | Eastbound | | | Southbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| I-80 WB ramp/Pedrick | 34 | 114 | 18 | 35 | 22 | 87 | 107 | 70 | 21 | 71 | 18 | 45 |
| I-80 EB ramp/Pedrick | 52 | 34 | 10 | 80 | 14 | 3 | 48 | 84 | 82 | 12 | 17 | 50 |
| Pedrick/Vaughn | 2 | 75 | 1 | 10 | 7 | 4 | 7 | 60 | 14 | 3 | 5 | 6 |
| Pedrick/Dixon | 15 | 24 | 3 | 50 | 32 | 12 | 3 | 22 | 52 | 1 | 21 | 3 |
| Pedrick/Midway | 2 | 12 | 1 | 14 | 42 | 6 | 9 | 13 | 10 | 5 | 28 | 4 |
| I-80 EB ramp/SH 113 | 71 | 387 | 0 | 9 | 0 | 221 | 0 | 99 | 10 | 0 | 0 | 0 |
| SH 113/Vaughn | 3 | 406 | 15 | 1 | 1 | 2 | 13 | 285 | 1 | 14 | 1 | 10 |
| SH 113/Industrial | 6 | 369 | 39 | 23 | 4 | 12 | 44 | 167 | 4 | 18 | 0 | 26 |
| SH 113/Stratford | 53 | 308 | 0 | 87 | 0 | 99 | 0 | 186 | 32 | 0 | 0 | 0 |
| SH 113/Adams | 27 | 251 | 0 | 139 | 0 | 12 | 0 | 219 | 0 | 0 | 0 | 0 |
| SH 113/"H" | 45 | 318 | 0 | 17 | 0 | 106 | 0 | 219 | 3 | 0 | 0 | 0 |
| SH 113/"A" | 83 | 145 | 31 | 58 | 182 | 35 | 60 | 125 | 57 | 19 | 177 | 34 |
| SH 113/Midway | 16 | 53 | 10 | 5 | 17 | 12 | 19 | 79 | 15 | 15 | 29 | 8 |
| Adams/"H" | 21 | 111 | 11 | 26 | 113 | 23 | 4 | 70 | 27 | 2 | 40 | 5 |
| Adams/"A" | 12 | 30 | 13 | 61 | 305 | 7 | 89 | 37 | 33 | 43 | 285 | 45 |
| N. Lincoln/Stratford | 27 | 2 | 10 | 13 | 65 | 5 | 1 | 2 | 11 | 6 | 154 | 1 |
| Pitt School/I-80 WB ra | 0 | 20 | 176 | 0 | 0 | 0 | 1 | 27 | 0 | 167 | 0 | 0 |
| Pitt School/Stratford | 265 | 109 | 50 | 3 | 54 | 94 | 56 | 127 | 11 | 40 | 91 | 83 |
| Pitt School/"H" | 1 | 173 | 18 | 4 | 1 | 0 | 34 | 121 | 4 | 22 | 3 | 57 |
| Pitt School/"A" | 7 | 31 | 15 | 13 | 161 | 6 | 61 | 17 | 38 | 4 | 152 | 67 |
| Pitt School/Porter | 0 | 7 | 9 | 1 | 41 | 0 | 2 | 16 | 6 | 8 | 65 | 2 |
| I-80 WB ramp/Schroeder | 0 | 0 | 0 | 53 | 190 | 0 | 2 | 0 | 37 | 0 | 26 | 48 |
| I-80 WB ramp/Dixon | 0 | 0 | 0 | 15 | 100 | 0 | 42 | 0 | 20 | 0 | 29 | 227 |
| Batavia (I80 Rp)/Dixon | 19 | 0 | 105 | 0 | 83 | 55 | 0 | 0 | 0 | 12 | 227 | 0 |
| Batavia/I-80 EB ramp | 2 | 0 | 10 | 0 | 117 | 2 | 0 | 0 | 0 | 10 | 58 | 0 |
| Batavia/Midway | 2 | 4 | 6 | 4 | 85 | 1 | 2 | 5 | 2 | 10 | 85 | 0 |
| "A"/Evans | 0 | 0 | 3 | 12 | 171 | 3 | 6 | 0 | 45 | 1 | 197 | 2 |
| Jackson/"A" | 46 | 6 | 15 | 55 | 245 | 91 | 4 | 7 | 32 | 1 | 273 | 3 |

# Table D-1B

## Existing PM Peak Hour Volumes

| xisting PM Peak Hour raffic Volumes | Northbound | | | Eastbound | | | Southbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| I-80 WB ramp/Pedrick | 36 | 140 | 26 | 23 | 38 | 70 | 109 | 76 | 40 | 72 | 55 | 56 |
| I-80 EB ramp/Pedrick | 46 | 51 | 10 | 132 | 13 | 5 | 35 | 107 | 60 | 13 | 18 | 53 |
| Pedrick/Vaughn | 4 | 57 | 0 | 9 | 13 | 3 | 7 | 75 | 25 | 3 | 12 | 7 |
| Pedrick/Dixon | 9 | 21 | 2 | 7 | 30 | 7 | 5 | 25 | 45 | 0 | 42 | 7 |
| Pedrick/Midway | 1 | 11 | 0 | 15 | 43 | 6 | 11 | 11 | 12 | 2 | 46 | 10 |
| I-80 EB ramp/SH 113 | 80 | 236 | 0 | 13 | 0 | 391 | 0 | 56 | 8 | 0 | 0 | 0 |
| SH 113/Vaughn | 4 | 311 | 21 | 0 | 0 | 3 | 8 | 409 | 0 | 26 | 2 | 6 |
| SH 113/Industrial | 10 | 284 | 20 | 17 | 2 | 23 | 25 | 433 | 32 | 70 | 6 | 60 |
| SH 113/Stratford | 95 | 275 | 0 | 62 | 0 | 84 | 0 | 457 | 87 | 0 | 0 | 0 |
| SH 113/Adams | 69 | 312 | 0 | 94 | 0 | 38 | 0 | 306 | 2 | 0 | 0 | 0 |
| SH 113/"H" | 69 | 336 | 0 | 11 | 0 | 89 | 0 | 311 | 7 | 0 | 0 | 0 |
| SH 113/"A" | 115 | 214 | 31 | 102 | 158 | 109 | 88 | 223 | 100 | 23 | 155 | 62 |
| SH 113/Midway | 12 | 93 | 19 | 18 | 16 | 12 | 22 | 69 | 30 | 18 | 17 | 22 |
| Adams/"H" | 64 | 138 | 2 | 58 | 95 | 65 | 17 | 251 | 114 | 2 | 45 | 8 |
| Adams/"A" | 16 | 59 | 17 | 46 | 319 | 14 | 122 | 58 | 88 | 45 | 325 | 115 |
| N. Lincoln/Stratford | 21 | 1 | 23 | 12 | 201 | 24 | 7 | 0 | 11 | 18 | 112 | 2 |
| Pitt School/I-80 WB ra | 0 | 43 | 117 | 0 | 0 | 0 | 2 | 44 | 0 | 265 | 0 | 5 |
| Pitt School/Stratford | 138 | 87 | 61 | 1 | 148 | 127 | 97 | 202 | 9 | 71 | 86 | 71 |
| Pitt School/"H" | 0 | 141 | 21 | 1 | 1 | 0 | 65 | 234 | 0 | 18 | 2 | 73 |
| Pitt School/"A" | 5 | 20 | 19 | 41 | 248 | 10 | 92 | 32 | 32 | 18 | 165 | 78 |
| Pitt School/Porter | 0 | 8 | 21 | 19 | 106 | 4 | 1 | 16 | 4 | 9 | 48 | 3 |
| I-80 WB ramp/Schroeder | 0 | 0 | 0 | 61 | 118 | 0 | 2 | 0 | 48 | 0 | 54 | 58 |
| I-80 WB ramp/Dixon | 0 | 0 | 0 | 16 | 66 | 0 | 87 | 0 | 36 | 0 | 56 | 161 |
| Batavia (I80 Rp)/Dixon | 40 | 0 | 228 | 0 | 97 | 50 | 0 | 0 | 0 | 31 | 174 | 0 |
| Batavia/I-80 EB ramp | 42 | 0 | 28 | 0 | 237 | 37 | 0 | 0 | 0 | 36 | 43 | 0 |
| Batavia/Midway | 1 | 11 | 7 | 3 | 146 | 3 | 13 | 2 | 4 | 9 | 90 | 7 |
| "A"/Evans | 0 | 0 | 0 | 32 | 295 | 0 | 4 | 0 | 8 | 2 | 192 | 8 |
| Jackson/"A" | 101 | 9 | 26 | 24 | 339 | 110 | 14 | 8 | 85 | 4 | 317 | 11 |

## Table D-2A

## Existing AM Peak Hour Volumes Adjusted For City Road Improvements

| xisting AM Peak Hour Traffic Volumes djusted to Account for . First St Area Improvements & Rail Grade Separation | Northbound | | | Eastbound | | | Southbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| I-80 WB ramp/Pedrick | 34 | 114 | 18 | 35 | 22 | 87 | 107 | 70 | 21 | 71 | 18 | 45 |
| I-80 EB ramp/Pedrick | 52 | 34 | 10 | 80 | 14 | 3 | 48 | 84 | 82 | 12 | 17 | 50 |
| Pedrick/Vaughn | 2 | 75 | 1 | 10 | 7 | 4 | 7 | 60 | 14 | 3 | 5 | 6 |
| Pedrick/Dixon | 15 | 24 | 3 | 50 | 32 | 12 | 3 | 22 | 52 | 1 | 21 | 3 |
| Pedrick/Midway | 2 | 12 | 1 | 14 | 42 | 6 | 9 | 13 | 10 | 5 | 28 | 4 |
| I-80 EB ramp/SH 113 | 71 | 387 | 0 | 9 | 0 | 221 | 0 | 99 | 10 | 0 | 0 | 0 |
| SH 113/Vaughn | 3 | 379 | 15 | 28 | 1 | 2 | 13 | 268 | 18 | 14 | 1 | 10 |
| SH 113/Industrial | 6 | 342 | 39 | 23 | 4 | 12 | 44 | 150 | 4 | 18 | 0 | 26 |
| SH 113/Stratford | 60 | 291 | 0 | 77 | 0 | 99 | 0 | 180 | 21 | 0 | 0 | 0 |
| SH 113/Adams | 0 | 380 | 0 | 0 | 0 | 0 | 0 | 219 | 0 | 0 | 0 | 0 |
| SH 113/"H" | 65 | 298 | 0 | 139 | 0 | 118 | 0 | 207 | 3 | 0 | 0 | 0 |
| SH 113/"A" | 63 | 145 | 31 | 58 | 182 | 15 | 60 | 125 | 57 | 19 | 177 | 34 |
| SH 113/Midway | 16 | 53 | 10 | 5 | 17 | 12 | 19 | 79 | 15 | 15 | 29 | 8 |
| Adams/"H" | 21 | 2 | 120 | 0 | 124 | 23 | 18 | 70 | 21 | 2 | 40 | 25 |
| Adams/"A" | 12 | 30 | 13 | 61 | 285 | 7 | 89 | 37 | 33 | 43 | 265 | 45 |
| N. Lincoln/Stratford | 27 | 17 | 10 | 13 | 65 | 5 | 12 | 8 | 11 | 6 | 154 | 13 |
| Pitt School/I-80 WB ra | 0 | 20 | 176 | 0 | 0 | 0 | 1 | 27 | 0 | 167 | 0 | 0 |
| Pitt School/Stratford | 265 | 109 | 50 | 3 | 54 | 94 | 56 | 127 | 11 | 40 | 91 | 83 |
| Pitt School/"H" | 1 | 173 | 18 | 4 | 1 | 0 | 34 | 121 | 4 | 22 | 3 | 57 |
| Pitt School/"A" | 22 | 36 | 15 | 13 | 146 | 21 | 56 | 22 | 38 | 4 | 137 | 62 |
| Pitt School/Porter | 0 | 7 | 9 | 1 | 41 | 0 | 2 | 16 | 6 | 8 | 65 | 2 |
| I-80 WB ramp/Schroeder | 0 | 0 | 0 | 53 | 190 | 0 | 2 | 0 | 37 | 0 | 26 | 48 |
| I-80 WB ramp/Dixon | 0 | 0 | 0 | 15 | 100 | 0 | 42 | 0 | 20 | 0 | 29 | 227 |
| Batavia (I80 Rp)/Dixon | 19 | 0 | 105 | 0 | 83 | 55 | 0 | 0 | 0 | 12 | 227 | 0 |
| Batavia/I-80 EB ramp | 2 | 0 | 10 | 0 | 117 | 2 | 0 | 0 | 0 | 10 | 58 | 0 |
| Batavia/Midway | 2 | 4 | 6 | 4 | 85 | 1 | 2 | 5 | 2 | 10 | 85 | 0 |
| "A"/Evans | 0 | 0 | 3 | 12 | 171 | 3 | 6 | 0 | 45 | 1 | 197 | 2 |
| Jackson/"A" | 46 | 6 | 15 | 55 | 225 | 91 | 4 | 7 | 32 | 1 | 253 | 3 |

## Table D-2B

## Existing PM Peak Hour Volumes Adjusted For City Road Improvements

| xisting PM Peak Hour Traffic Volumes<br>justed to Account for<br>First St Area Improvements & Rail Grade Separation | Northbound | | | Eastbound | | | Southbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| I-80 WB ramp/Pedrick | 36 | 140 | 26 | 23 | 38 | 70 | 109 | 76 | 40 | 72 | 55 | 56 |
| I-80 EB ramp/Pedrick | 46 | 51 | 10 | 132 | 13 | 5 | 35 | 107 | 60 | 13 | 18 | 53 |
| Pedrick/Vaughn | 4 | 57 | 0 | 9 | 13 | 3 | 7 | 75 | 25 | 3 | 12 | 7 |
| Pedrick/Dixon | 9 | 21 | 2 | 7 | 30 | 7 | 5 | 25 | 45 | 0 | 42 | 7 |
| Pedrick/Midway | 1 | 11 | 0 | 15 | 43 | 6 | 11 | 11 | 12 | 2 | 46 | 10 |
| I-80 EB ramp/SH 113 | 80 | 236 | 0 | 13 | 0 | 391 | 0 | 56 | 8 | 0 | 0 | 0 |
| SH 113/Vaughn | 4 | 298 | 21 | 13 | 0 | 3 | 8 | 393 | 16 | 26 | 2 | 6 |
| SH 113/Industrial | 10 | 271 | 20 | 17 | 2 | 23 | 25 | 417 | 32 | 70 | 6 | 60 |
| SH 113/Stratford | 112 | 271 | 0 | 53 | 0 | 84 | 0 | 451 | 77 | 0 | 0 | 0 |
| SH 113/Adams | 0 | 419 | 0 | 0 | 0 | 8 | 0 | 306 | 0 | 0 | 0 | 0 |
| SH 113/"H" | 121 | 284 | 0 | 101 | 0 | 119 | 0 | 281 | 7 | 0 | 0 | 0 |
| SH 113/"A" | 85 | 214 | 31 | 102 | 158 | 79 | 88 | 223 | 100 | 23 | 155 | 62 |
| SH 113/Midway | 12 | 93 | 19 | 18 | 16 | 12 | 22 | 69 | 30 | 18 | 17 | 22 |
| Adams/"H" | 64 | 72 | 68 | 30 | 119 | 65 | 47 | 251 | 108 | 2 | 45 | 60 |
| Adams/"A" | 16 | 59 | 17 | 46 | 289 | 14 | 122 | 58 | 88 | 45 | 295 | 115 |
| N. Lincoln/Stratford | 21 | 5 | 23 | 12 | 201 | 24 | 17 | 6 | 11 | 18 | 112 | 11 |
| Pitt School/I-80 WB ra | 0 | 43 | 117 | 0 | 0 | 0 | 2 | 44 | 0 | 265 | 0 | 5 |
| Pitt School/Stratford | 138 | 87 | 61 | 1 | 148 | 127 | 97 | 202 | 9 | 71 | 86 | 71 |
| Pitt School/"H" | 0 | 141 | 21 | 1 | 1 | 0 | 65 | 234 | 0 | 18 | 2 | 73 |
| Pitt School/"A" | 25 | 30 | 19 | 41 | 226 | 32 | 84 | 40 | 32 | 18 | 145 | 68 |
| Pitt School/Porter | 0 | 8 | 21 | 19 | 106 | 4 | 1 | 16 | 4 | 9 | 48 | 3 |
| I-80 WB ramp/Schroeder | 0 | 0 | 0 | 61 | 118 | 0 | 2 | 0 | 48 | 0 | 54 | 58 |
| I-80 WB ramp/Dixon | 0 | 0 | 0 | 16 | 66 | 0 | 87 | 0 | 36 | 0 | 56 | 161 |
| Batavia (I80 Rp)/Dixon | 40 | 0 | 228 | 0 | 97 | 50 | 0 | 0 | 0 | 31 | 174 | 0 |
| Batavia/I-80 EB ramp | 42 | 0 | 28 | 0 | 237 | 37 | 0 | 0 | 0 | 36 | 43 | 0 |
| Batavia/Midway | 1 | 11 | 7 | 3 | 146 | 3 | 13 | 2 | 4 | 9 | 90 | 7 |
| "A"/Evans | 0 | 0 | 0 | 32 | 295 | 0 | 4 | 0 | 8 | 2 | 192 | 8 |
| Jackson/"A" | 101 | 9 | 26 | 24 | 309 | 110 | 14 | 8 | 85 | 4 | 287 | 11 |

## Table D-3A

## Existing Plus Project AM Peak Hour Volumes

CONDITION : Existing + Project AM adjusted for Imps. FILE exam3.vc

| N-S STREET | E-W STREET | SOUTH BOUND RIGHT | SOUTH BOUND THRU | SOUTH BOUND LEFT | WEST BOUND RIGHT | WEST BOUND THRU | WEST BOUND LEFT | NORTH BOUND RIGHT | NORTH BOUND THRU | NORTH BOUND LEFT | EAST BOUND RIGHT | EAST BOUND THRU | EAST BOUND LEFT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First St. | A St. | 57 | 179 | 60 | 34 | 177 | 51 | 90 | 378 | 348 | 92 | 182 | 58 |
| Jackson St. | A St. | 32 | 7 | 4 | 3 | 538 | 1 | 15 | 6 | 46 | 91 | 302 | 55 |
| Adams St. | A St. | 33 | 37 | 89 | 45 | 461 | 43 | 13 | 30 | 12 | 7 | 324 | 61 |
| Pitt Schl Rd. | A St. | 38 | 22 | 56 | 62 | 333 | 4 | 15 | 36 | 22 | 6 | 185 | 13 |
| Evans Rd. | A St. | 45 | 0 | 6 | 2 | 393 | 1 | 3 | 0 | 0 | 3 | 210 | 12 |
| Batavia Rd. | Dixon Rd. | 0 | 0 | 0 | 0 | 423 | 12 | 125 | 0 | 19 | 55 | 102 | 0 |
| Batavia Rd. | I-80 EB Ramps | 0 | 0 | 0 | 0 | 58 | 10 | 10 | 0 | 2 | 2 | 137 | 0 |
| Schroeder Rd. | I-80 WB Ramps | 37 | 0 | 2 | 48 | 26 | 0 | 0 | 0 | 0 | 0 | 339 | 53 |
| Schroeder Rd. | Dixon Ave. | 20 | 0 | 42 | 376 | 76 | 0 | 0 | 0 | 0 | 0 | 119 | 15 |
| Highway 113 | Midway Rd. | 15 | 85 | 19 | 8 | 29 | 15 | 10 | 54 | 16 | 12 | 17 | 5 |
| First St. | W. Cherry St. | 51 | 273 | 0 | 0 | 0 | 0 | 0 | 585 | 5 | 5 | 0 | 143 |
| First St. | H St. | 3 | 229 | 0 | 0 | 0 | 0 | 0 | 441 | 65 | 118 | 0 | 139 |
| First St. | Vaughn Rd. | 18 | 290 | 13 | 10 | 1 | 14 | 15 | 522 | 3 | 2 | 1 | 28 |
| First St. | I-80 EB Ramps | 10 | 99 | 0 | 0 | 0 | 0 | 0 | 530 | 71 | 243 | 0 | 9 |
| Pitt Schl Rd. | Porter Rd. | 6 | 16 | 2 | 2 | 65 | 8 | 9 | 7 | 0 | 0 | 41 | 1 |
| Pitt Schl Rd. | Parkway Blvd. | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 |
| Vill. Pkwy W. | Parkway Blvd. | 0 | 0 | 79 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vill. Pkwy E. | Parkway Blvd. | 0 | 0 | 79 | 14 | 14 | 0 | 0 | 0 | 0 | 0 | 79 | 0 |
| First St. | Parkway Blvd. | 27 | 119 | 0 | 0 | 0 | 0 | 0 | 67 | 0 | 0 | 0 | 158 |
| First St. | Vill. Pkwy | 106 | 140 | 0 | 0 | 0 | 0 | 0 | 224 | 1 | 6 | 0 | 296 |

**Table D-3B**

**Existing Plus Project PM Peak Hour Volumes**

CONDITION : Existing + Project PM adjusted for Imps. FILE expm3.vc

| | | SOUTH BOUND | | | WEST BOUND | | | NORTH BOUND | | | EAST BOUND | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N-S STREET | E-W STREET | RIGHT | THRU | LEFT | RIGHT | THRU | LEFT | RIGHT | THRU | LEFT | RIGHT | THRU | LEFT |
| First St. | A St. | 100 | 489 | 88 | 62 | 155 | 92 | 78 | 329 | 229 | 401 | 158 | 102 |
| Jackson St. | A St. | 85 | 8 | 14 | 11 | 431 | 4 | 26 | 9 | 101 | 110 | 631 | 24 |
| Adams St. | A St. | 88 | 58 | 122 | 115 | 369 | 45 | 17 | 59 | 16 | 14 | 508 | 46 |
| Pitt Schl Rd. | A St. | 32 | 40 | 84 | 68 | 219 | 18 | 19 | 30 | 25 | 32 | 445 | 41 |
| Evans Rd. | A St. | 8 | 0 | 4 | 8 | 266 | 2 | 0 | 0 | 0 | 0 | 514 | 32 |
| Batavia Rd. | Dixon Rd. | 0 | 0 | 0 | 0 | 248 | 31 | 393 | 0 | 40 | 50 | 150 | 0 |
| Batavia Rd. | I-80 EB Ramps | 0 | 0 | 0 | 0 | 43 | 36 | 28 | 0 | 42 | 37 | 402 | 0 |
| Schroeder Rd. | I-80 WB Ramps | 48 | 0 | 2 | 58 | 54 | 0 | 0 | 0 | 0 | 0 | 156 | 61 |
| Schroeder Rd. | Dixon Ave. | 36 | 0 | 87 | 199 | 92 | 0 | 0 | 0 | 0 | 0 | 119 | 16 |
| Highway 113 | Midway Rd. | 30 | 72 | 22 | 22 | 17 | 18 | 19 | 99 | 12 | 12 | 16 | 18 |
| First St. | W. Cherry St. | 155 | 722 | 0 | 0 | 0 | 0 | 0 | 473 | 20 | 5 | 0 | 78 |
| First St. | H St. | 7 | 440 | 0 | 0 | 0 | 0 | 0 | 325 | 121 | 119 | 0 | 101 |
| First St. | Vaughn Rd. | 16 | 552 | 8 | 6 | 2 | 26 | 21 | 339 | 4 | 3 | 0 | 13 |
| First St. | I-80 EB Ramps | 8 | 56 | 0 | 0 | 0 | 0 | 0 | 277 | 80 | 550 | 0 | 13 |
| Pitt Schl Rd. | Porter Rd. | 4 | 16 | 1 | 3 | 48 | 9 | 21 | 8 | 0 | 4 | 106 | 19 |
| Pitt Schl Rd. | Parkway Blvd. | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 |
| Vill. Pkwy W. | Parkway Blvd. | 0 | 0 | 38 | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vill. Pkwy E. | Parkway Blvd. | 0 | 0 | 38 | 87 | 87 | 0 | 0 | 0 | 0 | 0 | 38 | 0 |
| First St. | Parkway Blvd. | 174 | 123 | 0 | 0 | 0 | 0 | 0 | 139 | 0 | 0 | 0 | 75 |
| First St. | Vill. Pkwy | 349 | 294 | 0 | 0 | 0 | 0 | 0 | 208 | 6 | 3 | 0 | 173 |

**Table D-4A**
**Cumulative No Project AM Peak Hour Volumes**

| Total Year 2010 AM Peak Hour Traffic Volumes Without Southpark | Northbound | | | Eastbound | | | Southbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Pedrick/WB I-80 ramps | 34 | 114 | 776 | 35 | 22 | 87 | 107 | 70 | 21 | 1928 | 18 | 45 |
| Pedrick/EB I-80 ramps | 876 | 792 | 10 | 80 | 14 | 864 | 48 | 1941 | 82 | 12 | 17 | 50 |
| Pedrick/Vaughn | 30 | 202 | 1 | 278 | 7 | 24 | 7 | 145 | 520 | 3 | 5 | 6 |
| Pedrick/Dixon | 15 | 24 | 3 | 206 | 32 | 12 | 3 | 22 | 157 | 1 | 21 | 3 |
| Pedrick/Midway | 2 | 12 | 1 | 14 | 42 | 6 | 9 | 13 | 10 | 5 | 28 | 4 |
| N. First/EB I-80 ramps | 840 | 1238 | | 9 | | 1821 | | 1290 | 10 | | | |
| N. First/Vaughn | 19 | 601 | 204 | 280 | 207 | 19 | 133 | 626 | 629 | 186 | 131 | 41 |
| N. First/Industrial | 13 | 792 | 124 | 49 | 4 | 16 | 55 | 644 | 10 | 27 | | 27 |
| N. First/Stratford | 77 | 559 | | 330 | 16 | 130 | 107 | 362 | 190 | | 4 | 20 |
| N. First/N. Adams | | 606 | 35 | | | | | 288 | | | | 60 |
| N. First/"H" | 60 | 412 | 88 | 268 | 202 | 110 | 53 | 223 | 3 | 97 | 57 | 18 |
| First/"A" | 80 | 229 | 47 | 83 | 250 | 19 | 74 | 163 | 75 | 26 | 236 | 55 |
| SH 113/Midway | 28 | 91 | 10 | 7 | 17 | 26 | 19 | 89 | 34 | 15 | 29 | 8 |
| N. Adams/ West "H" | 21 | 2 | 298 | | 269 | 23 | 18 | 145 | 90 | 37 | 57 | 25 |
| N. Adams/West "A" | 12 | 39 | 13 | 214 | 382 | 7 | 89 | 46 | 101 | 43 | 358 | 45 |
| N. Lincoln/Stratford | 43 | 160 | 10 | 474 | 160 | 21 | 71 | 148 | 277 | 6 | 179 | 76 |
| Pitt School/WB I-80 rps | | 48 | 593 | | | | 1 | 80 | | 480 | | |
| Pitt School/Stratford | 543 | 296 | 198 | 3 | 504 | 282 | 166 | 384 | 11 | 147 | 163 | 342 |
| Pitt School/West "H" | 3 | 447 | 42 | 93 | 26 | 13 | 55 | 275 | 31 | 56 | 25 | 57 |
| Pitt School/West "A" | 27 | 99 | 69 | 247 | 378 | 22 | 57 | 44 | 276 | 34 | 335 | 63 |
| Pitt School/Porter | | 24 | 9 | 1 | 41 | | 2 | 41 | 6 | 8 | 65 | 2 |
| WB I-80 rps/Schroeder | | | | 53 | 1042 | | 2 | | 37 | | 1088 | 48 |
| WB I-80 ramps/Dixon | | | | 15 | 579 | | 964 | | 160 | | 334 | 1079 |
| EB I-80 ramps/Dixon | 254 | | 445 | | 771 | 768 | | | | 469 | 1148 | |
| Batavia/EB I-80 ramps | 384 | | 261 | | 441 | 397 | | | | 586 | 652 | |
| Batavia/Midway | 2 | 4 | 6 | 72 | 89 | 1 | 2 | 5 | 156 | 10 | 124 | 5 |
| Evans/Dixon | 349 | 50 | 217 | 194 | 424 | 94 | 6 | 87 | 206 | 213 | 423 | 6 |
| Jackson/West "A" | 46 | 6 | 15 | 55 | 322 | 91 | 4 | 7 | 32 | 1 | 346 | 3 |

## Table D-4B
## Cumulative No Project PM Peak Hour Volumes

| Total Year 2010 PM Peak Hour Traffic Volumes Without Southpark | Northbound | | | Eastbound | | | Southbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Pedrick/WB I-80 ramps | 36 | 140 | 966 | 23 | 38 | 70 | 109 | 76 | 40 | 1141 | 55 | 56 |
| Pedrick/EB I-80 ramps | 1885 | 991 | 10 | 132 | 13 | 869 | 35 | 1176 | 60 | 13 | 18 | 53 |
| Pedrick/Vaughn | 38 | 195 | | 537 | 13 | 38 | 7 | 235 | 374 | 3 | 12 | 7 |
| Pedrick/Dixon | 9 | 21 | 2 | 180 | 30 | 7 | 5 | 25 | 240 | | 42 | 7 |
| Pedrick/Midway | 1 | 11 | | 15 | 43 | 6 | 11 | 11 | 12 | 2 | 46 | 10 |
| N. First/EB I-80 ramps | 1411 | 1822 | | 13 | | 1533 | | 979 | 8 | | | |
| N. First/Vaughn | 22 | 745 | 302 | 619 | 170 | 21 | 101 | 725 | 342 | 323 | 229 | 162 |
| N. First/Industrial | 15 | 990 | 45 | 28 | 2 | 30 | 28 | 1100 | 59 | 153 | 6 | 70 |
| N. First/Stratford | 176 | 578 | 2 | 330 | 16 | 142 | 59 | 830 | 410 | 3 | 22 | 124 |
| N. First/N. Adams | | 644 | 123 | | | 8 | | 504 | | | | 148 |
| N. First/"H" | 100 | 354 | 174 | 323 | 353 | 98 | 145 | 334 | 7 | 244 | 383 | 55 |
| First/"A" | 93 | 277 | 39 | 142 | 239 | 97 | 118 | 318 | 145 | 40 | 237 | 90 |
| SH 113/Midway | 29 | 105 | 19 | 39 | 16 | 25 | 22 | 99 | 34 | 18 | 17 | 22 |
| N. Adams/West "H" | 64 | 72 | 242 | 30 | 499 | 65 | 47 | 360 | 240 | 124 | 285 | 60 |
| N. Adams/West "A" | 16 | 69 | 17 | 185 | 428 | 14 | 122 | 68 | 284 | 45 | 430 | 115 |
| N. Lincoln/Stratford | 40 | 179 | 23 | 341 | 252 | 43 | 98 | 194 | 525 | 18 | 208 | 86 |
| Pitt School/WB I-80 rps | | 97 | 823 | | | | 2 | 80 | | 672 | | 5 |
| Pitt School/Stratford | 407 | 307 | 209 | 1 | 455 | 325 | 203 | 539 | 9 | 236 | 172 | 611 |
| Pitt School/West "H" | 14 | 380 | 95 | 48 | 46 | 4 | 65 | 534 | 101 | 96 | 49 | 79 |
| Pitt School/West "A" | 28 | 66 | 60 | 477 | 644 | 38 | 86 | 98 | 479 | 66 | 611 | 70 |
| Pitt School/Porter | | 39 | 21 | 9 | 106 | 4 | 1 | 37 | 4 | 9 | 48 | 3 |
| WB I-80 rps/Schroeder | | | | 61 | 934 | | 2 | | 48 | | 1244 | 58 |
| WB I-80 ramps/Dixon | | | | 16 | 692 | | 1096 | | 217 | | 531 | 977 |
| EB I-80 ramps/Dixon | 397 | | 997 | | 1161 | 621 | | | | 489 | 1108 | |
| Batavia/EB I-80 ramps | 652 | | 436 | | 955 | 388 | | | | 498 | 610 | |
| Batavia/Midway | 1 | 11 | 7 | 158 | 189 | 3 | 16 | 2 | 119 | 9 | 97 | 8 |
| Evans/Dixon | 195 | 187 | 518 | 207 | 633 | 461 | 8 | 191 | 168 | 507 | 602 | 9 |
| Jackson/West "A" | 101 | 9 | 26 | 24 | 448 | 110 | 14 | 8 | 85 | 4 | 422 | 11 |

## Table D-5A
## Cumulative Plus Project AM Peak Hour Volumes

| Total Year 2010 AM Peak Hour Traffic Volumes | Northbound | | | Eastbound | | | Southbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Pedrick/WB I-80 ramps | 34 | 114 | 776 | 35 | 22 | 87 | 107 | 70 | 21 | 1941 | 18 | 45 |
| Pedrick/EB I-80 ramps | 957 | 792 | 10 | 80 | 14 | 864 | 48 | 1954 | 82 | 12 | 17 | 50 |
| Pedrick/Vaughn | 34 | 301 | 1 | 278 | 7 | 27 | 7 | 169 | 520 | 3 | 5 | 6 |
| Pedrick/Dixon | 15 | 24 | 3 | 309 | 32 | 12 | 3 | 22 | 184 | 1 | 21 | 3 |
| Pedrick/Midway | 2 | 12 | 1 | 14 | 42 | 6 | 9 | 13 | 10 | 5 | 28 | 4 |
| N.First/EB I-80 ramps | 840 | 1319 | | 9 | | 1834 | | 1290 | 10 | | | |
| N. First/Vaughn | 19 | 691 | 218 | 280 | 207 | 19 | 133 | 644 | 629 | 196 | 131 | 41 |
| N. First/Industrial | 13 | 911 | 124 | 49 | 4 | 16 | 55 | 672 | 10 | 27 | | 27 |
| N. First/Stratford | 77 | 678 | | 330 | 16 | 130 | 107 | 390 | 190 | | 4 | 20 |
| N. First/N. Adams | | 725 | 39 | | | | | 316 | | | | 60 |
| N. First/"H" | 60 | 535 | 103 | 268 | 202 | 110 | 53 | 251 | 3 | 103 | 57 | 18 |
| First/"A" | 87 | 367 | 150 | 83 | 250 | 30 | 74 | 197 | 75 | 53 | 236 | 55 |
| SH 113/Midway | 28 | 92 | 10 | 9 | 17 | 26 | 19 | 95 | 35 | 15 | 29 | 8 |
| N. Adams/West "H" | 21 | 2 | 298 | | 269 | 23 | 18 | 145 | 90 | 37 | 57 | 25 |
| N. Adams/West "A" | 12 | 39 | 13 | 214 | 393 | 7 | 89 | 46 | 101 | 43 | 365 | 45 |
| N. Lincoln/Stratford | 43 | 160 | 10 | 474 | 160 | 21 | 71 | 148 | 277 | 6 | 179 | 76 |
| Pitt School/I-80 WB rps | | 48 | 593 | | | | 1 | 80 | | 480 | | |
| Pitt School/Stratford | 543 | 296 | 198 | 3 | 504 | 282 | 166 | 384 | 11 | 147 | 163 | 342 |
| Pitt School/West "H" | 3 | 447 | 42 | 93 | 26 | 13 | 55 | 287 | 31 | 56 | 25 | 57 |
| Pitt School/West "A" | 210 | 99 | 69 | 247 | 389 | 53 | 57 | 56 | 276 | 34 | 342 | 63 |
| Pitt School/Porter | | 24 | 9 | 1 | 41 | | 2 | 41 | 6 | 8 | 65 | 2 |
| WB I-80 rps/Schroeder | | | | 53 | 1188 | | 2 | | 37 | | 1088 | 48 |
| WB I-80 ramps/Dixon | | | | 15 | 602 | | 964 | | 160 | | 378 | 1225 |
| EB I-80 ramps/Dixon | 254 | | 463 | | 794 | 768 | | | | 469 | 1338 | |
| Batavia/EB I-80 ramps | 384 | | 261 | | 459 | 397 | | | | 586 | 652 | |
| Batavia/Midway | 2 | 4 | 6 | 72 | 95 | 1 | 2 | 5 | 156 | 10 | 173 | 5 |
| Evans/Dixon | 349 | 50 | 217 | 194 | 465 | 94 | 6 | 87 | 206 | 213 | 613 | 6 |
| Jackson/West "A" | 46 | 6 | 15 | 55 | 333 | 91 | 4 | 7 | 32 | 1 | 353 | 3 |

## Table D-5B
## Cumulative Plus Project PM Peak Hour Volumes

| Total Year 2010 PM Peak Hour Traffic Volumes | Northbound | | | Eastbound | | | Southbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Pedrick/WB I-80 ramps | 36 | 140 | 966 | 23 | 38 | 70 | 109 | 76 | 40 | 1234 | 55 | 56 |
| Pedrick/EB I-80 ramps | 1910 | 991 | 10 | 132 | 13 | 869 | 35 | 1269 | 60 | 13 | 18 | 53 |
| Pedrick/Vaughn | 40 | 230 | | 537 | 13 | 41 | 7 | 340 | 374 | 3 | 12 | 7 |
| Pedrick/Dixon | 9 | 21 | 2 | 217 | 30 | 7 | 5 | 25 | 348 | | 42 | 7 |
| Pedrick/Midway | 1 | 11 | | 15 | 43 | 6 | 11 | 11 | 12 | 2 | 46 | 10 |
| N. First/EB I-80 ramps | 1411 | 1847 | | 13 | | 1626 | | 979 | 8 | | | |
| N. First/Vaughn | 22 | 775 | 309 | 619 | 170 | 21 | 101 | 825 | 342 | 332 | 229 | 162 |
| N. First/Industrial | 15 | 1027 | 45 | 28 | 2 | 30 | 28 | 1209 | 59 | 153 | 6 | 70 |
| N. First/Stratford | 176 | 615 | 2 | 330 | 16 | 142 | 59 | 939 | 410 | 3 | 22 | 124 |
| N. First/N. Adams | | 681 | 123 | | | 8 | | 613 | | | | 148 |
| N. First/"H" | 100 | 391 | 179 | 323 | 353 | 98 | 145 | 443 | 7 | 252 | 383 | 55 |
| First/"A" | 116 | 319 | 76 | 142 | 239 | 120 | 118 | 435 | 145 | 148 | 237 | 90 |
| SH 113/Midway | 29 | 111 | 19 | 42 | 16 | 25 | 22 | 102 | 37 | 18 | 17 | 22 |
| N. Adams/West "H" | 64 | 72 | 242 | 30 | 499 | 65 | 47 | 360 | 240 | 124 | 285 | 60 |
| N. Adams/West "A" | 16 | 69 | 17 | 185 | 451 | 14 | 122 | 68 | 284 | 45 | 453 | 115 |
| N. Lincoln/Stratford | 40 | 179 | 23 | 341 | 252 | 43 | 98 | 194 | 525 | 18 | 208 | 86 |
| Pitt School/WB I-80 rps | | 97 | 823 | | | | 2 | 80 | | 672 | | 5 |
| Pitt School/Stratford | 407 | 307 | 209 | 1 | 455 | 325 | 203 | 539 | 9 | 236 | 172 | 611 |
| Pitt School/West "H" | 14 | 392 | 95 | 48 | 46 | 4 | 65 | 550 | 101 | 96 | 49 | 79 |
| Pitt School/West "A" | 85 | 78 | 60 | 477 | 667 | 237 | 86 | 114 | 479 | 66 | 634 | 70 |
| Pitt School/Porter | | 39 | 21 | 19 | 106 | 4 | 1 | 37 | 4 | 9 | 48 | 3 |
| WB I-80 rps/Schroeder | | | | 61 | 969 | | 2 | | 48 | | 1244 | 58 |
| WB I-80 ramps/Dixon | | | | 16 | 748 | | 1096 | | 217 | | 575 | 1012 |
| EB I-80 ramps/Dixon | 397 | | 1163 | | 1217 | 621 | | | | 489 | 1187 | |
| Batavia/EB I-80 ramp | 652 | | 436 | | 1121 | 388 | | | | 498 | 610 | |
| Batavia/Midway | 1 | 11 | 7 | 158 | 244 | 3 | 16 | 2 | 119 | 9 | 109 | 8 |
| Evans/Dixon | 195 | 187 | 518 | 207 | 855 | 461 | 8 | 191 | 168 | 507 | 681 | 9 |
| Jackson/West "A" | 101 | 9 | 26 | 24 | 471 | 110 | 14 | 8 | 85 | 4 | 445 | 11 |

# APPENDIX E
# EXISTING CONDITION TRAFFIC VOLUMES AND LEVELS OF SERVICE (LOS) COUNT DATA

| | | | | | |
|---|---|---|---|---|---|
| | First/A (15) | | | | |
| | AM Peak Hour | | | | |
| | Existing Condition | | | | |
| | | | | | |
| | | EB | WB | NB | SB |
| 1 | LT Vol | 58 | 19 | 83 | 60 |
| 2 | TH Vol | 182 | 177 | 145 | 125 |
| 3 | RT Vol | 35 | 34 | 31 | 57 |
| 4 | Total Vol | 275 | 230 | 259 | 242 |
| 5 | Lanes | 1 | 1 | 1 | 1 |
| | | | | | |
| 6 | Proportion LT (1/4) | 0.21 | 0.08 | 0.32 | 0.25 |
| 7 | Proportion RT (3/4) | 0.13 | 0.15 | 0.12 | 0.24 |
| | | | | | |
| 8 | Subject Approach | 275 | 230 | 259 | 242 |
| 9 | Opposing Approach | 230 | 275 | 242 | 259 |
| 10 | Conflicting Approach | 501 | 501 | 505 | 505 |
| 11 | Total Intersection Vol | 1006 | 1006 | 1006 | 1006 |
| | | | | | |
| 12 | Prop Sub App (8/11) | 0.27 | 0.23 | 0.26 | 0.24 |
| 13 | Prop Opp App (9/11) | 0.23 | 0.27 | 0.24 | 0.26 |
| 14 | Prop Conf App (10/11) | 0.50 | 0.50 | 0.50 | 0.50 |
| | | | | | |
| 15 | LT Opposing App | 19 | 58 | 60 | 83 |
| 16 | RT Opposing App | 34 | 35 | 57 | 31 |
| 17 | LT Conflicting App | 143 | 143 | 77 | 77 |
| 18 | RT Conflicting App | 88 | 88 | 69 | 69 |
| | | | | | |
| 19 | Prop LT Opp (15/9) | 0.08 | 0.21 | 0.25 | 0.32 |
| 20 | Prop RT Opp (16/9) | 0.15 | 0.13 | 0.24 | 0.12 |
| 21 | Prop LT Conf (17/10) | 0.29 | 0.29 | 0.15 | 0.15 |
| 22 | Prop RT Conf (18/10) | 0.18 | 0.18 | 0.14 | 0.14 |
| | | | | | |
| 23 | Prop Subj Approach | 0.27 | 0.23 | 0.26 | 0.24 |
| 24 | Prop Opposing App | 0.23 | 0.27 | 0.24 | 0.26 |
| 25 | Lanes on Subj App | 1 | 1 | 1 | 1 |
| 26 | Lanes on Opp App | 1 | 1 | 1 | 1 |
| 27 | App Cap 1 | 533 | 520 | 526 | 521 |
| | | | | | |
| 28 | Prop LT Opp App | 0.08 | 0.21 | 0.25 | 0.32 |
| 29 | Prop RT Opp App | 0.15 | 0.13 | 0.24 | 0.12 |
| 30 | Prop LT Conf App | 0.29 | 0.29 | 0.15 | 0.15 |
| 31 | Prop RT Conf App | 0.18 | 0.18 | 0.14 | 0.14 |
| 32 | App Cap 2 | -28 | -71 | -32 | -77 |
| | | | | | |
| 33 | App Capacity | 505 | 449 | 494 | 444 |
| | | | | | |
| 34 | App Flow Rate | 275 | 230 | 259 | 242 |
| 35 | App Capacity | 505 | 449 | 494 | 444 |
| 36 | V/C | 0.54 | 0.51 | 0.52 | 0.55 |
| 37 | Delay (sec/veh) | 8 | 7 | 7 | 8 |
| | | | | | |
| 38 | Overall Delay | 8 | sec/veh | | |
| 39 | Overall LOS | B | | | |

| | | | | |
|---|---|---|---|---|
| First/A (~~15~~) | | | | |
| PM Peak Hour | | | | |
| Existing Condition | | | | |
| | | | | |
| | EB | WB | NB | SB |
| 1 LT Vol | 102 | 23 | 115 | 88 |
| 2 TH Vol | 158 | 155 | 214 | 223 |
| 3 RT Vol | 109 | 62 | 31 | 100 |
| 4 Total Vol | 369 | 240 | 360 | 411 |
| 5 Lanes | 1 | 1 | 1 | 1 |
| | | | | |
| 6 Proportion LT (1/4) | 0.28 | 0.10 | 0.32 | 0.21 |
| 7 Proportion RT (3/4) | 0.30 | 0.26 | 0.09 | 0.24 |
| | | | | |
| 8 Subject Approach | 369 | 240 | 360 | 411 |
| 9 Opposing Approach | 240 | 369 | 411 | 360 |
| 10 Conflicting Approach | 771 | 771 | 609 | 609 |
| 11 Total Intersection Vol | 1380 | 1380 | 1380 | 1380 |
| | | | | |
| 12 Prop Sub App (8/11) | 0.27 | 0.17 | 0.26 | 0.30 |
| 13 Prop Opp App (9/11) | 0.17 | 0.27 | 0.30 | 0.26 |
| 14 Prop Conf App (10/11) | 0.56 | 0.56 | 0.44 | 0.44 |
| | | | | |
| 15 LT Opposing App | 23 | 102 | 88 | 115 |
| 16 RT Opposing App | 62 | 109 | 100 | 31 |
| 17 LT Conflicting App | 203 | 203 | 125 | 125 |
| 18 RT Conflicting App | 131 | 131 | 171 | 171 |
| | | | | |
| 19 Prop LT Opp (15/9) | 0.10 | 0.28 | 0.21 | 0.32 |
| 20 Prop RT Opp (16/9) | 0.26 | 0.30 | 0.24 | 0.09 |
| 21 Prop LT Conf (17/10) | 0.26 | 0.26 | 0.21 | 0.21 |
| 22 Prop RT Conf (18/10) | 0.17 | 0.17 | 0.28 | 0.28 |
| | | | | |
| 23 Prop Subj Approach | 0.27 | 0.17 | 0.26 | 0.30 |
| 24 Prop Opposing App | 0.17 | 0.27 | 0.30 | 0.26 |
| 25 Lanes on Subj App | 1 | 1 | 1 | 1 |
| 26 Lanes on Opp App | 1 | 1 | 1 | 1 |
| 27 App Cap 1 | 489 | 461 | 569 | 580 |
| | | | | |
| 28 Prop LT Opp App | 0.10 | 0.28 | 0.21 | 0.32 |
| 29 Prop RT Opp App | 0.26 | 0.30 | 0.24 | 0.09 |
| 30 Prop LT Conf App | 0.26 | 0.26 | 0.21 | 0.21 |
| 31 Prop RT Conf App | 0.17 | 0.17 | 0.28 | 0.28 |
| 32 App Cap 2 | -5 | -52 | 7 | -56 |
| | | | | |
| 33 App Capacity | 484 | 409 | 576 | 524 |
| | | | | |
| 34 App Flow Rate | 369 | 240 | 360 | 411 |
| 35 App Capacity | 484 | 409 | 576 | 524 |
| 36 V/C | 0.76 | 0.59 | 0.62 | 0.78 |
| 37 Delay (sec/veh) | 18 | 9 | 11 | 20 |
| | | | | |
| 38 Overall Delay | 15 | sec/veh | | |
| 39 Overall LOS | C | | | |

*******************************************************************

IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR.................... 1

AREA POPULATION..................... 10000

NAME OF THE EAST/WEST STREET......... West A St

NAME OF THE NORTH/SOUTH STREET....... Jackson

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (33) 2

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 55 | 1 | 46 | 4 |
| THRU | 245 | 273 | 6 | 7 |
| RIGHT | 91 | 3 | 15 | 32 |

NUMBER OF LANES AND LANE USAGE

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | | | LTR | LTR |

ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION FOR RIGHT TU |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FIN CRITICA |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | EB | 5.10 | 5.10 | 0.00 | 5.10 |
| | WB | 5.10 | 5.10 | 0.00 | 5.1 |
| MINOR THROUGHS | | | | | |
| | NB | 6.30 | 6.30 | 0.00 | 6.30 |
| | SB | 6.30 | 6.30 | 0.00 | 6.3 |
| MINOR LEFTS | | | | | |
| | NB | 6.80 | 6.80 | 0.00 | 6.8 |
| | SB | 6.80 | 6.80 | 0.00 | 6.8 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... West A St
NAME OF THE NORTH/SOUTH STREET.... Jackson
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~33~~) 2

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | | |
| NB LEFT | 51 | 358 | 331 | > | | 331 | > | | 280 > | C |
| THROUGH | 7 | 434 | 416 | > | 387 | 416 | > | 313 | 409 >B | A |
| RIGHT | 17 | 767 | 767 | > | | 767 | > | | 750 > | A |
| MINOR STREET | | | | | | | | | | |
| SB LEFT | 4 | 344 | 323 | > | | 323 | > | | 318 > | B |
| THROUGH | 8 | 409 | 392 | > | 604 | 392 | > | 557 | 384 >A | B |
| RIGHT | 35 | 782 | 782 | > | | 782 | > | | 747 > | A |
| MAJOR STREET | | | | | | | | | | |
| EB LEFT | 61 | 893 | 893 | | | 893 | | | 833 | A |
| WB LEFT | 1 | 836 | 836 | | | 836 | | | 835 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... West A St
NAME OF THE NORTH/SOUTH STREET.... Jackson
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~321~~ 2

1985 HCM: UNSIGNALIZED INTERSECTIONS
***********************************************************************

IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... West A St

NAME OF THE NORTH/SOUTH STREET....... Jackson

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (~~33~~) 2

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 24 | 4 | 101 | 14 |
| THRU | 339 | 317 | 9 | 8 |
| RIGHT | 110 | 11 | 26 | 85 |

NUMBER OF LANES AND LANE USAGE

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | | | LTR | LTR |

ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | EB | 5.10 | 5.10 | 0.00 | 5.10 |
| | WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR THROUGHS | | | | | |
| | NB | 6.30 | 6.30 | 0.00 | 6.30 |
| | SB | 6.30 | 6.30 | 0.00 | 6.30 |
| MINOR LEFTS | | | | | |
| | NB | 6.80 | 6.80 | 0.00 | 6.80 |
| | SB | 6.80 | 6.80 | 0.00 | 6.80 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... West A St
NAME OF THE NORTH/SOUTH STREET.... Jackson
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (32)2

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | LC |
|---|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | | |
| NB LEFT | 111 | 266 | 236 | > | | 236 | > | | 124 | > |
| THROUGH | 10 | 361 | 353 | > | 276 | 353 | > | 126 | 343 | >D |
| RIGHT | 29 | 673 | 673 | > | | 673 | > | | 645 | > |
| MINOR STREET | | | | | | | | | | |
| SB LEFT | 15 | 270 | 253 | > | | 253 | > | | 237 | > |
| THROUGH | 9 | 332 | 325 | > | 548 | 325 | > | 430 | 316 | >A |
| RIGHT | 94 | 738 | 738 | > | | 738 | > | | 644 | > |
| MAJOR STREET | | | | | | | | | | |
| EB LEFT | 26 | 844 | 844 | | | 844 | | | 817 | |
| WB LEFT | 4 | 737 | 737 | | | 737 | | | 732 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... West A St
NAME OF THE NORTH/SOUTH STREET.... Jackson
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (~~35~~)2

# Critical Movement Analysis: PLANNING

**Intersection** N. Adams/West A ~~(18)~~ 3 **Design Hour** AM Peak Hour

**Problem Statement** - Existing Condition

### Step 1. Identify Lane Geometry

Approach 3

Approach 1

Approach 2

Approach 4

### Step 4. Left Turn Check

| | Approach 1 | Approach 2 | Approach 3 | Approach 4 |
|---|---|---|---|---|
| a. Number of change intervals per hour | | | | |
| b. Left turn capacity on change interval, in vph | | | | |
| c. G/C Ratio | | | | |
| d. Opposing volume in vph | | | | |
| e. Left turn capacity on green, in vph | | | | |
| f. Left turn capacity in vph (b + e) | | | | |
| g. Left turn volume in vph | | | | |
| h. Is volume > capacity (g > f)? | | | | |

### Step 6b. Volume Adjustment for Multiphase Signal Overlap

| Probable Phase | Possible Critical Volume in vph | Volume Carryover to next phase | Adjusted Critical Volume in vph |
|---|---|---|---|
| | 43 | | |
| | 18 | | |
| | 294 | | |
| | 12 | | |
| | 77 | | |
| | 43 | | |

### Step 2. Identify Volumes, in vph

Approach 3

RT =
TH = 37
LT = 89

Approach 2

RT = 45
TH = 285
LT = 43

Approach 1

RT = 61
TH = 305
LT = 7

Approach 4

RT = 12
TH = 30
LT = 13

### Step 5. Assign Lane Volumes, in vph

Approach 3: 70 89

Approach 2: 45 285 43

Approach 1: 61 312

Approach 4: 12 43

### Step 7. Sum of Critical Volumes

____ + ____ + ____ + ____

= 487 vph

### Step 8. Intersection Level of Service

(compare Step 7 with Table 6)

487/1375 = 0.35 $\boxed{A}$

### Step 9. Recalculate

Geometric Change ____

Signal Change ____

Volume Change ____

### Step 3. Identify Phasing

A1 → A3 ↓ | B1 B3

A2 ← A4 ↑ | B2 B4

### Step 6a. Critical Volumes, in vph (two phase signal)

Approach 3

Approach 1

Approach 2

Approach 4

### Comments

# Critical Movement Analysis: PLANNING

**Intersection** N. Adams / A (US) 3 **Design Hour** PM Peak

**Problem Statement** - Existing Condition

## Step 1. Identify Lane Geometry

Approach 3

Approach 1

Approach 2

Approach 4

## Step 4. Left Turn Check

| | Approach 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| a. Number of change intervals per hour | | | | |
| b. Left turn capacity on change interval, in vph | | | | |
| c. G/C Ratio | | | | |
| d. Opposing volume in vph | | | | |
| e. Left turn capacity on green, in vph | | | | |
| f. Left turn capacity in vph (b + e) | | | | |
| g. Left turn volume in vph | | | | |
| h. Is volume > capacity (g > f)? | | | | |

## Step 6b. Volume Adjust... Multiphase Signa...

| Probable Phase | Possible Critical Volume in vph | Volume Carryover to next phase |
|---|---|---|
| | 45 | |
| | 1 | |
| | 332 | |
| | 16 | |
| | 106 | |
| | 76 | |

## Step 2. Identify Volumes, in vph

Approach 3: RT = 88, TH = 58, LT = 122

Approach 2: RT = 115, TH = 325, LT = 45

Approach 1: LT = 46, TH = 319, RT = 14

Approach 4: LT = 16, TH = 59, RT = 17

## Step 5. Assign Lane Volumes, in vph

Approach 3: 146, 122

Approach 2: 115, 325, 45

Approach 1: 46, 333

Approach 4: 16, 76

## Step 7. Sum of Critical V...

_____ + _____ + _____ + _____ = 576 vph

## Step 8. Intersection Level of Service

(compare Step 7 with Table 6)

576 / 1375 = 0.42 A

## Step 9. Recalculate

Geometric Change ____________

Signal Change ____________

Volume Change ____________

## Step 3. Identify Phasing

| A1 → | A3 ↓ | B1 | B3 |
|---|---|---|---|
| A2 ← | A4 ↑ | B2 | B4 |

## Step 6a. Critical Volumes, in vph (two phase signal)

Approach 3

Approach 1

Approach 2

Approach 4

## Comments

********************************************************************

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR.................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... West A St

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (23) +

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | 4 | 7 | 61 |
| THRU | 161 | 152 | 31 | 17 |
| RIGHT | 6 | 67 | 15 | 38 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | 2 | 2 | 3 |
| LANE USAGE | | | L + TR | LT + R |

## ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | EB | 5.60 | 5.60 | 0.00 | 5.60 |
| | WB | 5.60 | 5.60 | 0.00 | 5.60 |
| MINOR THROUGHS | | | | | |
| | NB | 6.80 | 6.80 | 0.00 | 6.80 |
| | SB | 6.80 | 6.80 | 0.00 | 6.80 |
| MINOR LEFTS | | | | | |
| | NB | 7.30 | 7.30 | 0.00 | 7.30 |
| | SB | 7.30 | 7.30 | 0.00 | 7.30 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... West A St
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (23)4

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 8 | 438 | 412 | 412 | 405 | A |
| THROUGH | 34 | 524 | 517 | > 517 | > 483 | > A |
| RIGHT | 17 | 962 | 962 | > 609 962 | > 558 946 | >A A |
| MINOR STREET | | | | | | |
| SB LEFT | 67 | 463 | 435 | 435 | 368 | B |
| THROUGH | 19 | 548 | 541 | 541 | 522 | A |
| RIGHT | 42 | 945 | 945 | 945 | 903 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 14 | 853 | 853 | 853 | 838 | A |
| WB LEFT | 4 | 905 | 905 | 905 | 901 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... West A St
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (23) 4

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## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... West A St

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (~~23~~) 4

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 41 | 18 | 5 | 92 |
| THRU | 248 | 165 | 20 | 32 |
| RIGHT | 10 | 78 | 19 | 32 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | 2 | 2 | 3 |
| LANE USAGE | | | L + TR | LT + R |

## ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | EB | 5.60 | 5.60 | 0.00 | 5.60 |
| | WB | 5.60 | 5.60 | 0.00 | 5.60 |
| MINOR THROUGHS | | | | | |
| | NB | 6.80 | 6.80 | 0.00 | 6.80 |
| | SB | 6.80 | 6.80 | 0.00 | 6.80 |
| MINOR LEFTS | | | | | |
| | NB | 7.30 | 7.30 | 0.00 | 7.30 |
| | SB | 7.30 | 7.30 | 0.00 | 7.30 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... West A St
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (23)4

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | | |
| NB LEFT | 6 | 337 | 299 | | | 299 | | 293 | | C |
| THROUGH | 22 | 422 | 402 | > | | 402 | > | 380 | > | B |
| RIGHT | 21 | 925 | 925 | > | 555 | 925 | > 512 | 904 | >A | A |
| MINOR STREET | | | | | | | | | | |
| SB LEFT | 101 | 371 | 338 | | | 338 | | 237 | | C |
| THROUGH | 35 | 444 | 423 | | | 423 | | 388 | | B |
| RIGHT | 35 | 933 | 933 | | | 933 | | 898 | | A |
| MAJOR STREET | | | | | | | | | | |
| EB LEFT | 45 | 829 | 829 | | | 829 | | 784 | | A |
| WB LEFT | 20 | 815 | 815 | | | 815 | | 795 | | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... West A St
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (23)4

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## IDENTIFYING INFORMATION

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AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon

NAME OF THE NORTH/SOUTH STREET....... Evans

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (32) 5

## INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 12 | 1 | 0 | 6 |
| THRU | 171 | 197 | 0 | 0 |
| RIGHT | 3 | 2 | 3 | 45 |

## NUMBER OF LANES AND LANE USAGE

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 2 | 1 | 2 |
| LANE USAGE | | | LTR | L + R |

# ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

# VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

# CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | EB | 5.10 | 5.10 | 0.00 | 5.10 |
| | WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR THROUGHS | | | | | |
| | NB | 6.30 | 6.30 | 0.00 | 6.30 |
| | SB | 6.80 | 6.80 | 0.00 | 6.80 |
| MINOR LEFTS | | | | | |
| | NB | 6.80 | 6.80 | 0.00 | 6.80 |
| | SB | 7.30 | 7.30 | 0.00 | 7.30 |

# IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... Evans
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (3~~2~~) 5

## CAPACITY AND LEVEL-OF-SERVICE



| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 0 | 505 | 485 > | 485 > | 485 > | A |
| THROUGH | 0 | 597 | 591 > | 880 591 > | 877 591 >A | A |
| RIGHT | 3 | 880 | 880 > | 880 > | 877 > | A |
| MINOR STREET | | | | | | |
| SB LEFT | 7 | 482 | 477 | 477 | 470 | A |
| THROUGH | 0 | 536 | 531 | 531 | 531 | A |
| RIGHT | 50 | 955 | 955 | 955 | 906 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 13 | 966 | 966 | 966 | 953 | A |
| WB LEFT | 1 | 975 | 975 | 975 | 973 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... Evans
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (32)5

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## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon

NAME OF THE NORTH/SOUTH STREET....... Evans

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (32) 5

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 32 | 2 | 0 | 4 |
| THRU | 295 | 192 | 0 | 0 |
| RIGHT | 0 | 8 | 0 | 8 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 2 | 1 | 2 |
| LANE USAGE | | | LTR | L + R |

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | EB | 5.10 | 5.10 | 0.00 | 5.10 |
| | WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR THROUGHS | | | | | |
| | NB | 6.30 | 6.30 | 0.00 | 6.30 |
| | SB | 6.80 | 6.80 | 0.00 | 6.80 |
| MINOR LEFTS | | | | | |
| | NB | 6.80 | 6.80 | 0.00 | 6.80 |
| | SB | 7.30 | 7.30 | 0.00 | 7.30 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... Evans
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (3~~2~~)5

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 0 | 434 | 421 > | 421 > | 421 > | A |
| THROUGH | 0 | 496 | 484 > | 0 484 > | 0 484 > | A |
| RIGHT | 0 | 763 | 763 > | 763 > | 763 > | A |
| MINOR STREET | | | | | | |
| SB LEFT | 4 | 394 | 384 | 384 | 380 | B |
| THROUGH | 0 | 441 | 431 | 431 | 431 | A |
| RIGHT | 9 | 955 | 955 | 955 | 946 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 35 | 966 | 966 | 966 | 931 | A |
| WB LEFT | 2 | 875 | 875 | 875 | 873 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... Evans
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (3~~2~~)5

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## IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon

NAME OF THE NORTH/SOUTH STREET....... EB I-80 ramps

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (28) 6

## INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 0 | 12 | 19 | -- |
| THRU | 83 | 227 | 0 | -- |
| RIGHT | 55 | 0 | 105 | -- |

## NUMBER OF LANES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | -- |

ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | ----- | --- | --- | - |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | --- | --- | --- |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS NB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS NB | 6.80 | 6.80 | 0.00 | 6.80 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... EB I-80 ramps
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (28) 6

| MOVEMENT | FLOW-RATE $v$(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 21 | 563 | 559 | 559 | 538 | A |
| RIGHT | 116 | 944 | 944 | 944 | 829 | A |
| MAJOR STREET | | | | | | |
| WB LEFT | 13 | 986 | 986 | 986 | 973 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... EB I-80 ramps
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (28)6

1985 HCM: UNSIGNALIZED INTERSECTIONS
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IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon

NAME OF THE NORTH/SOUTH STREET....... EB I-80 ramps

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (~~28~~) 6

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 0 | 31 | 40 | -- |
| THRU | 97 | 174 | 0 | -- |
| RIGHT | 50 | 0 | 228 | -- |

NUMBER OF LANES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | -- |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | ----- | --- | --- | - |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | --- | --- | --- |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS NB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS NB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... EB I-80 ramps
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (28)6

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | L |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 44 | 581 | 569 | 569 | 525 | |
| RIGHT | 251 | 932 | 932 | 932 | 682 | |
| MAJOR STREET | | | | | | |
| WB LEFT | 34 | 983 | 983 | 983 | 949 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... EB I-80 ramps
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (~~28~~)6

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... EB I-80 ramps

NAME OF THE NORTH/SOUTH STREET....... Batavia

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (29) 7

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 0 | 10 | 2 | -- |
| THRU | 117 | 58 | 0 | -- |
| RIGHT | 2 | 0 | 10 | -- |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | -- |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | ----- | --- | --- | - |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | --- | --- | --- |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS | NB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... EB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... Batavia
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~29~~)7

## CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 2 | 698 | 693 > | 693 > | 691 > | A |
| | | | > | 885 > | 871 | >A |
| RIGHT | 11 | 936 | 936 > | 936 > | 925 > | A |
| MAJOR STREET | | | | | | |
| WB LEFT | 11 | 993 | 993 | 993 | 982 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... EB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... Batavia
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (28)7

1985 HCM: UNSIGNALIZED INTERSECTIONS
***************************************************************************

IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... EB I-80 ramps

NAME OF THE NORTH/SOUTH STREET....... Batavia

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (2~~9~~) 7

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 0 | 36 | 42 | -- |
| THRU | 237 | 43 | 0 | -- |
| RIGHT | 37 | 0 | 28 | -- |

NUMBER OF LANES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | -- |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | ----- | --- | --- | - |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | --- | --- | --- |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS NB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS NB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... EB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... Batavia
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (29) 7

CAPACITY AND LEVEL-OF-SERVICE

---

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 46 | 575 | 560 > | 560 > | 514 > | A |
| | | | > 636 | > 559 | | >A |
| RIGHT | 31 | 800 | 800 > | 800 > | 769 > | A |
| MAJOR STREET | | | | | | |
| WB LEFT | 40 | 895 | 895 | 895 | 855 | A |

IDENTIFYING INFORMATION

---

NAME OF THE EAST/WEST STREET...... EB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... Batavia
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (2~~9~~)7

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## IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... WB I-80 ramps

NAME OF THE NORTH/SOUTH STREET....... Schroeder

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (~~26~~) 3

## INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 53 | 0 | -- | 2 |
| THRU | 190 | 26 | -- | 0 |
| RIGHT | 0 | 48 | -- | 37 |

## NUMBER OF LANES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 2 |

ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS EB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS SB | 6.80 | 6.80 | 0.00 | 6.80 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~26~~) 8

## CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 2 | 608 | 586 | 586 | 584 | A |
| RIGHT | 41 | 978 | 978 | 978 | 937 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 58 | 999 | 999 | 999 | 941 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (26) 8

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR...................... 1

AREA POPULATION....................... 10000

NAME OF THE EAST/WEST STREET......... WB I-80 ramps

NAME OF THE NORTH/SOUTH STREET....... Schroeder

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (26) 8

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 61 | 0 | -- | 2 |
| THRU | 118 | 54 | -- | 0 |
| RIGHT | 0 | 58 | -- | 48 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 2 |

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IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon

NAME OF THE NORTH/SOUTH STREET....... WB I-80 ramps

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (27) 9

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 15 | 0 | -- | 42 |
| THRU | 100 | 29 | -- | 0 |
| RIGHT | 0 | 227 | -- | 20 |

NUMBER OF LANES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 2 |

ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | EB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS | SB | 6.80 | 6.80 | 0.00 | 6.80 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... WB I-80 ramps
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~27~~9

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 46 | 637 | 630 | 630 | 584 | A |
| RIGHT | 22 | 911 | 911 | 911 | 889 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 17 | 912 | 912 | 912 | 896 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... WB I-80 ramps
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~27~~)9

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## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon

NAME OF THE NORTH/SOUTH STREET....... WB I-80 ramps

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (~~27~~) 9

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 16 | 0 | -- | 87 |
| THRU | 66 | 56 | -- | 0 |
| RIGHT | 0 | 161 | -- | 36 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 2 |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | EB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS | SB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... WB I-80 ramps
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (~~27~~)9

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 96 | 669 | 661 | 661 | 566 | A |
| RIGHT | 40 | 917 | 917 | 917 | 878 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 18 | 950 | 950 | 950 | 932 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon
NAME OF THE NORTH/SOUTH STREET.... WB I-80 ramps
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (27)

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## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Midway

NAME OF THE NORTH/SOUTH STREET....... SH 113

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (~~16~~) 5/10

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 5 | 15 | 16 | 19 |
| THRU | 17 | 29 | 53 | 79 |
| RIGHT | 12 | 8 | 10 | 15 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | LTR | LTR | | |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.70 | 5.70 | 0.00 | 5.70 |
| | WB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | SB | 5.10 | 5.10 | 0.00 | 5.10 |
| | NB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR THROUGHS | | | | | |
| | EB | 6.30 | 6.30 | 0.00 | 6.30 |
| | WB | 6.30 | 6.30 | 0.00 | 6.30 |
| MINOR LEFTS | | | | | |
| | EB | 6.80 | 6.80 | 0.00 | 6.80 |
| | WB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Midway
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (1~~6~~)10

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | | |
| EB LEFT | 6 | 666 | 631 | > | | 631 | > | | 626 > | A |
| THROUGH | 19 | 766 | 748 | > | 788 | 748 | > | 751 | 729 >A | A |
| RIGHT | 13 | 961 | 961 | > | | 961 | > | | 948 > | A |
| MINOR STREET | | | | | | | | | | |
| WB LEFT | 17 | 671 | 641 | > | | 641 | > | | 624 > | A |
| THROUGH | 32 | 763 | 745 | > | 737 | 745 | > | 680 | 714 >A | A |
| RIGHT | 9 | 974 | 974 | > | | 974 | > | | 965 > | A |
| MAJOR STREET | | | | | | | | | | |
| SB LEFT | 21 | 999 | 999 | | | 999 | | | 978 | A |
| NB LEFT | 18 | 999 | 999 | | | 999 | | | 981 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Midway
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (16) /0

********************************************************************

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Midway

NAME OF THE NORTH/SOUTH STREET....... SH 113

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condtion (~~1~~6)/10

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 18 | 18 | 12 | 22 |
| THRU | 16 | 17 | 93 | 69 |
| RIGHT | 12 | 22 | 19 | 30 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | LTR | LTR | | |

## ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.70 | 5.70 | 0.00 | 5.70 |
| | WB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | SB | 5.10 | 5.10 | 0.00 | 5.10 |
| | NB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR THROUGHS | | | | | |
| | EB | 6.30 | 6.30 | 0.00 | 6.30 |
| | WB | 6.30 | 6.30 | 0.00 | 6.30 |
| MINOR LEFTS | | | | | |
| | EB | 6.80 | 6.80 | 0.00 | 6.80 |
| | WB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Midway
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condtion (16)(0

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | | |
| EB LEFT | 20 | 627 | 595 | > | | 595 | > | | 575 > | A |
| THROUGH | 18 | 725 | 708 | > | 704 | 708 | > | 653 | 691 >A | A |
| RIGHT | 13 | 962 | 962 | > | | 962 | > | | 949 > | A |
| MINOR STREET | | | | | | | | | | |
| WB LEFT | 20 | 632 | 604 | > | | 604 | > | | 584 > | A |
| THROUGH | 19 | 720 | 704 | > | 740 | 704 | > | 677 | 685 >A | A |
| RIGHT | 24 | 952 | 952 | > | | 952 | > | | 928 > | A |
| MAJOR STREET | | | | | | | | | | |
| SB LEFT | 24 | 995 | 995 | | | 995 | | | 971 | A |
| NB LEFT | 13 | 999 | 999 | | | 999 | | | 986 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Midway
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condtion (1~~6~~)10

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Cherry

NAME OF THE NORTH/SOUTH STREET....... First St.

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-15-1994

TIME PERIOD ANALYZED................. Ex AM

OTHER INFORMATION.... Existing vols adjusted for city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 20 | -- | 5 | 0 |
| THRU | 0 | -- | 130 | 140 |
| RIGHT | 5 | -- | 0 | 20 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS | EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Cherry
NAME OF THE NORTH/SOUTH STREET.... First St.
DATE AND TIME OF THE ANALYSIS..... 01-15-1994 ; Ex AM
OTHER INFORMATION.... Existing vols adjusted for city road improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE $v(pcph)$ | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| EB LEFT | 22 | 648 | 646 | > | 646 | > | 624 > | A |
| | | | | > 689 | | > 662 | >A | |
| RIGHT | 6 | 943 | 943 | > | 943 | > | 937 > | A |
| MAJOR STREET | | | | | | | | |
| NB LEFT | 6 | 991 | 991 | | 991 | | 986 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Cherry
NAME OF THE NORTH/SOUTH STREET.... First St.
DATE AND TIME OF THE ANALYSIS..... 01-15-1994 ; Ex AM
OTHER INFORMATION.... Existing vols adjusted for city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Cherry

NAME OF THE NORTH/SOUTH STREET....... First St.

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-15-1994

TIME PERIOD ANALYZED................. Ex PM

OTHER INFORMATION.... Existing vols adjusted for city road improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 20 | -- | 20 | 0 |
| THRU | 0 | -- | 225 | 200 |
| RIGHT | 5 | -- | 0 | 20 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

## ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Cherry
NAME OF THE NORTH/SOUTH STREET.... First St.
DATE AND TIME OF THE ANALYSIS..... 01-15-1994 ; Ex PM
OTHER INFORMATION.... Existing vols adjusted for city road improvements

## CAPACITY AND LEVEL-OF-SERVICE Page

| MOVEMENT | FLOW-RATE $v$(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ |
|---|---|---|---|---|---|
| MINOR STREET | | | | | |
| EB LEFT | 22 | 523 | 516 > | 516 > 562 > | 494 > 535 > |
| RIGHT | 6 | 880 | 880 > | 880 > | 875 > |
| MAJOR STREET | | | | | |
| NB LEFT | 22 | 966 | 966 | 966 | 944 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Cherry
NAME OF THE NORTH/SOUTH STREET.... First St.
DATE AND TIME OF THE ANALYSIS..... 01-15-1994 ; Ex PM
OTHER INFORMATION.... Existing vols adjusted for city road improvements

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IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... H St

NAME OF THE NORTH/SOUTH STREET....... N. First St

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (~~14~~) 12

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 17 | -- | 45 | 0 |
| THRU | 0 | -- | 318 | 219 |
| RIGHT | 106 | -- | 0 | 3 |

NUMBER OF LANES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | EB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | NB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS | EB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... H St
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~14~~)12

CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 19 | 403 | 390 > | 390 > | 372 > | B |
| | | | > 720 | > 585 | >A | |
| RIGHT | 117 | 833 | 833 > | 833 > | 716 > | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 50 | 945 | 945 | 945 | 895 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... H St
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~14~~) 12

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## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... H St

NAME OF THE NORTH/SOUTH STREET....... N. First St

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (~~14~~)12

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 11 | -- | 69 | 0 |
| THRU | 0 | -- | 336 | 311 |
| RIGHT | 89 | -- | 0 | 7 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

## ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | EB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | NB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR LEFTS | EB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... H St
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (14)/2

## CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE $v$(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| EB LEFT | 12 | 327 | 309 | > | 309 | > | 297 > | C |
| | | | | > 645 | | > 535 | | >A |
| RIGHT | 98 | 745 | 745 | > | 745 | > | 647 > | A |
| MAJOR STREET | | | | | | | | |
| NB LEFT | 76 | 853 | 853 | | 853 | | 777 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... H St
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (1~~4~~)12

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IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Vaughn Rd

NAME OF THE NORTH/SOUTH STREET....... N. First St

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (8) 13

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 1 | 14 | 3 | 13 |
| THRU | 1 | 1 | 406 | 285 |
| RIGHT | 2 | 10 | 15 | 1 |

NUMBER OF LANES AND LANE USAGE

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | LTR | LTR | | |

## ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 6.30 | 6.30 | 0.00 | 6.30 |
| | WB | 6.30 | 6.30 | 0.00 | 6.30 |
| MAJOR LEFTS | | | | | |
| | SB | 5.40 | 5.40 | 0.00 | 5.40 |
| | NB | 5.40 | 5.40 | 0.00 | 5.40 |
| MINOR THROUGHS | | | | | |
| | EB | 7.20 | 7.20 | 0.00 | 7.20 |
| | WB | 7.20 | 7.20 | 0.00 | 7.20 |
| MINOR LEFTS | | | | | |
| | EB | 7.70 | 7.70 | 0.00 | 7.70 |
| | WB | 7.70 | 7.70 | 0.00 | 7.70 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Vaughn Rd
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~8~~) B

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | | | |
| EB LEFT | 1 | 254 | 247 | > | | 247 | > | | 246 | > | C |
| THROUGH | 1 | 292 | 288 | > | 382 | 288 | > | 377 | 287 | >B | C |
| RIGHT | 2 | 677 | 677 | > | | 677 | > | | 675 | > | A |
| MINOR STREET | | | | | | | | | | | |
| WB LEFT | 15 | 261 | 256 | > | | 256 | > | | 241 | > | C |
| THROUGH | 1 | 296 | 291 | > | 331 | 291 | > | 304 | 290 | >B | C |
| RIGHT | 11 | 575 | 575 | > | | 575 | > | | 564 | > | A |
| MAJOR STREET | | | | | | | | | | | |
| SB LEFT | 14 | 703 | 703 | | | 703 | | | 689 | | A |
| NB LEFT | 3 | 824 | 824 | | | 824 | | | 821 | | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Vaughn Rd
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (~~8~~)/3

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IDENTIFYING INFORMATION

---

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR....................... 1

AREA POPULATION........................ 10000

NAME OF THE EAST/WEST STREET......... Vaughn Rd

NAME OF THE NORTH/SOUTH STREET....... N. First St

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (8) 13

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 0 | 26 | 4 | 8 |
| THRU | 0 | 2 | 311 | 409 |
| RIGHT | 3 | 6 | 21 | 0 |

NUMBER OF LANES AND LANE USAGE

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | LTR | LTR | | |

ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 6.30 | 6.30 | 0.00 | 6.30 |
| | WB | 6.30 | 6.30 | 0.00 | 6.30 |
| MAJOR LEFTS | | | | | |
| | SB | 5.40 | 5.40 | 0.00 | 5.40 |
| | NB | 5.40 | 5.40 | 0.00 | 5.40 |
| MINOR THROUGHS | | | | | |
| | EB | 7.20 | 7.20 | 0.00 | 7.20 |
| | WB | 7.20 | 7.20 | 0.00 | 7.20 |
| MINOR LEFTS | | | | | |
| | EB | 7.70 | 7.70 | 0.00 | 7.70 |
| | WB | 7.70 | 7.70 | 0.00 | 7.70 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Vaughn Rd
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (8)13

CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | LOS |
|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | |
| EB LEFT | 0 | 241 | 236 | > | | 236 > | | 236 > | C |
| THROUGH | 0 | 277 | 274 | > | 578 | 274 > | 575 | 274 >A | C |
| RIGHT | 3 | 578 | 578 | > | | 578 > | | 575 > | A |
| MINOR STREET | | | | | | | | | |
| WB LEFT | 29 | 248 | 245 | > | | 245 > | | 216 > | C |
| THROUGH | 2 | 282 | 279 | > | 277 | 279 > | 240 | 277 >C | C |
| RIGHT | 7 | 648 | 648 | > | | 648 > | | 641 > | A |
| MAJOR STREET | | | | | | | | | |
| SB LEFT | 9 | 781 | 781 | | | 781 | | 772 | A |
| NB LEFT | 4 | 712 | 712 | | | 712 | | 708 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Vaughn Rd
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (~~8~~) 13

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IDENTIFYING INFORMATION

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AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... EB I-80 ramps

NAME OF THE NORTH/SOUTH STREET....... N. First St

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (~~8~~) 14

INTERSECTION TYPE AND CONTROL

---

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 9 | 0 | 71 | 0 |
| THRU | 0 | 0 | 387 | 99 |
| RIGHT | 0 | 0 | 0 | 10 |

NUMBER OF LANES AND LANE USAGE

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | 1 | 1 | 1 |
| LANE USAGE | L + R | LTR | | |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 6.30 | 6.30 | 0.00 | 6.30 |
| | WB | 6.30 | 6.30 | 0.00 | 6.30 |
| MAJOR LEFTS | | | | | |
| | SB | 5.40 | 5.40 | 0.00 | 5.40 |
| | NB | 5.40 | 5.40 | 0.00 | 5.40 |
| MINOR THROUGHS | | | | | |
| | EB | 7.20 | 7.20 | 0.00 | 7.20 |
| | WB | 7.20 | 7.20 | 0.00 | 7.20 |
| MINOR LEFTS | | | | | |
| | EB | 7.70 | 7.70 | 0.00 | 7.70 |
| | WB | 7.70 | 7.70 | 0.00 | 7.70 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... EB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (8)14

CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | | LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **MINOR STREET** | | | | | | | | | | | |
| EB LEFT | 9 | 339 | 325 | > | 325 | 325 | > | 316 | 316 | >B | B |
| THROUGH | 0 | 378 | 362 | > | | 362 | > | | 362 | > | B |
| RIGHT | 0 | 846 | 846 | | | 846 | | | 846 | | A |
| **MINOR STREET** | | | | | | | | | | | |
| WB LEFT | 0 | 336 | 322 | > | | 322 | > | | 322 | > | B |
| THROUGH | 0 | 375 | 359 | > | 0 | 359 | > | 0 | 359 | > | B |
| RIGHT | 0 | 595 | 595 | > | | 595 | > | | 595 | > | A |
| **MAJOR STREET** | | | | | | | | | | | |
| SB LEFT | 0 | 731 | 731 | | | 731 | | | 731 | | A |
| NB LEFT | 71 | 988 | 988 | | | 988 | | | 917 | | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... EB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (0)/4

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## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... EB I-80 ramps

NAME OF THE NORTH/SOUTH STREET....... N. First St

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (~~6~~)14

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | 0 | 80 | 0 |
| THRU | 0 | 0 | 236 | 56 |
| RIGHT | 0 | 0 | 0 | 8 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | 1 | 1 | 1 |
| LANE USAGE | L + R | LTR | | |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS | | | | |
| EB | 6.30 | 6.30 | 0.00 | 6.30 |
| WB | 6.30 | 6.30 | 0.00 | 6.30 |
| MAJOR LEFTS | | | | |
| SB | 5.40 | 5.40 | 0.00 | 5.40 |
| NB | 5.40 | 5.40 | 0.00 | 5.40 |
| MINOR THROUGHS | | | | |
| EB | 7.20 | 7.20 | 0.00 | 7.20 |
| WB | 7.20 | 7.20 | 0.00 | 7.20 |
| MINOR LEFTS | | | | |
| EB | 7.70 | 7.70 | 0.00 | 7.70 |
| WB | 7.70 | 7.70 | 0.00 | 7.70 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... EB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition ~~(6)~~/4

CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 14 | 457 | 433 > | 433 433 > | 419 419 >A | A |
| THROUGH | 0 | 501 | 474 > | 474 > | 474 > | A |
| RIGHT | 0 | 891 | 891 | 891 | 891 | |
| MINOR STREET | | | | | | |
| WB LEFT | 0 | 454 | 430 > | 430 > | 430 > | |
| THROUGH | 0 | 498 | 471 > | 0 471 > | 0 471 > | |
| RIGHT | 0 | 719 | 719 > | 719 > | 719 > | |
| MAJOR STREET | | | | | | |
| SB LEFT | 0 | 873 | 873 | 873 | 873 | |
| NB LEFT | 88 | 997 | 997 | 997 | 909 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... EB I-80 ramps
NAME OF THE NORTH/SOUTH STREET.... N. First St
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (Ø)/4

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## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Porter

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. AM Peak Hour

OTHER INFORMATION.... Existing Condition (24)15

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 1 | 8 | 0 | 2 |
| THRU | 41 | 65 | 7 | 16 |
| RIGHT | 0 | 2 | 9 | 6 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | 2 |
| LANE USAGE | | | LT + R | LT + R |

ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GA |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | | | | | |
| | EB | 5.10 | 5.10 | 0.00 | 5.10 |
| | WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR THROUGHS | | | | | |
| | NB | 6.30 | 6.30 | 0.00 | 6.30 |
| | SB | 6.30 | 6.30 | 0.00 | 6.30 |
| MINOR LEFTS | | | | | |
| | NB | 6.80 | 6.80 | 0.00 | 6.80 |
| | SB | 6.80 | 6.80 | 0.00 | 6.80 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (24)5

## CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| **MINOR STREET** | | | | | | |
| NB LEFT | 0 | 743 | 726 | 726 | 726 | A |
| THROUGH | 8 | 833 | 828 | 828 | 820 | A |
| RIGHT | 10 | 982 | 982 | 982 | 972 | A |
| **MINOR STREET** | | | | | | |
| SB LEFT | 2 | 750 | 737 | > 818 737 | > 798 735 | >A A |
| THROUGH | 18 | 834 | 829 | > 829 | > 811 | > A |
| RIGHT | 7 | 970 | 970 | 970 | 964 | A |
| **MAJOR STREET** | | | | | | |
| EB LEFT | 1 | 999 | 999 | 999 | 998 | A |
| WB LEFT | 9 | 1000 | 1000 | 1000 | 991 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 6/92 ; AM Peak Hour
OTHER INFORMATION.... Existing Condition (2/4)/5

1985 HCM: UNSIGNALIZED INTERSECTIONS
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## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 35

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Porter

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. DT

DATE OF THE ANALYSIS (mm/dd/yy)...... 6/92

TIME PERIOD ANALYZED................. PM Peak Hour

OTHER INFORMATION.... Existing Condition (~~24~~) 15

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 19 | 9 | 0 | 1 |
| THRU | 106 | 48 | 8 | 16 |
| RIGHT | 4 | 3 | 21 | 4 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | 2 |
| LANE USAGE | | | LT + R | LT + R |

## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | NB | 5.70 | 5.70 | 0.00 | 5.70 |
| | SB | 5.70 | 5.70 | 0.00 | 5.70 |
| MAJOR LEFTS | EB | 5.10 | 5.10 | 0.00 | 5.10 |
| | WB | 5.10 | 5.10 | 0.00 | 5.10 |
| MINOR THROUGHS | NB | 6.30 | 6.30 | 0.00 | 6.30 |
| | SB | 6.30 | 6.30 | 0.00 | 6.30 |
| MINOR LEFTS | NB | 6.80 | 6.80 | 0.00 | 6.80 |
| | SB | 6.80 | 6.80 | 0.00 | 6.80 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (2A) 5

## CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 0 | 678 | 655 | 655 | 655 | A |
| THROUGH | 9 | 763 | 749 | 749 | 740 | A |
| RIGHT | 23 | 947 | 947 | 947 | 924 | A |
| MINOR STREET | | | | | | |
| SB LEFT | 1 | 670 | 644 | > 741 644 | > 723 643 | >A A |
| THROUGH | 18 | 763 | 748 | > 748 | > 731 | > A |
| RIGHT | 4 | 978 | 978 | 978 | 973 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 21 | 999 | 999 | 999 | 979 | A |
| WB LEFT | 10 | 996 | 996 | 996 | 986 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 6/92 ; PM Peak Hour
OTHER INFORMATION.... Existing Condition (2A)15

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Existing + Project AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

#1

| First St./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | | LANE GROUPS | | |
| Peak 15 Min Flow (vph) | 236 | 368 | 352 | 51 |
| Saturation Flow (vph) | 1800 | 1700 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.75 | 0.75 | 0.75 | 0.75 |
| Green Times (effective) | 9 | 15 | 13 | 2 |
| Movement Times | 12 | 18 | 16 | 5 |
| Minimum Times | 15 | 15 | 15 | 15 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 22 | 17 | 18 | 42 |
| Level of Service | C- | C+ | C+ | E+ |
| Av Queue @ start of green | 3 | 4 | 4 | 1 |
| Vehicles stopping (%) | 95 | 91 | 92 | 99 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 20 Level of Service = C+
Whole Intersection - Weighted Av Delay (sec) = 20 Level of Service = C+

Cycle Length for minimum delay is 51 seconds
Intersection Capacity Utilization (ICU) = 0.75/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Existing + Project PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

#1

| | LANE GROUPS | | | |
|---|---|---|---|---|
| First St./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
| Peak 15 Min Flow (vph) | 259 | 589 | 691 | 92 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.01 | 1.01 | 1.01 | 1.01 |
| Green Times (effective) | 19 | 41 | 48 | 7 |
| Movement Times | 22 | 44 | 51 | 10 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 88 | 65 | 60 | 123 |
| Level of Service | F | F | F | F |
| Av Queue @ start of green | 8 | 15 | 16 | 3 |
| Vehicles stopping (%) | 100 | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO | NO |

Critical Movements - Weighted Av Delay (sec) = 70 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = 70 Level of Service = F

Cycle Length for minimum delay is 127 seconds
Intersection Capacity Utilization (ICU) = 1.01/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

Existing + Proj. PM w/ Proj. Mit

SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

#1

| First St./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | LANE GROUPS | | | |
| Peak 15 Min Flow (vph) | 259 | 489 | 260 | 92 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.78 | 0.78 | 0.78 | 0.78 |
| Green Times (effective) | 11 | 20 | 11 | 4 |
| Movement Times | 14 | 23 | 14 | 7 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 25 | 17 | 25 | 39 |
| Level of Service | C- | C+ | D+ | D- |
| Av Queue @ start of green | 3 | 5 | 3 | 1 |
| Vehicles stopping (%) | 95 | 90 | 95 | 98 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 23 Level of Service = C-
Whole Intersection - Weighted Av Delay (sec) = 23 Level of Service = C-

Cycle Length for minimum delay is 58 seconds
Intersection Capacity Utilization (ICU) = 0.78/C

1985 HCM: UNSIGNALIZED INTERSECTIONS 

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... A St #2

NAME OF THE NORTH/SOUTH STREET....... Jackson St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 55 | 1 | 46 | 4 |
| THRU | 302 | 538 | 6 | 7 |
| RIGHT | 91 | 3 | 15 | 32 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | | | LTR | LTR |

## ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | EB | 5.00 | 5.00 | 0.00 | 5.00 |
| | WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR THROUGHS | | | | | |
| | NB | 6.00 | 6.00 | 0.00 | 6.00 |
| | SB | 6.00 | 6.00 | 0.00 | 6.00 |
| MINOR LEFTS | | | | | |
| | NB | 6.50 | 6.50 | 0.00 | 6.50 |
| | SB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St #2
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

## CAPACITY AND LEVEL-OF-SERVICE



| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | LOS |
|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | |
| NB LEFT | 51 | 237 | 212 | > | | 212 > | | 162 > | D |
| THROUGH | 7 | 296 | 280 | > | 259 | 280 > | 186 | 274 >D | C |
| RIGHT | 17 | 747 | 747 | > | | 747 > | | 731 > | A |
| MINOR STREET | | | | | | | | | |
| SB LEFT | 4 | 227 | 209 | > | | 209 > | | 205 > | C |
| THROUGH | 8 | 275 | 261 | > | 432 | 261 > | 385 | 253 >B | C |
| RIGHT | 35 | 599 | 599 | > | | 599 > | | 564 > | A |
| MAJOR STREET | | | | | | | | | |
| EB LEFT | 61 | 679 | 679 | | | 679 | | 618 | A |
| WB LEFT | 1 | 802 | 802 | | | 802 | | 801 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St #2
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... A St 2

NAME OF THE NORTH/SOUTH STREET....... Jackson St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 24 | 4 | 101 | 14 |
| THRU | 631 | 431 | 9 | 8 |
| RIGHT | 110 | 11 | 26 | 85 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | | | LTR | LTR |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | EB | 5.00 | 5.00 | 0.00 | 5.00 |
| | WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR THROUGHS | | | | | |
| | NB | 6.00 | 6.00 | 0.00 | 6.00 |
| | SB | 6.00 | 6.00 | 0.00 | 6.00 |
| MINOR LEFTS | | | | | |
| | NB | 6.50 | 6.50 | 0.00 | 6.50 |
| | SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 2
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements



| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 111 | 159 | 137 > | 137 > | 26 > | E |
| THROUGH | 10 | 219 | 214 > | 164 214 > | 14 204 >E | C |
| RIGHT | 29 | 499 | 499 > | 499 > | 471 > | A |
| MINOR STREET | | | | | | |
| SB LEFT | 15 | 161 | 147 > | 147 > | 132 > | D |
| THROUGH | 9 | 204 | 198 > | 409 198 > | 291 190 >C | D |
| RIGHT | 94 | 674 | 674 > | 674 > | 580 > | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 26 | 760 | 760 | 760 | 734 | A |
| WB LEFT | 4 | 538 | 538 | 538 | 534 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 2
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Existing + Project AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #3 Adams St./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 43 | 89 | 61 | 481 |
| Saturation Flow (vph) | 1800 | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.55 | 0.55 | 0.55 | 0.55 |
| Green Times (effective) | 2 | 4 | 2 | 18 |
| Movement Times | 5 | 7 | 5 | 21 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 20 | 16 | 18 | 6 |
| Level of Service | C+ | C+ | C+ | B+ |
| Av Queue @ start of green | 0 | 1 | 1 | 3 |
| Vehicles stopping (%) | 98 | 96 | 97 | 71 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 9 Level of Service = B+
Whole Intersection - Weighted Av Delay (sec) = 9 Level of Service = B+

Cycle Length for minimum delay is 38 seconds
Intersection Capacity Utilization (ICU) = 0.55/A

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Existing + Project PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #3 Adams St./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | LANE GROUPS | | | |
| Peak 15 Min Flow (vph) | 76 | 122 | 552 | 45 |
| Saturation Flow (vph) | 1800 | 1700 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.63 | 0.63 | 0.63 | 0.63 |
| Green Times (effective) | 3 | 5 | 21 | 2 |
| Movement Times | 6 | 8 | 24 | 5 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 21 | 18 | 7 | 26 |
| Level of Service | C- | C+ | B+ | D+ |
| Av Queue @ start of green | 1 | 1 | 3 | 1 |
| Vehicles stopping (%) | 97 | 95 | 74 | 98 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 11 Level of Service = B
Whole Intersection - Weighted Av Delay (sec) = 11 Level of Service = B

Cycle Length for minimum delay is 42 seconds
Intersection Capacity Utilization (ICU) = 0.63/B

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

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IDENTIFYING INFORMATION

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AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... A St #4

NAME OF THE NORTH/SOUTH STREET....... Pitt School Rd

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

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INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | 4 | 22 | 56 |
| THRU | 185 | 333 | 36 | 22 |
| RIGHT | 6 | 62 | 15 | 38 |

NUMBER OF LANES AND LANE USAGE

---

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | 3 | 2 | 3 |
| LANE USAGE | | | L + TR | L + TR |

ADJUSTMENT FACTORS Page-2

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| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

---

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

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| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | NB | 6.50 | 6.50 | 0.00 | 6.50 |
| | SB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | NB | 7.00 | 7.00 | 0.00 | 7.00 |
| | SB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

---

NAME OF THE EAST/WEST STREET...... A St #4
NAME OF THE NORTH/SOUTH STREET.... Pitt School Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page-3

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| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 26 | 339 | 314 | 314 | 290 | C |
| THROUGH | 40 | 425 | 419 > | 419 > | 379 > | B |
| RIGHT | 17 | 995 | 995 > 505 | 995 > 448 | 979 >A | A |
| MINOR STREET | | | | | | |
| SB LEFT | 62 | 358 | 330 | 330 | 268 | C |
| THROUGH | 26 | 444 | 437 | 437 | 413 | A |
| RIGHT | 42 | 951 | 951 | 951 | 909 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 14 | 705 | 705 | 705 | 690 | A |
| WB LEFT | 4 | 899 | 899 | 899 | 895 | A |

IDENTIFYING INFORMATION

---

NAME OF THE EAST/WEST STREET...... A St #4
NAME OF THE NORTH/SOUTH STREET.... Pitt School Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... A St 4

NAME OF THE NORTH/SOUTH STREET....... Pitt School Rd

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 41 | 18 | 25 | 84 |
| THRU | 445 | 219 | 30 | 40 |
| RIGHT | 32 | 68 | 19 | 32 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | 3 | 2 | 3 |
| LANE USAGE | | | L + TR | L + TR |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | NB | 6.50 | 6.50 | 0.00 | 6.50 |
| | SB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | NB | 7.00 | 7.00 | 0.00 | 7.00 |
| | SB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 4
NAME OF THE NORTH/SOUTH STREET.... Pitt School Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements



| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| NB LEFT | 28 | 235 | 199 | | 199 | | 171 | D |
| THROUGH | 33 | 307 | 291 | > | 291 > | | 258 > | C |
| RIGHT | 21 | 852 | 852 | > 391 | 852 > | 337 | 831 >B | A |
| MINOR STREET | | | | | | | | |
| SB LEFT | 92 | 251 | 219 | | 219 | | 126 | D |
| THROUGH | 44 | 316 | 300 | | 300 | | 256 | C |
| RIGHT | 35 | 988 | 988 | | 988 | | 952 | A |
| MAJOR STREET | | | | | | | | |
| EB LEFT | 45 | 805 | 803 | | 805 | | 758 | A |
| WB LEFT | 20 | 644 | 644 | | 644 | | 624 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 4
NAME OF THE NORTH/SOUTH STREET.... Pitt School Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION....................... 10000

NAME OF THE EAST/WEST STREET......... A St #5

NAME OF THE NORTH/SOUTH STREET....... Evens Rd

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 12 | 1 | 0 | 6 |
| THRU | 210 | 393 | 0 | 0 |
| RIGHT | 3 | 2 | 3 | 45 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | 3 | 2 | 3 |
| LANE USAGE | | | L + R | L + R |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS | | | | |
| NB | 5.50 | 5.50 | 0.00 | 5.50 |
| SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | |
| EB | 5.50 | 5.50 | 0.00 | 5.50 |
| WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | |
| NB | 6.50 | 6.50 | 0.00 | 6.50 |
| SB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | |
| NB | 7.00 | 7.00 | 0.00 | 7.00 |
| SB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 5
NAME OF THE NORTH/SOUTH STREET.... Evens Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 0 | 336 | 322 | 322 | 322 | B |
| THROUGH | 0 | 414 | 409 | 409 | 409 | A |
| RIGHT | 3 | 988 | 988 | 988 | 985 | A |
| MINOR STREET | | | | | | |
| SB LEFT | 7 | 368 | 353 | 353 | 346 | B |
| THROUGH | 0 | 414 | 409 | 409 | 409 | A |
| RIGHT | 50 | 961 | 961 | 961 | 912 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 13 | 705 | 705 | 705 | 691 | A |
| WB LEFT | 1 | 877 | 877 | 877 | 876 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 5
NAME OF THE NORTH/SOUTH STREET.... Evens Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... A St 5

NAME OF THE NORTH/SOUTH STREET....... Evans Rd

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 32 | 2 | 0 | 4 |
| THRU | 514 | 266 | 0 | 0 |
| RIGHT | 0 | 8 | 1 | 8 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | 3 | 2 | 3 |
| LANE USAGE | | | L + R | L + R |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | NB | 6.50 | 6.50 | 0.00 | 6.50 |
| | SB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | NB | 7.00 | 7.00 | 0.00 | 7.00 |
| | SB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 5
NAME OF THE NORTH/SOUTH STREET.... Evans Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE $v(pcph)$ | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 0 | 254 | 245 | 245 | 245 | C |
| THROUGH | 0 | 301 | 298 | 298 | 298 | C |
| RIGHT | 1 | 833 | 833 | 833 | 832 | A |
| MINOR STREET | | | | | | |
| SB LEFT | 4 | 258 | 250 | 250 | 246 | C |
| THROUGH | 0 | 303 | 294 | 294 | 294 | C |
| RIGHT | 9 | 995 | 995 | 995 | 987 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 35 | 816 | 816 | 816 | 781 | A |
| WB LEFT | 2 | 617 | 617 | 617 | 615 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 5
NAME OF THE NORTH/SOUTH STREET.... Evans Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon (A St) 6

NAME OF THE NORTH/SOUTH STREET....... Batavia Rd

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | 12 | 19 | -- |
| THRU | 102 | 423 | 36 | -- |
| RIGHT | 55 | 62 | 125 | -- |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | -- |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | ----- | --- | --- | - |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | --- | --- | --- |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS NB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon (A St) 6
NAME OF THE NORTH/SOUTH STREET.... Batavia Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE $v$(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 21 | 449 | 445 | 445 | 424 | A |
| RIGHT | 138 | 964 | 964 | 964 | 827 | A |
| MAJOR STREET | | | | | | |
| WB LEFT | 13 | 991 | 991 | 991 | 978 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon (A St) 6
NAME OF THE NORTH/SOUTH STREET.... Batavia Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon (A St) 6

NAME OF THE NORTH/SOUTH STREET....... Batavia Rd

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | 31 | 40 | -- |
| THRU | 150 | 248 | 36 | -- |
| RIGHT | 50 | 62 | 393 | -- |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | -- |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | ----- | --- | --- | - |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | --- | --- | --- |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS NB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon (A St) 6
NAME OF THE NORTH/SOUTH STREET.... Batavia Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE $v$(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 44 | 526 | 513 | 513 | 469 | A |
| RIGHT | 432 | 916 | 916 | 916 | 484 | A |
| MAJOR STREET | | | | | | |
| WB LEFT | 34 | 985 | 985 | 985 | 951 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon (A St) 6
NAME OF THE NORTH/SOUTH STREET.... Batavia Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... I-80 EB Ramps 7

NAME OF THE NORTH/SOUTH STREET....... Batavia Rd

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | 10 | 2 | -- |
| THRU | 137 | 58 | 36 | -- |
| RIGHT | 2 | 62 | 10 | -- |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | -- |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | ----- | --- | --- | - |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | --- | --- | --- |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS NB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 EB Ramps 7
NAME OF THE NORTH/SOUTH STREET.... Batavia Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 2 | 715 | 710 > | 710 > | 708 > | A |
| | | | > 903 | > 890 | | >A |
| RIGHT | 11 | 955 | 955 > | 955 > | 944 > | A |
| MAJOR STREET | | | | | | |
| WB LEFT | 11 | 994 | 994 | 994 | 983 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 EB Ramps 7
NAME OF THE NORTH/SOUTH STREET.... Batavia Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000 #7

NAME OF THE EAST/WEST STREET......... ~~Dixon (A St)~~ I-80 EB Ramps

NAME OF THE NORTH/SOUTH STREET....... Batavia Rd

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | 36 | 42 | -- |
| THRU | 402 | 43 | 36 | -- |
| RIGHT | 37 | 62 | 28 | -- |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | -- |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | ----- | --- | --- | - |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | --- | --- | --- |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS NB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... ~~Dixon (A St)~~ I-80 EB 7
NAME OF THE NORTH/SOUTH STREET.... Batavia Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements



| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| NB LEFT | 46 | 495 | 477 | 477 | 431 | A |
| RIGHT | 31 | 685 | 685 | 685 | 654 | A |
| MAJOR STREET | | | | | | |
| WB LEFT | 40 | 763 | 763 | 763 | 723 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... ~~Dixon (A St)~~ I-80 EB 7
NAME OF THE NORTH/SOUTH STREET.... Batavia Rd
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000 8

NAME OF THE EAST/WEST STREET......... I-80 WB Ramps

NAME OF THE NORTH/SOUTH STREET....... Schroeder

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 53 | 10 | -- | 2 |
| THRU | 339 | 26 | -- | 22 |
| RIGHT | 2 | 48 | -- | 37 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 2 |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS EB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 WB Ramps 8
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) P | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 2 | 532 | 513 | 513 | 511 | A |
| RIGHT | 41 | 998 | 998 | 998 | 957 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 58 | 1000 | 1000 | 1000 | 942 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 WB Ramps 8
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... I-80 WB Ramps 8

NAME OF THE NORTH/SOUTH STREET....... Schroeder

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 61 | 10 | -- | 2 |
| THRU | 156 | 54 | -- | 22 |
| RIGHT | 2 | 58 | -- | 48 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 2 |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS EB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 WB Ramps 6
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements



| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 2 | 635 | 609 | 609 | 607 | A |
| RIGHT | 53 | 996 | 996 | 996 | 943 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 67 | 998 | 998 | 998 | 931 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 WB Ramps 8
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Dixon Ave

NAME OF THE NORTH/SOUTH STREET....... Schroeder

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 15 | 10 | -- | 42 |
| THRU | 119 | 76 | -- | 22 |
| RIGHT | 2 | 376 | -- | 20 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 2 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS EB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS SB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon Ave
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 46 | 562 | 554 | 554 | 508 | A |
| RIGHT | 22 | 826 | 826 | 826 | 804 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 17 | 752 | 752 | 752 | 736 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon Ave
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30
PEAK HOUR FACTOR..................... 1
AREA POPULATION...................... 10000
NAME OF THE EAST/WEST STREET......... Dixon Ave 1
NAME OF THE NORTH/SOUTH STREET....... Schroeder
NAME OF THE ANALYST.................. HBA
DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994
TIME PERIOD ANALYZED................. Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION
MAJOR STREET DIRECTION: EAST/WEST
CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 16 | 10 | -- | 87 |
| THRU | 119 | 92 | -- | 22 |
| RIGHT | 2 | 199 | -- | 36 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 2 |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS EB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon Ave 9
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements



| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 96 | 615 | 608 | 608 | 512 | A |
| RIGHT | 40 | 899 | 899 | 899 | 859 | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 18 | 899 | 899 | 899 | 881 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Dixon Ave 9
NAME OF THE NORTH/SOUTH STREET.... Schroeder
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Mickey Rd 10

NAME OF THE NORTH/SOUTH STREET....... SH 113

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 5 | 15 | 16 | 19 |
| THRU | 17 | 29 | 54 | 85 |
| RIGHT | 12 | 8 | 10 | 15 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | 2 |
| LANE USAGE | LTR | LTR | | |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Mickey Rd 10
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | |
| EB LEFT | 6 | 637 | 603 | > | | 603 | > | 597 > | A |
| THROUGH | 19 | 729 | 712 | > | 769 | 712 | > 732 | 693 >A | A |
| RIGHT | 13 | 998 | 998 | > | | 998 | > | 984 > | A |
| MINOR STREET | | | | | | | | | |
| WB LEFT | 17 | 642 | 612 | > | | 612 | > | 596 > | A |
| THROUGH | 32 | 726 | 709 | > | 708 | 709 | > 651 | 677 >A | A |
| RIGHT | 9 | 998 | 998 | > | | 998 | > | 990 > | A |
| MAJOR STREET | | | | | | | | | |
| SB LEFT | 21 | 997 | 997 | | | 997 | | 976 | A |
| NB LEFT | 18 | 995 | 995 | | | 995 | | 977 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Mickey Rd 10
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Midway Rd 10

NAME OF THE NORTH/SOUTH STREET....... SH 113

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 18 | 18 | 12 | 22 |
| THRU | 16 | 17 | 99 | 72 |
| RIGHT | 12 | 22 | 19 | 30 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | 2 |
| LANE USAGE | LTR | LTR | | |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Midway Rd 10
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | |
| EB LEFT | 20 | 598 | 566 | > | | 566 | > | 546 > | A |
| THROUGH | 18 | 687 | 671 | > | 680 | 671 | > 629 | 654 >A | A |
| RIGHT | 13 | 997 | 997 | > | | 997 | > | 984 > | A |
| MINOR STREET | | | | | | | | | |
| WB LEFT | 20 | 602 | 575 | > | | 575 | > | 555 > | A |
| THROUGH | 19 | 682 | 667 | > | 723 | 667 | > 660 | 648 >A | A |
| RIGHT | 24 | 997 | 997 | > | | 997 | > | 973 > | A |
| MAJOR STREET | | | | | | | | | |
| SB LEFT | 24 | 976 | 976 | | | 976 | | 952 | A |
| NB LEFT | 13 | 993 | 993 | | | 993 | | 980 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Midway Rd 10
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... W Cherry

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 143 | -- | 5 | 19 |
| THRU | 17 | -- | 585 | 273 |
| RIGHT | 5 | -- | 10 | 51 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

## ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

## CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 157 | 275 | 274 > | 274 > | 116 > | D |
| | | | > 280 | > 117 | >D | |
| RIGHT | 6 | 792 | 792 > | 792 > | 786 > | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 6 | 867 | 867 | 867 | 862 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... W Cherry ((

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 78 | -- | 20 | 19 |
| THRU | 17 | -- | 473 | 722 |
| RIGHT | 5 | -- | 10 | 155 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry ((
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE $v$(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 86 | 149 | 145 > | 145 > | 59 > | E |
| | | | > | 151 | > 60 | >E |
| RIGHT | 6 | 425 | 425 > | 425 > | 420 > | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 22 | 460 | 460 | 460 | 438 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry ((
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... H St

NAME OF THE NORTH/SOUTH STREET....... First St 12

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 139 | 0 | 65 | 0 |
| THRU | 0 | 0 | 441 | 229 |
| RIGHT | 118 | 1 | 0 | 3 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 1 | 3 | 3 |
| LANE USAGE | L + R | LTR | | |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... H St 12
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 153 | 298 | 283 | 283 | 130 | |
| THROUGH | 0 | 347 | 329 | 329 | 329 | |
| RIGHT | 130 | 996 | 996 | 996 | 866 | |
| MINOR STREET | | | | | | |
| WB LEFT | 0 | 244 | 212 > | 212 > | 212 > | |
| THROUGH | 0 | 346 | 328 > 946 | 328 > 945 | 328 > | A |
| RIGHT | 1 | 946 | 946 > | 946 > | 945 > | |
| MAJOR STREET | | | | | | |
| SB LEFT | 0 | 670 | 670 | 670 | 670 | |
| NB LEFT | 72 | 858 | 858 | 858 | 787 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... H St 12
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... H St (2

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 101 | 0 | 121 | 0 |
| THRU | 0 | 0 | 325 | 440 |
| RIGHT | 119 | 1 | 0 | 7 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 1 | 3 | 3 |
| LANE USAGE | L + R | LTR | | |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... H St (2
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements



| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 111 | 231 | 199 | 199 | 88 | E |
| THROUGH | 0 | 274 | 236 | 236 | 236 | C |
| RIGHT | 131 | 942 | 942 | 942 | 811 | A |
| MINOR STREET | | | | | | |
| WB LEFT | 0 | 187 | 146 > | 146 > | 146 > | D |
| THROUGH | 0 | 273 | 235 > | 986 235 > | 985 235 >A | C |
| RIGHT | 1 | 986 | 986 > | 986 > | 985 > | A |
| MAJOR STREET | | | | | | |
| SB LEFT | 0 | 768 | 768 | 768 | 768 | A |
| NB LEFT | 133 | 666 | 666 | 666 | 533 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... H St (2
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Vaghn 13

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 28 | 14 | 3 | 13 |
| THRU | 1 | 1 | 522 | 290 |
| RIGHT | 2 | 10 | 15 | 18 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 3 | 3 | 3 |
| LANE USAGE | L + TR | L + TR | | |

## ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS | | | | |
| EB | 5.50 | 5.50 | 0.00 | 5.50 |
| WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | |
| SB | 5.50 | 5.50 | 0.00 | 5.50 |
| NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | |
| EB | 6.50 | 6.50 | 0.00 | 6.50 |
| WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | |
| EB | 7.00 | 7.00 | 0.00 | 7.00 |
| WB | 7.00 | 7.00 | 0.00 | 7.00 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Vaghn 13
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

## CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ |
|---|---|---|---|---|---|
| MINOR STREET | | | | | |
| EB LEFT | 31 | 241 | 235 | 235 | 204 |
| THROUGH | 1 | 289 | 284 | 284 | 283 |
| RIGHT | 2 | 989 | 989 | 989 | 987 |
| MINOR STREET | | | | | |
| WB LEFT | 15 | 244 | 239 | 239 | 223 |
| THROUGH | 1 | 289 | 284 | 284 | 283 |
| RIGHT | 11 | 909 | 909 | 909 | 898 |
| MAJOR STREET | | | | | |
| SB LEFT | 14 | 601 | 601 | 601 | 586 |
| NB LEFT | 3 | 783 | 783 | 783 | 780 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Vaghn 13
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Vaghn 13

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | 26 | 4 | 8 |
| THRU | 0 | 2 | 339 | 552 |
| RIGHT | 3 | 6 | 21 | 16 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 3 | 3 | 3 |
| LANE USAGE | L + R | L + TR | | |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS | | | | |
| EB | 5.50 | 5.50 | 0.00 | 5.50 |
| WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | |
| SB | 5.50 | 5.50 | 0.00 | 5.50 |
| NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | |
| EB | 6.50 | 6.50 | 0.00 | 6.50 |
| WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | |
| EB | 7.00 | 7.00 | 0.00 | 7.00 |
| WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Vaghn 13
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 14 | 213 | 208 | 208 | 194 | D |
| THROUGH | 0 | 257 | 254 | 254 | 254 | C |
| RIGHT | 3 | 898 | 898 | 898 | 895 | A |
| MINOR STREET | | | | | | |
| WB LEFT | 29 | 215 | 212 | 212 | 184 | D |
| THROUGH | 2 | 258 | 255 | 255 | 253 | C |
| RIGHT | 7 | 970 | 970 | 970 | 964 | A |
| MAJOR STREET | | | | | | |
| SB LEFT | 9 | 736 | 736 | 736 | 727 | A |
| NB LEFT | 4 | 578 | 578 | 578 | 574 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Vaghn 13
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... I-80 EB Ramps 14

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 9 | -- | 71 | 13 |
| THRU | 1 | -- | 530 | 99 |
| RIGHT | 243 | -- | 15 | 10 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | -- | 3 | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 EB Ramps 14
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 10 | 365 | 348 | 348 | 338 | B |
| RIGHT | 267 | 991 | 991 | 991 | 724 | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 78 | 999 | 999 | 999 | 921 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 EB Ramps 14
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... I-80 EB Ramps 14

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 13 | -- | 80 | 13 |
| THRU | 1 | -- | 277 | 56 |
| RIGHT | 550 | -- | 15 | 8 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 2 | -- | 3 | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 EB Ramps 14
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 14 | 549 | 520 | 520 | 505 | A |
| RIGHT | 605 | 997 | 997 | 997 | 392 | B |
| MAJOR STREET | | | | | | |
| NB LEFT | 88 | 1000 | 1000 | 1000 | 912 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... I-80 EB Ramps 14
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION....................... 10000

NAME OF THE EAST/WEST STREET......... Porter 15

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 1 | 8 | 0 | 2 |
| THRU | 41 | 65 | 7 | 16 |
| RIGHT | 0 | 2 | 9 | 6 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 2 | 2 | 2 |
| LANE USAGE | LT + R | L + TR | | |

## ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter 15
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

## CAPACITY AND LEVEL-OF-SERVICE



| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| EB LEFT | 1 | 751 | 713 | | 713 | | 712 | A |
| THROUGH | 45 | 883 | 882 | | 882 | | 837 | A |
| RIGHT | 0 | 999 | 999 | | 999 | | 999 | A |
| MINOR STREET | | | | | | | | |
| WB LEFT | 9 | 779 | 754 | | 754 | | 745 | A |
| THROUGH | 72 | 885 | 883 | > | 883 | > | 812 > | A |
| RIGHT | 2 | 1000 | 1000 | > | 886 1000 | > 813 | 997 >A | A |
| MAJOR STREET | | | | | | | | |
| SB LEFT | 2 | 999 | 999 | | 999 | | 997 | A |
| NB LEFT | 0 | 999 | 999 | | 999 | | 999 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter 15
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Porter 15

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 19 | 9 | 0 | 1 |
| THRU | 106 | 48 | 8 | 16 |
| RIGHT | 4 | 3 | 21 | 4 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 2 | 2 | 2 |
| LANE USAGE | LT + R | L + TR | | |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter 15
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 21 | 756 | 727 | 727 | 706 | A |
| THROUGH | 117 | 872 | 871 | 871 | 755 | A |
| RIGHT | 4 | 1000 | 1000 | 1000 | 995 | A |
| MINOR STREET | | | | | | |
| WB LEFT | 10 | 708 | 644 | 644 | 634 | A |
| THROUGH | 53 | 881 | 880 > | 880 > | 827 > | A |
| RIGHT | 3 | 999 | 999 > 886 | 999 > 830 | 996 >A | A |
| MAJOR STREET | | | | | | |
| SB LEFT | 1 | 999 | 999 | 999 | 997 | A |
| NB LEFT | 0 | 999 | 999 | 999 | 999 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter 15
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Parkway Blvd

NAME OF THE NORTH/SOUTH STREET....... First St 19

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 158 | -- | 0 | 2 |
| THRU | 41 | -- | 67 | 119 |
| RIGHT | 0 | -- | 9 | 27 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd 19
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY c (pcph) P | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 174 | 721 | 721 > | 721 > | 547 > | A |
| | | | > 721 | | > 547 | >A |
| RIGHT | 0 | 961 | 961 > | 961 > | 961 > | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 0 | 993 | 993 | 993 | 993 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd 19
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Parkway Blvd 19

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 75 | -- | 0 | 2 |
| THRU | 41 | -- | 139 | 123 |
| RIGHT | 0 | -- | 9 | 174 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd 19
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE $v(pcph)$ | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | L[illegible] |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 83 | 598 | 598 | > 598 > 598 | > 516 > 516 | >A |
| RIGHT | 0 | 880 | 880 | > 880 | > 880 | > |
| MAJOR STREET | | | | | | |
| NB LEFT | 0 | 895 | 895 | 895 | 895 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd 19
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Village Parkway 20

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 296 | -- | 1 | 2 |
| THRU | 41 | -- | 224 | 140 |
| RIGHT | 6 | -- | 9 | 106 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Village Parkway 20
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 326 | 548 | 547 > | 547 > | 222 > | C |
| | | | > 552 | > 220 | | >C |
| RIGHT | 7 | 897 | 897 > | 897 > | 891 > | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 1 | 941 | 941 | 941 | 940 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Village Parkway 20
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Village Parkway

NAME OF THE NORTH/SOUTH STREET....... First St 20

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Ex + Pr PM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 173 | -- | 6 | 2 |
| THRU | 41 | -- | 208 | 294 |
| RIGHT | 3 | -- | 9 | 349 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

## ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Village Parkway 20
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

## CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 190 | 378 | 375 > | 375 > | 185 > | D |
| | | | > 378 | > 18% | >0 | |
| RIGHT | 3 | 650 | 650 > | 650 > | 647 > | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 7 | 602 | 602 | 602 | 595 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Village Parkway 20
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Ex + Pr PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

#1

| First St./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | LANE GROUPS | | | |
| Peak 15 Min Flow (vph) | 276 | 74 | 83 | 317 |
| Saturation Flow (vph) | 1800 | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.63 | 0.63 | 0.63 | 0.63 |
| Green Times (effective) | 9 | 2 | 3 | 10 |
| Movement Times | 12 | 5 | 6 | 13 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 11 | 20 | 19 | 10 |
| Level of Service | B- | C+ | C+ | B- |
| Av Queue @ start of green | 2 | 1 | 1 | 2 |
| Vehicles stopping (%) | 89 | 97 | 97 | 88 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 13 Level of Service = B-
Whole Intersection - Weighted Av Delay (sec) = 13 Level of Service = B-

Cycle Length for minimum delay is 36 seconds
Intersection Capacity Utilization (ICU) = 0.63/B

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

#1

| First St./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | LANE GROUPS | | | |
| Peak 15 Min Flow (vph) | 93 | 463 | 478 | 40 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.76 | 0.76 | 0.76 | 0.76 |
| Green Times (effective) | 4 | 19 | 19 | 2 |
| Movement Times | 7 | 22 | 22 | 5 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 36 | 17 | 16 | 51 |
| Level of Service | D- | C+ | C+ | E |
| Av Queue @ start of green | 1 | 5 | 5 | 1 |
| Vehicles stopping (%) | 98 | 89 | 89 | 99 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 19 Level of Service = C+
Whole Intersection - Weighted Av Delay (sec) = 19 Level of Service = C+

Cycle Length for minimum delay is 56 seconds
Intersection Capacity Utilization (ICU) = 0.76/C

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... A St 2

NAME OF THE NORTH/SOUTH STREET....... Jackson St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. 0.m AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 55 | 1 | 46 | 4 |
| THRU | 322 | 346 | 6 | 7 |
| RIGHT | 91 | 3 | 15 | 32 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | | | LTR | LTR |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | EB | 5.00 | 5.00 | 0.00 | 5.00 |
| | WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR THROUGHS | NB | 6.00 | 6.00 | 0.00 | 6.00 |
| | SB | 6.00 | 6.00 | 0.00 | 6.00 |
| MINOR LEFTS | NB | 6.50 | 6.50 | 0.00 | 6.50 |
| | SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 2
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | | |
| NB LEFT | 51 | 305 | 280 | > | 280 | > | | 229 > | C |
| THROUGH | 7 | 381 | 364 | > 333 | 364 | > | 259 | 358 >C | B |
| RIGHT | 17 | 729 | 729 | > | 729 | > | | 713 > | A |
| MINOR STREET | | | | | | | | | |
| SB LEFT | 4 | 295 | 275 | > | 275 | > | | 271 > | C |
| THROUGH | 8 | 357 | 342 | > 552 | 342 | > | 505 | 334 >A | B |
| RIGHT | 35 | 747 | 747 | > | 747 | > | | 712 > | A |
| MAJOR STREET | | | | | | | | | |
| EB LEFT | 61 | 843 | 843 | | 843 | | | 783 | A |
| WB LEFT | 1 | 784 | 784 | | 784 | | | 783 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 2
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #3 Adams St./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 12 | 147 | 214 | 358 |
| Saturation Flow (vph) | 1700 | 1800 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.61 | 0.61 | 0.61 | 0.61 |
| Green Times (effective) | 0 | 5 | 8 | 12 |
| Movement Times | 3 | 8 | 11 | 15 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 41 | 15 | 12 | 9 |
| Level of Service | E+ | B- | B- | B+ |
| Av Queue @ start of green | 0 | 1 | 2 | 2 |
| Vehicles stopping (%) | 100 | 94 | 91 | 84 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 12 Level of Service = B-
Whole Intersection - Weighted Av Delay (sec) = 12 Level of Service = B-

Cycle Length for minimum delay is 37 seconds
Intersection Capacity Utilization (ICU) = 0.61/B

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... A St 2

NAME OF THE NORTH/SOUTH STREET....... Jackson St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. 0.m PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 24 | 4 | 101 | 14 |
| THRU | 448 | 422 | 9 | 8 |
| RIGHT | 110 | 11 | 26 | 85 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | | | LTR | LTR |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS | | | | |
| NB | 5.50 | 5.50 | 0.00 | 5.50 |
| SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | |
| EB | 5.00 | 5.00 | 0.00 | 5.00 |
| WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR THROUGHS | | | | |
| NB | 6.00 | 6.00 | 0.00 | 6.00 |
| SB | 6.00 | 6.00 | 0.00 | 6.00 |
| MINOR LEFTS | | | | |
| NB | 6.50 | 6.50 | 0.00 | 6.50 |
| SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 2
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c - v$ ($c_{SH}$) | | LOS |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| NB LEFT | 111 | 213 | 185 > | | 185 > | | 74 > | E |
| THROUGH | 10 | 287 | 280 > | 220 | 280 > | 70 | 270 > | E C |
| RIGHT | 29 | 625 | 625 > | | 625 > | | 597 > | A |
| MINOR STREET | | | | | | | | |
| SB LEFT | 15 | 215 | 200 > | | 200 > | | 185 > | D |
| THROUGH | 9 | 266 | 259 > | 474 | 259 > | 356 | 250 > | B C |
| RIGHT | 94 | 680 | 680 > | | 680 > | | 587 > | A |
| MAJOR STREET | | | | | | | | |
| EB LEFT | 26 | 768 | 768 | | 768 | | 741 | A |
| WB LEFT | 4 | 665 | 665 | | 665 | | 660 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St 2
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #3 Adams St./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | | LANE GROUPS | | |
| Peak 15 Min Flow (vph) | 16 | 352 | 185 | 430 |
| Saturation Flow (vph) | 1700 | 1800 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.73 | 0.73 | 0.73 | 0.73 |
| Green Times (effective) | 1 | 13 | 7 | 16 |
| Movement Times | 4 | 16 | 10 | 19 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 66 | 16 | 22 | 14 |
| Level of Service | F | C+ | C- | B- |
| Av Queue @ start of green | 0 | 4 | 2 | 4 |
| Vehicles stopping (%) | 100 | 91 | 96 | 89 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 17 Level of Service = C+
Whole Intersection - Weighted Av Delay (sec) = 17 Level of Service = C+

Cycle Length for minimum delay is 49 seconds
Intersection Capacity Utilization (ICU) = 0.73/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #4 Pitt School Rd./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 168 | 57 | 247 | 398 |
| Saturation Flow (vph) | 1800 | 1700 | 1700 | 3600 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.60 | 0.60 | 0.60 | 0.60 |
| Green Times (effective) | 5 | 2 | 8 | 6 |
| Movement Times | 8 | 5 | 11 | 9 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 12 | 19 | 10 | 11 |
| Level of Service | B- | C+ | B- | B- |
| Av Queue @ start of green | 1 | 1 | 2 | 3 |
| Vehicles stopping (%) | 93 | 98 | 89 | 92 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 11 Level of Service = B
Whole Intersection - Weighted Av Delay (sec) = 11 Level of Service = B-

Cycle Length for minimum delay is 33 seconds
Intersection Capacity Utilization (ICU) = 0.60/B

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #4 Pitt School Rd./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | | LANE GROUPS | | |
| Peak 15 Min Flow (vph) | 126 | 86 | 477 | 681 |
| Saturation Flow (vph) | 1800 | 1700 | 1700 | 3600 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.78 | 0.78 | 0.78 | 0.78 |
| Green Times (effective) | 5 | 3 | 18 | 12 |
| Movement Times | 8 | 6 | 21 | 15 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 31 | 36 | 15 | 17 |
| Level of Service | D | D- | C+ | C+ |
| Av Queue @ start of green | 2 | 1 | 4 | 7 |
| Vehicles stopping (%) | 98 | 98 | 89 | 93 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 19 Level of Service = C+
Whole Intersection - Weighted Av Delay (sec) = 19 Level of Service = C+

Cycle Length for minimum delay is 50 seconds
Intersection Capacity Utilization (ICU) = 0.78/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #5 Evans Rd./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 349 | 87 | 618 | 213 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.86 | 0.86 | 0.86 | 0.86 |
| Green Times (effective) | 18 | 4 | 30 | 11 |
| Movement Times | 21 | 7 | 33 | 14 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 32 | 59 | 23 | 41 |
| Level of Service | D | E- | C- | E+ |
| Av Queue @ start of green | 6 | 2 | 8 | 4 |
| Vehicles stopping (%) | 96 | 99 | 91 | 98 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 31 Level of Service =
Whole Intersection - Weighted Av Delay (sec) = 31 Level of Service =

Cycle Length for minimum delay is 75 seconds
Intersection Capacity Utilization (ICU) = 0.86/D

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #5 Evans Rd./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 705 | 8 | 840 | 507 |
| Saturation Flow (vph) | 1800 | 1700 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.26 | 0.16 | 1.25 | 1.26 |
| Green Times (effective) | 76 | 7 | 91 | 57 |
| Movement Times | 79 | 10 | 94 | 60 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 228 | 88 | 220 | 239 |
| Level of Service | F | F | F | F |
| Av Queue @ start of green | 40 | 1 | 44 | 31 |
| Vehicles stopping (%) | 100 | 98 | 100 | 100 |
| Do Vehicles Clear | NO | YES | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = 227 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = 227 Level of Service = F

Required Cycle Length is 244 seconds
Intersection Capacity Utilization (ICU) = 1.22/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #6 Batavia Rd./Dixon Rd. | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 254 | 1539 | 469 |
| Saturation Flow (vph) | 1700 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.43 | 1.35 | 1.37 |
| Green Times (effective) | 15 | 91 | 28 |
| Movement Times | 18 | 94 | 31 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 403 | 285 | 311 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 15 | 50 | 23 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = 303   Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = 303   Level of Service = F

Required Cycle Length is 144 seconds
Intersection Capacity Utilization (ICU) = 1.37/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #6 Batavia Rd./Dixon Rd. | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 673 | 1782 | 489 |
| Saturation Flow (vph) | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.97 | 1.78 | 1.85 |
| Green Times (effective) | 17 | 50 | 13 |
| Movement Times | 20 | 53 | 16 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %1375 | %1548 | %1086 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 76 | 209 | 46 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %1432 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = %1432 Level of Service = F

Required Cycle Length is 90 seconds
Intersection Capacity Utilization (ICU) = 1.83/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #7 Batavia Rd./I-80 EB Ramps | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 645 | 838 | 586 |
| Saturation Flow (vph) | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.25 | 1.24 | 1.24 |
| Green Times (effective) | 43 | 56 | 41 |
| Movement Times | 46 | 59 | 44 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 197 | 186 | 191 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 26 | 30 | 23 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = 191 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = 191 Level of Service = F

Required Cycle Length is 151 seconds
Intersection Capacity Utilization (ICU) = 1.24/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #7 Batavia Rd./I-80 EB Ramps | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 1088 | 1343 | 498 |
| Saturation Flow (vph) | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.71 | 1.71 | 1.71 |
| Green Times (effective) | 82 | 102 | 39 |
| Movement Times | 85 | 105 | 42 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 828 | 840 | 833 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 102 | 121 | 52 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = 834 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = 834 Level of Service = F

Required Cycle Length is 233 seconds
Intersection Capacity Utilization (ICU) = 1.71/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #8 Schroeder Rd./I-80 WB Ram | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 2 | 53 | 1136 |
| Saturation Flow (vph) | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.73 | 0.73 | 0.73 |
| Green Times (effective) | 0 | 4 | 89 |
| Movement Times | 3 | 7 | 92 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 204 | 56 | 3 |
| Level of Service | F | E- | A |
| Av Queue @ start of green | 0 | 1 | 4 |
| Vehicles stopping (%) | 100 | 99 | 36 |
| Do Vehicles Clear | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 6 Level of Service = B-
Whole Intersection - Weighted Av Delay (sec) = 6 Level of Service = [illegible]

Cycle Length for minimum delay is 103 seconds
Intersection Capacity Utilization (ICU) = 0.73/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #8 Schroeder Rd./I-80 WB Ram | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 2 | 61 | 1302 |
| Saturation Flow (vph) | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.82 | 0.82 | 0.82 |
| Green Times (effective) | 0 | 6 | 118 |
| Movement Times | 3 | 9 | 121 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 296 | 79 | 5 |
| Level of Service | F | F | A |
| Av Queue @ start of green | 0 | 2 | 5 |
| Vehicles stopping (%) | 100 | 99 | 41 |
| Do Vehicles Clear | NO | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 9 Level of Service = B+
Whole Intersection - Weighted Av Delay (sec) = 9 Level of Service = B+

Cycle Length for minimum delay is 133 seconds
Intersection Capacity Utilization (ICU) = 0.82/D

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #1 Schroeder Rd./Dixon Ave. | CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 964 | 15 | 1413 |
| Saturation Flow (vph) | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 2.43 | 0.04 | 3.36 |
| Green Times (effective) | 7 | 7 | 7 |
| Movement Times | 10 | 10 | 10 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %2973 | 7 | %9343 |
| Level of Service | F | B+ | F |
| Av Queue @ start of green | 204 | 0 | 925 |
| Vehicles stopping (%) | 100 | 77 | 100 |
| Do Vehicles Clear | NO | YES | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %6717 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = %6717 Level of Service = F

Required Cycle Length is 30 seconds
Intersection Capacity Utilization (ICU) = 1.94/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #9 Schroeder Rd./Dixon Ave. | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 1096 | 16 | 1508 |
| Saturation Flow (vph) | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 2.76 | 0.04 | 3.59 |
| Green Times (effective) | 7 | 7 | 7 |
| Movement Times | 10 | 10 | 10 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %4717 | 7 | %11655 |
| Level of Service | F | B+ | F |
| Av Queue @ start of green | 365 | 0 | %1229 |
| Vehicles stopping (%) | 100 | 77 | 100 |
| Do Vehicles Clear | NO | YES | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %8681 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = %8681 Level of Service = F

Required Cycle Length is 30 seconds
Intersection Capacity Utilization (ICU) = 2.13/F

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION....................... 10000

NAME OF THE EAST/WEST STREET......... Mickey Rd 10

NAME OF THE NORTH/SOUTH STREET....... SH 113

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. 0.m AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 7 | 15 | 28 | 19 |
| THRU | 17 | 29 | 91 | 89 |
| RIGHT | 26 | 8 | 10 | 34 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | 2 |
| LANE USAGE | LTR | LTR | | |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Mickey Rd 10
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements



| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| EB LEFT | 8 | 587 | 549 | > | 549 | > | 542 > | |
| THROUGH | 19 | 674 | 653 | > 771 | 653 | > 716 | 634 >A | |
| RIGHT | 29 | 997 | 997 | > | 997 | > | 968 > | |
| MINOR STREET | | | | | | | | |
| WB LEFT | 17 | 573 | 536 | > | 536 | > | 520 > | |
| THROUGH | 32 | 664 | 643 | > 641 | 643 | > 584 | 611 >A | |
| RIGHT | 9 | 997 | 997 | > | 997 | > | 989 > | |
| MAJOR STREET | | | | | | | | |
| SB LEFT | 21 | 994 | 994 | | 994 | | 973 | |
| NB LEFT | 31 | 971 | 971 | | 971 | | 940 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Mickey Rd 10
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Midway Rd 10

NAME OF THE NORTH/SOUTH STREET....... SH 113

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. 0.m PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 39 | 18 | 29 | 22 |
| THRU | 16 | 17 | 105 | 99 |
| RIGHT | 25 | 22 | 19 | 34 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | 2 |
| LANE USAGE | LTR | LTR | | |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Midway Rd 10
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | | LOS |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| EB LEFT | 43 | 556 | 520 > | | 520 > | | 477 > | [illegible] |
| THROUGH | 18 | 643 | 620 > | 635 | 620 > | 547 | 603 >A | [illegible] |
| RIGHT | 28 | 997 | 997 > | | 997 > | | 969 > | [illegible] |
| MINOR STREET | | | | | | | | |
| WB LEFT | 20 | 548 | 512 > | | 512 > | | 492 > | [illegible] |
| THROUGH | 19 | 636 | 614 > | 671 | 614 > | 609 | 596 >A | [illegible] |
| RIGHT | 24 | 997 | 997 > | | 997 > | | 973 > | [illegible] |
| MAJOR STREET | | | | | | | | |
| SB LEFT | 24 | 970 | 970 | | 970 | | 946 | [illegible] |
| NB LEFT | 32 | 960 | 960 | | 960 | | 928 | [illegible] |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Midway Rd LO
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

## 1985 HCM: UNSIGNALIZED INTERSECTIONS



### IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... W Cherry

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. 0.m AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

### INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

### TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 20 | -- | 5 | 19 |
| THRU | 17 | -- | 230 | 175 |
| RIGHT | 5 | -- | 10 | 20 |

### NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

### ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

### VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

### CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

### IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

### CAPACITY AND LEVEL-OF-SERVICE



| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LC |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 22 | 547 | 545 > | 545 > | 523 > | |
| | | | > 592 | > 564 | >A | |
| RIGHT | 6 | 906 | 906 > | 906 > | 900 > | |
| MAJOR STREET | | | | | | |
| NB LEFT | 6 | 986 | 986 | 986 | 980 | |

### IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp
rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... W Cherry ((

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. 0.m PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 20 | -- | 20 | 19 |
| THRU | 17 | -- | 290 | 305 |
| RIGHT | 5 | -- | 10 | 20 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry ((
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Page

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH |
|---|---|---|---|---|---|
| MINOR STREET | | | | | |
| EB LEFT | 22 | 411 | 404 > | 404 > 447 | 382 > 420 |
| RIGHT | 6 | 777 | 777 > | 777 > | 771 > |
| MAJOR STREET | | | | | |
| NB LEFT | 22 | 866 | 866 | 866 | 844 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry ((
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road i rovements

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #12 First St./H St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | LANE GROUPS | | | |
| Peak 15 Min Flow (vph) | 500 | 53 | 312 | 97 |
| Saturation Flow (vph) | 3600 | 1700 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.63 | 0.63 | 0.63 | 0.63 |
| Green Times (effective) | 7 | 2 | 9 | 3 |
| Movement Times | 10 | 5 | 12 | 6 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 10 | 21 | 10 | 16 |
| Level of Service | B+ | C- | B+ | C+ |
| Av Queue @ start of green | 4 | 0 | 2 | 1 |
| Vehicles stopping (%) | 90 | 98 | 88 | 96 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 11 Level of Service = B-
Whole Intersection - Weighted Av Delay (sec) = 11 Level of Service = -

Cycle Length for minimum delay is 33 seconds
Intersection Capacity Utilization (ICU) = 0.63/B

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #12 First St./H St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 100 | 334 | 451 | 244 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.80 | 0.80 | 0.80 | 0.80 |
| Green Times (effective) | 4 | 14 | 19 | 11 |
| Movement Times | 7 | 17 | 22 | 14 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 40 | 24 | 20 | 27 |
| Level of Service | E+ | C- | C+ | D+ |
| Av Queue @ start of green | 2 | 4 | 5 | 3 |
| Vehicles stopping (%) | 98 | 94 | 92 | 96 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 24 Level of Service = C-
Whole Intersection - Weighted Av Delay (sec) = 24 Level of Service = C-

Cycle Length for minimum delay is 60 seconds
Intersection Capacity Utilization (ICU) = 0.80/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #13 First St./ Vaughn Rd. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 19 | 629 | 280 | 131 |
| Saturation Flow (vph) | 1700 | 1800 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.76 | 0.76 | 0.76 | 0.76 |
| Green Times (effective) | 1 | 26 | 12 | 5 |
| Movement Times | 4 | 29 | 15 | 8 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 71 | 12 | 22 | 31 |
| Level of Service | F | B- | C- | D |
| Av Queue @ start of green | 0 | 5 | 3 | 2 |
| Vehicles stopping (%) | 100 | 83 | 94 | 98 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 18 Level of Service = C+
Whole Intersection - Weighted Av Delay (sec) = 18 Level of Service = C+

Cycle Length for minimum delay is 56 seconds
Intersection Capacity Utilization (ICU) = 0.76/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #13 First St./ Vaughn Rd. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| | | LANE GROUPS | | |
| Peak 15 Min Flow (vph) | 22 | 1067 | 619 | 229 |
| Saturation Flow (vph) | 1700 | 3600 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.93 | 0.93 | 0.93 | 0.93 |
| Green Times (effective) | 1 | 28 | 35 | 12 |
| Movement Times | 4 | 31 | 38 | 15 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 140 | 31 | 33 | 56 |
| Level of Service | F | D | D | E- |
| Av Queue @ start of green | 1 | 18 | 9 | 5 |
| Vehicles stopping (%) | 100 | 97 | 95 | 99 |
| Do Vehicles Clear | NO | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 36 Level of Service = D-
Whole Intersection - Weighted Av Delay (sec) = 36 Level of Service = D-

Cycle Length for minimum delay is 88 seconds
Intersection Capacity Utilization (ICU) = 0.93/E

C A P S S I - 8 5

INTERSECTION CAPACITY ANALYSIS

PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon

Cumulative AM Volumes

SOLUTION USING REQUIRED CYCLE TIME

| #14 First St./I-80 EB Ramps | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 840 | 1300 | 1321 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 2.12 | 3.10 | 3.15 |
| Green Times (effective) | 7 | 7 | 7 |
| Movement Times | 10 | 10 | 10 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %1777 | %7016 | %7415 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 108 | 641 | 688 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %5897 Level of Service

Whole Intersection - Weighted Av Delay (sec) = %5897 Level of Service

Required Cycle Length is 30 seconds

Intersection Capacity Utilization (ICU) = 2.79/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative PM
SOLUTION USING REQUIRED CYCLE TIME

| #14 First St./I-80 EB Ramps | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 1411 | 987 | 748 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.88 | 1.88 | 1.85 |
| Green Times (effective) | 94 | 62 | 47 |
| Movement Times | 97 | 65 | 50 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %1246 | %1182 | %1105 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 163 | 117 | 88 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %1193 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = %1193 Level of Service = F

Required Cycle Length is 213 seconds
Intersection Capacity Utilization (ICU) = 1.87/F

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Porter 15

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. 0.m AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 1 | 8 | 0 | 2 |
| THRU | 41 | 65 | 26 | 41 |
| RIGHT | 0 | 2 | 9 | 6 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 2 | 2 | 2 |
| LANE USAGE | LT + R | L + TR | | |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter 15
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY c (pcph) P | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LO |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 1 | 711 | 673 | 673 | 672 | |
| THROUGH | 45 | 841 | 840 | 840 | 795 | |
| RIGHT | 0 | 999 | 999 | 999 | 999 | |
| MINOR STREET | | | | | | |
| WB LEFT | 9 | 737 | 713 | 713 | 704 | |
| THROUGH | 72 | 863 | 841 > | 841 > | 770 > | |
| RIGHT | 2 | 999 | 999 > 845 | 999 > 772 | 997 >A | |
| MAJOR STREET | | | | | | |
| SB LEFT | 2 | 998 | 998 | 998 | 996 | |
| NB LEFT | 0 | 998 | 998 | 998 | 998 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter 15
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Porter 15

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. 0.m PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 19 | 9 | 0 | 1 |
| THRU | 106 | 48 | 39 | 37 |
| RIGHT | 4 | 3 | 21 | 4 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 2 | 2 | 2 |

LANE USAGE LT + R L + TR

## ADJUSTMENT FACTORS



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter 15
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

## CAPACITY AND LEVEL-OF-SERVICE



| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) P | ACTUAL MOVEMENT CAPACITY c (pcph) M | | SHARED CAPACITY c (pcph) SH | | RESERVE CAPACITY c = c - v R SH | LO |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| EB LEFT | 21 | 707 | 678 | | 678 | | 657 | |
| THROUGH | 117 | 820 | 819 | | 819 | | 703 | |
| RIGHT | 4 | 999 | 999 | | 999 | | 995 | |
| MINOR STREET | | | | | | | | |
| WB LEFT | 10 | 699 | 595 | | 595 | | 585 | |
| THROUGH | 53 | 829 | 828 | > | 828 > | | 775 > | |
| RIGHT | 3 | 999 | 999 | > 836 | 999 | > 780 | 995 >A | |
| MAJOR STREET | | | | | | | | |
| SB LEFT | 1 | 997 | 997 | | 997 | | 996 | |
| NB LEFT | 0 | 998 | 998 | | 998 | | 998 | |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter 15
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; 0.m PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #1 First St./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 517 | 74 | 83 | 344 |
| Saturation Flow (vph) | 1800 | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.74 | 0.74 | 0.74 | 0.74 |
| Green Times (effective) | 21 | 3 | 4 | 14 |
| Movement Times | 24 | 6 | 7 | 17 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 13 | 35 | 33 | 18 |
| Level of Service | B- | D | D | C+ |
| Av Queue @ start of green | 5 | 1 | 1 | 4 |
| Vehicles stopping (%) | 86 | 98 | 98 | 92 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 18 Level of Service = C
Whole Intersection - Weighted Av Delay (sec) = 18 Level of Service = C

Cycle Length for minimum delay is 53 seconds
Intersection Capacity Utilization (ICU) = 0.74/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #1 First St./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 116 | 580 | 501 | 148 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.89 | 0.89 | 0.89 | 0.89 |
| Green Times (effective) | 6 | 29 | 25 | 8 |
| Movement Times | 9 | 32 | 28 | 11 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 60 | 28 | 31 | 55 |
| Level of Service | F | D+ | D | E |
| Av Queue @ start of green | 3 | 8 | 8 | 3 |
| Vehicles stopping (%) | 99 | 94 | 95 | 99 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 35 Level of Service = D-
Whole Intersection - Weighted Av Delay (sec) = 35 Level of Service = D-

Cycle Length for minimum delay is 81 seconds
Intersection Capacity Utilization (ICU) = 0.89/D

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... A St 2

NAME OF THE NORTH/SOUTH STREET....... Jackson St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 55 | 3 | 46 | 4 |
| THRU | 333 | 353 | 6 | 7 |
| RIGHT | 91 | 3 | 15 | 32 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | | | LTR | LTR |



## ADJUSTMENT FACTORS

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | EB | 5.00 | 5.00 | 0.00 | 5.00 |
| | WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR THROUGHS | NB | 6.00 | 6.00 | 0.00 | 6.00 |
| | SB | 6.00 | 6.00 | 0.00 | 6.00 |
| MINOR LEFTS | NB | 6.50 | 6.50 | 0.00 | 6.50 |
| | SB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements



## CAPACITY AND LEVEL-OF-SERVICE

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | | SHARED CAPACITY $c_{SH}$ (pcph) | | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | | |
| NB LEFT | 51 | 297 | 272 | > | 272 | > | 221 > | C |
| THROUGH | 7 | 369 | 352 | > 324 | 352 | > 250 | 346 >C | B |
| RIGHT | 17 | 719 | 719 | > | 719 | > | 703 > | A |
| MINOR STREET | | | | | | | | |
| SB LEFT | 4 | 287 | 267 | > | 267 | > | 263 > | C |
| THROUGH | 8 | 348 | 332 | > 543 | 332 | > 495 | 324 >A | B |
| RIGHT | 35 | 741 | 741 | > | 741 | > | 706 > | A |
| MAJOR STREET | | | | | | | | |
| EB LEFT | 61 | 837 | 837 | | 837 | | 776 | A |
| WB LEFT | 3 | 775 | 775 | | 775 | | 772 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION....................... 10000

NAME OF THE EAST/WEST STREET......... A St 2

NAME OF THE NORTH/SOUTH STREET....... Jackson St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 26 | 4 | 101 | 14 |
| THRU | 471 | 445 | 9 | 8 |
| RIGHT | 110 | 11 | 26 | 85 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 1 | 1 |
| LANE USAGE | | | LTR | LTR |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | EB | 5.00 | 5.00 | 0.00 | 5.00 |
| | WB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR THROUGHS | | | | | |
| | NB | 6.00 | 6.00 | 0.00 | 6.00 |
| | SB | 6.00 | 6.00 | 0.00 | 6.00 |
| MINOR LEFTS | | | | | |
| | NB | 6.50 | 6.50 | 0.00 | 6.50 |
| | SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE Pag

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | | SHARED CAPACITY c (pcph) SH | | RESERVE CAPACITY c = c - v R SH |
|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | |
| NB LEFT | 111 | 199 | 172 | > | 172 > | | 61 > |
| THROUGH | 10 | 267 | 260 | > 205 | 260 > | 55 | 250 > |
| RIGHT | 29 | 609 | 609 | > | 609 > | | 580 > |
| MINOR STREET | | | | | | | |
| SB LEFT | 15 | 202 | 187 | > | 187 > | | 171 > |
| THROUGH | 9 | 251 | 244 | > 454 | 244 > | 336 | 236 > |
| RIGHT | 94 | 663 | 663 | > | 663 > | | 570 > |
| MAJOR STREET | | | | | | | |
| EB LEFT | 26 | 749 | 749 | | 749 | | 722 |
| WB LEFT | 4 | 646 | 646 | | 646 | | 641 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... A St
NAME OF THE NORTH/SOUTH STREET.... Jackson St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road i rovements

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #3 Adams St./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 12 | 147 | 214 | 365 |
| Saturation Flow (vph) | 1700 | 1800 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.63 | 0.63 | 0.63 | 0.63 |
| Green Times (effective) | 0 | 5 | 7 | 12 |
| Movement Times | 3 | 8 | 10 | 15 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 43 | 15 | 13 | 9 |
| Level of Service | E+ | B- | B- | B+ |
| Av Queue @ start of green | 0 | 1 | 2 | 2 |
| Vehicles stopping (%) | 100 | 95 | 91 | 85 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 12 Level of Service = B-
Whole Intersection - Weighted Av Delay (sec) = 12 Level of Service = I

Cycle Length for minimum delay is 36 seconds
Intersection Capacity Utilization (ICU) = 0.63/B

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #3 Adams St./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 16 | 352 | 185 | 453 |
| Saturation Flow (vph) | 1700 | 1800 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.74 | 0.74 | 0.74 | 0.74 |
| Green Times (effective) | 1 | 13 | 8 | 17 |
| Movement Times | 4 | 16 | 11 | 20 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 69 | 17 | 23 | 15 |
| Level of Service | F | C+ | C- | B- |
| Av Queue @ start of green | 0 | 4 | 2 | 4 |
| Vehicles stopping (%) | 100 | 91 | 96 | 88 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 18 Level of Service = C+
Whole Intersection - Weighted Av Delay (sec) = 18 Level of Service = C+

Cycle Length for minimum delay is 51 seconds
Intersection Capacity Utilization (ICU) = 0.74/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #4 | LANE GROUPS | | | |
|---|---|---|---|---|
| Pitt School Rd./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
| Peak 15 Min Flow (vph) | 210 | 73 | 442 | 34 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.62 | 0.62 | 0.62 | 0.62 |
| Green Times (effective) | 8 | 3 | 15 | 1 |
| Movement Times | 11 | 6 | 18 | 4 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 13 | 20 | 8 | 27 |
| Level of Service | B- | C- | B+ | D+ |
| Av Queue @ start of green | 2 | 1 | 3 | 0 |
| Vehicles stopping (%) | 91 | 97 | 80 | 99 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 12 Level of Service =
Whole Intersection - Weighted Av Delay (sec) = 12 Level of Service =

Cycle Length for minimum delay is 39 seconds
Intersection Capacity Utilization (ICU) = 0.62/B

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #4 Pitt School Rd./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 85 | 161 | 904 | 66 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.81 | 0.81 | 0.81 | 0.81 |
| Green Times (effective) | 5 | 8 | 47 | 4 |
| Movement Times | 8 | 11 | 50 | 7 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 50 | 39 | 11 | 55 |
| Level of Service | E | D- | B- | E- |
| Av Queue @ start of green | 2 | 3 | 7 | 1 |
| Vehicles stopping (%) | 99 | 98 | 76 | 99 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 20 Level of Service = C-
Whole Intersection - Weighted Av Delay (sec) = 20 Level of Service = C-

Cycle Length for minimum delay is 76 seconds
Intersection Capacity Utilization (ICU) = 0.81/D

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #5 Evans Rd./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 349 | 87 | 659 | 213 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.88 | 0.88 | 0.88 | 0.88 |
| Green Times (effective) | 18 | 4 | 33 | 11 |
| Movement Times | 21 | 7 | 36 | 14 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 36 | 65 | 24 | 45 |
| Level of Service | D- | F | C- | E |
| Av Queue @ start of green | 6 | 2 | 8 | 4 |
| Vehicles stopping (%) | 96 | 99 | 92 | 98 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 33 Level of Service = D
Whole Intersection - Weighted Av Delay (sec) = 33 Level of Service = D

Cycle Length for minimum delay is 79 seconds
Intersection Capacity Utilization (ICU) = 0.88/D

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

#5 Evans Rd./A St.

| Evans Rd./A St. | CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 705 | 8 | 1062 | 507 |
| Saturation Flow (vph) | 1800 | 1700 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.38 | 0.19 | 1.37 | 1.38 |
| Green Times (effective) | 80 | 7 | 122 | 60 |
| Movement Times | 83 | 10 | 125 | 63 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 356 | 103 | 332 | 367 |
| Level of Service | F | F | F | F |
| Av Queue @ start of green | 52 | 1 | 66 | 40 |
| Vehicles stopping (%) | 100 | 98 | 100 | 100 |
| Do Vehicles Clear | NO | YES | NO | NO |

(Column heading "LANE GROUPS" spans CM 1–CM 4.)

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = 346 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = 346 Level of Service = F

Required Cycle Length is 282 seconds
Intersection Capacity Utilization (ICU) = 1.34/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cum + Proj PM w/ Mit
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #5 Evans Rd./A St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 195 | 191 | 855 | 507 |
| Saturation Flow (vph) | 1700 | 1800 | 3600 | 3000 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.81 | 0.81 | 0.81 | 0.81 |
| Green Times (effective) | 8 | 7 | 16 | 11 |
| Movement Times | 11 | 10 | 19 | 14 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 29 | 30 | 17 | 21 |
| Level of Service | D+ | D+ | C+ | C- |
| Av Queue @ start of green | 3 | 3 | 9 | 6 |
| Vehicles stopping (%) | 97 | 97 | 93 | 95 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 21 Level of Service = C-
Whole Intersection - Weighted Av Delay (sec) = 21 Level of Service = C-

Cycle Length for minimum delay is 54 seconds
Intersection Capacity Utilization (ICU) = 0.81/D

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #6 Batavia Rd./Dixon Rd. | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 254 | 1562 | 469 |
| Saturation Flow (vph) | 1700 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.44 | 1.37 | 1.38 |
| Green Times (effective) | 15 | 92 | 28 |
| Movement Times | 18 | 95 | 31 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 420 | 302 | 324 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 15 | 53 | 24 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = 319 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = 319 Level of Service = F

Required Cycle Length is 145 seconds
Intersection Capacity Utilization (ICU) = 1.38/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #6 Batavia Rd./Dixon Rd. | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 839 | 1838 | 489 |
| Saturation Flow (vph) | 1800 | 1850 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 2.10 | 1.90 | 1.98 |
| Green Times (effective) | 18 | 43 | 11 |
| Movement Times | 21 | 46 | 14 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %1733 | %2231 | %1399 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 114 | 302 | 56 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %1970 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = %1970 Level of Service = F

Required Cycle Length is 83 seconds
Intersection Capacity Utilization (ICU) = 1.96/F

CAPSSI-85
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #7 | | LANE GROUPS | |
|---|---|---|---|
| Batavia Rd./I-80 EB Ramps | CM 1 | CM 2 | CM 3 |
| ------------------------- | ---- | ---- | ---- |
| Peak 15 Min Flow (vph) | 645 | 856 | 586 |
| Saturation Flow (vph) | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.26 | 1.26 | 1.25 |
| Green Times (effective) | 41 | 55 | 39 |
| Movement Times | 44 | 58 | 42 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 204 | 199 | 199 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 25 | 31 | 23 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = 200 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = 200 Level of Service = F

Required Cycle Length is 145 seconds
Intersection Capacity Utilization (ICU) = 1.26/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #7 Batavia Rd./I-80 EB Ramps | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 1088 | 1509 | 498 |
| Saturation Flow (vph) | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.82 | 1.81 | 1.80 |
| Green Times (effective) | 71 | 100 | 34 |
| Movement Times | 74 | 103 | 37 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %1056 | %1067 | %1021 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 118 | 154 | 57 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %1055 Level of Service =
Whole Intersection - Weighted Av Delay (sec) = %1055 Level of Service =

Required Cycle Length is 215 seconds
Intersection Capacity Utilization (ICU) = 1.81/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #8 Schroeder Rd./I-80 WB Ram | LANE GROUPS CM 1 | CM 2 |
|---|---|---|
| Peak 15 Min Flow (vph) | 2 | 1241 |
| Saturation Flow (vph) | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.70 | 0.70 |
| Green Times (effective) | 1 | 361 |
| Movement Times | 4 | 364 |
| Minimum Times | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 |
| Average Delays (sec/veh) | 285 | 1 |
| Level of Service | F | A |
| Av Queue @ start of green | 0 | 2 |
| Vehicles stopping (%) | 100 | 6 |
| Do Vehicles Clear | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 1 Level of Service = A
Whole Intersection - Weighted Av Delay (sec) = 1 Level of Service = A

Cycle Length for minimum delay is 368 seconds
Intersection Capacity Utilization (ICU) = 0.70/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #8 Schroeder Rd./I-80 WB Ram | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 2 | 61 | 1302 |
| Saturation Flow (vph) | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.82 | 0.82 | 0.82 |
| Green Times (effective) | 0 | 6 | 118 |
| Movement Times | 3 | 9 | 121 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 296 | 79 | 5 |
| Level of Service | F | F | A |
| Av Queue @ start of green | 0 | 2 | 5 |
| Vehicles stopping (%) | 100 | 99 | 41 |
| Do Vehicles Clear | NO | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 9 Level of Service = B+
Whole Intersection - Weighted Av Delay (sec) = 9 Level of Service = B+

Cycle Length for minimum delay is 133 seconds
Intersection Capacity Utilization (ICU) = 0.82/D

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #9 Schroeder Rd./Dixon Ave. | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 964 | 15 | 1603 |
| Saturation Flow (vph) | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 2.43 | 0.04 | 3.82 |
| Green Times (effective) | 7 | 7 | 7 |
| Movement Times | 10 | 10 | 10 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %2973 | 7 | %14322 |
| Level of Service | F | B+ | F |
| Av Queue @ start of green | 204 | 0 | %1603 |
| Vehicles stopping (%) | 100 | 77 | 100 |
| Do Vehicles Clear | NO | YES | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %10002 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = %10002 Level of Service = F

Required Cycle Length is 30 seconds
Intersection Capacity Utilization (ICU) = 2.09/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| | LANE GROUPS | | |
|---|---|---|---|
| #9 Schroeder Rd./Dixon Ave. | CM 1 | CM 2 | CM 3 |
| Peak 15 Min Flow (vph) | 1096 | 16 | 1587 |
| Saturation Flow (vph) | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 2.76 | 0.04 | 3.78 |
| Green Times (effective) | 7 | 7 | 7 |
| Movement Times | 10 | 10 | 10 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %4717 | 7 | %13847 |
| Level of Service | F | B+ | F |
| Av Queue @ start of green | 365 | 0 | %1535 |
| Vehicles stopping (%) | 100 | 77 | 100 |
| Do Vehicles Clear | NO | YES | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %10057 Level of Service :
Whole Intersection - Weighted Av Delay (sec) = %10057 Level of Service :

Required Cycle Length is 30 seconds
Intersection Capacity Utilization (ICU) = 2.19/F

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Mickey Rd 10

NAME OF THE NORTH/SOUTH STREET....... SH 113

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 9 | 15 | 28 | 19 |
| THRU | 17 | 29 | 92 | 95 |
| RIGHT | 26 | 8 | 10 | 35 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | 2 |
| LANE USAGE | LTR | LTR | | |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS | | | | |
| EB | 5.50 | 5.50 | 0.00 | 5.50 |
| WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | |
| SB | 5.50 | 5.50 | 0.00 | 5.50 |
| NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | |
| EB | 6.50 | 6.50 | 0.00 | 6.50 |
| WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | |
| EB | 7.00 | 7.00 | 0.00 | 7.00 |
| WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Mickey Rd
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE Page

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | | RESERVE CAPACITY c = c - v R SH | |
|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | |
| EB LEFT | 10 | 581 | 544 > | | 544 > | | 534 > |
| THROUGH | 19 | 668 | 647 > | 754 | 647 > | 697 | 628 >A |
| RIGHT | 29 | 997 | 997 > | | 997 > | | 968 > |
| MINOR STREET | | | | | | | |
| WB LEFT | 17 | 566 | 530 > | | 530 > | | 514 > |
| THROUGH | 32 | 667 | 636 > | 635 | 636 > | 578 | 604 >A |
| RIGHT | 9 | 997 | 997 > | | 997 > | | 989 > |
| MAJOR STREET | | | | | | | |
| SB LEFT | 21 | 993 | 993 | | 993 | | 972 |
| NB LEFT | 31 | 964 | 964 | | 964 | | 933 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Mickey Rd
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Mickey Rd

NAME OF THE NORTH/SOUTH STREET....... SH 113 10

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 42 | 18 | 29 | 22 |
| THRU | 16 | 17 | 111 | 102 |
| RIGHT | 25 | 22 | 19 | 37 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | 2 | 2 |
| LANE USAGE | LTR | LTR | | |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Mickey Rd
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LO |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 46 | 548 | 512 > | 512 > | 465 > | |
| THROUGH | 18 | 634 | 612 > | 622 612 > | 531 594 >A | |
| RIGHT | 28 | 997 | 997 > | 997 > | 969 > | |
| MINOR STREET | | | | | | |
| WB LEFT | 20 | 539 | 503 > | 503 > | 483 > | |
| THROUGH | 19 | 627 | 605 > | 663 605 > | 600 587 >A | |
| RIGHT | 24 | 997 | 997 > | 997 > | 973 > | |
| MAJOR STREET | | | | | | |
| SB LEFT | 24 | 964 | 964 | 964 | 939 | |
| NB LEFT | 32 | 954 | 954 | 954 | 922 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Mickey Rd
NAME OF THE NORTH/SOUTH STREET.... SH 113
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION....................... 10000

NAME OF THE EAST/WEST STREET.......... W Cherry

NAME OF THE NORTH/SOUTH STREET........ First St

NAME OF THE ANALYST................... HBA

DATE OF THE ANALYSIS (mm/dd/yy)....... 01-14-1994

TIME PERIOD ANALYZED.................. Cum + Proj AM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 102 | -- | 6 | 19 |
| THRU | 17 | -- | 394 | 223 |
| RIGHT | 8 | -- | 10 | 44 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH |
|---|---|---|---|---|---|
| MINOR STREET | | | | | |
| EB LEFT | 112 | 399 | 397 > | 397 > | 285 |
| | | | > 413 | > 292 | |
| RIGHT | 9 | 865 | 865 > | 865 > | 836 |
| MAJOR STREET | | | | | |
| NB LEFT | 7 | 921 | 921 | 921 | 915 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... W/ adjusted vols and configs per city road rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION....................... 10000

NAME OF THE EAST/WEST STREET......... W Cherry

NAME OF THE NORTH/SOUTH STREET....... First St

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 54 | -- | 24 | 19 |
| THRU | 17 | -- | 358 | 469 |
| RIGHT | 8 | -- | 10 | 103 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE Page-

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) P | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LO |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 59 | 269 | 262 > | 262 > | 203 > | |
| | | | > 283 | > 215 | | >C |
| RIGHT | 9 | 613 | 613 > | 613 > | 604 > | |
| MAJOR STREET | | | | | | |
| NB LEFT | 26 | 653 | 653 | 653 | 627 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... W Cherry
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #12 First St./H St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 638 | 53 | 312 | 103 |
| Saturation Flow (vph) | 3600 | 1700 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.66 | 0.66 | 0.66 | 0.66 |
| Green Times (effective) | 10 | 2 | 9 | 3 |
| Movement Times | 13 | 5 | 12 | 6 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 10 | 25 | 11 | 19 |
| Level of Service | B- | C- | B- | C+ |
| Av Queue @ start of green | 5 | 1 | 2 | 1 |
| Vehicles stopping (%) | 89 | 98 | 89 | 97 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 12 Level of Service = B-
Whole Intersection - Weighted Av Delay (sec) = 12 Level of Service = B-

Cycle Length for minimum delay is 36 seconds
Intersection Capacity Utilization (ICU) = 0.66/B

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #12 First St./H St. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 100 | 443 | 451 | 252 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 | 1700 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.85 | 0.85 | 0.85 | 0.85 |
| Green Times (effective) | 5 | 20 | 20 | 12 |
| Movement Times | 8 | 23 | 23 | 15 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 52 | 27 | 26 | 35 |
| Level of Service | E | D+ | D+ | D- |
| Av Queue @ start of green | 2 | 6 | 6 | 4 |
| Vehicles stopping (%) | 99 | 94 | 94 | 97 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 30 Level of Service = D
Whole Intersection - Weighted Av Delay (sec) = 30 Level of Service = D

Cycle Length for minimum delay is 69 seconds
Intersection Capacity Utilization (ICU) = 0.85/D

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #13 First St./ Vaughn Rd. | CM 1 | LANE GROUPS CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 19 | 629 | 280 | 131 |
| Saturation Flow (vph) | 1700 | 1800 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.76 | 0.76 | 0.76 | 0.76 |
| Green Times (effective) | 1 | 26 | 12 | 5 |
| Movement Times | 4 | 29 | 15 | 8 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 71 | 12 | 22 | 31 |
| Level of Service | F | B- | C- | D |
| Av Queue @ start of green | 0 | 5 | 3 | 2 |
| Vehicles stopping (%) | 100 | 83 | 94 | 98 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 18 Level of Service = C+
Whole Intersection - Weighted Av Delay (sec) = 18 Level of Service = C+

Cycle Length for minimum delay is 56 seconds
Intersection Capacity Utilization (ICU) = 0.76/C

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #13 First St./Vaughn Rd. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 1084 | 101 | 619 | 229 |
| Saturation Flow (vph) | 3600 | 1700 | 1700 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.96 | 0.96 | 0.96 | 0.96 |
| Green Times (effective) | 32 | 6 | 39 | 14 |
| Movement Times | 35 | 9 | 42 | 17 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 40 | 93 | 44 | 69 |
| Level of Service | E+ | F | E+ | F |
| Av Queue @ start of green | 22 | 3 | 12 | 6 |
| Vehicles stopping (%) | 98 | 100 | 98 | 99 |
| Do Vehicles Clear | YES | NO | YES | NO |

Critical Movements - Weighted Av Delay (sec) = 47 Level of Service = E
Whole Intersection - Weighted Av Delay (sec) = 47 Level of Service = E

Cycle Length for minimum delay is 103 seconds
Intersection Capacity Utilization (ICU) = 0.96/E

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cum + Proj PM w/ Mit
SOLUTION USING OPTIMUM CALCULATED CYCLE TIME

| #13 First St./Vaughn Rd. | LANE GROUPS CM 1 | CM 2 | CM 3 | CM 4 |
|---|---|---|---|---|
| Peak 15 Min Flow (vph) | 1084 | 101 | 619 | 229 |
| Saturation Flow (vph) | 3600 | 1700 | 3000 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 0.86 | 0.86 | 0.86 | 0.86 |
| Green Times (effective) | 22 | 4 | 15 | 9 |
| Movement Times | 25 | 7 | 18 | 12 |
| Minimum Times | 10 | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | 19 | 51 | 24 | 36 |
| Level of Service | C+ | E | C- | D- |
| Av Queue @ start of green | 12 | 2 | 8 | 4 |
| Vehicles stopping (%) | 93 | 99 | 96 | 98 |
| Do Vehicles Clear | YES | YES | YES | YES |

Critical Movements - Weighted Av Delay (sec) = 24 Level of Service = C-
Whole Intersection - Weighted Av Delay (sec) = 24 Level of Service = C-

Cycle Length for minimum delay is 63 seconds
Intersection Capacity Utilization (ICU) = 0.86/D

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project AM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #14 First St./I-80 EB Ramps | LANE GROUPS CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 840 | 1300 | 1334 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 2.12 | 3.10 | 3.18 |
| Green Times (effective) | 7 | 7 | 7 |
| Movement Times | 10 | 10 | 10 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %1777 | %7016 | %7670 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 108 | 641 | 718 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %6000 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = %6000 Level of Service = F

Required Cycle Length is 30 seconds
Intersection Capacity Utilization (ICU) = 2.80/F

C A P S S I - 8 5
INTERSECTION CAPACITY ANALYSIS
PER 1985 HIGHWAY CAPACITY MANUAL

City of Dixon
Cumulative + Project PM Volumes
SOLUTION USING REQUIRED CYCLE TIME

| #14 First St./I-80 EB Ramps | CM 1 | CM 2 | CM 3 |
|---|---|---|---|
| Peak 15 Min Flow (vph) | 1411 | 1013 | 841 |
| Saturation Flow (vph) | 1700 | 1800 | 1800 |
| Lost Times (seconds) | 3.0 | 3.0 | 3.0 |
| Relative Saturation - 'X' | 1.95 | 1.94 | 1.91 |
| Green Times (effective) | 97 | 66 | 55 |
| Movement Times | 100 | 69 | 58 |
| Minimum Times | 10 | 10 | 10 |
| Progression Adj. Factor | 1.00 | 1.00 | 1.00 |
| Average Delays (sec/veh) | %1432 | %1342 | %1264 |
| Level of Service | F | F | F |
| Av Queue @ start of green | 185 | 134 | 109 |
| Vehicles stopping (%) | 100 | 100 | 100 |
| Do Vehicles Clear | NO | NO | NO |

>>>> Intersection Saturated <<<<

Critical Movements - Weighted Av Delay (sec) = %1361 Level of Service = F
Whole Intersection - Weighted Av Delay (sec) = %1361 Level of Service = F

Required Cycle Length is 229 seconds
Intersection Capacity Utilization (ICU) = 1.94/F

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Porter 15

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 1 | 8 | 0 | 2 |
| THRU | 41 | 65 | 24 | 41 |
| RIGHT | 0 | 2 | 9 | 6 |

NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 2 | 2 | 2 |

LANE USAGE LT + R L + TR

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 1 | 711 | 673 | 673 | 672 | A |
| THROUGH | 45 | 841 | 840 | 840 | 795 | A |
| RIGHT | 0 | 999 | 999 | 999 | 999 | A |
| MINOR STREET | | | | | | |
| WB LEFT | 9 | 737 | 713 | 713 | 704 | A |
| THROUGH | 72 | 843 | 841 > | 841 > | 770 > | A |
| RIGHT | 2 | 999 | 999 > 865 | 999 > 772 | 997 >A | A |
| MAJOR STREET | | | | | | |
| SB LEFT | 2 | 998 | 998 | 998 | 996 | A |
| NB LEFT | 0 | 998 | 998 | 998 | 998 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Porter 15

NAME OF THE NORTH/SOUTH STREET....... Pitt School

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: 4-LEG

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

CONTROL TYPE WESTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 19 | 9 | 0 | 1 |
| THRU | 106 | 48 | 39 | 37 |
| RIGHT | 4 | 3 | 21 | 4 |

## NUMBER OF LANES AND LANE USAGE

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 3 | 2 | 2 | 2 |
| LANE USAGE | LT + R | L + TR | | |

## ADJUSTMENT FACTORS

Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|---|
| MINOR RIGHTS | | | | | |
| | EB | 5.50 | 5.50 | 0.00 | 5.50 |
| | WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | | |
| | SB | 5.50 | 5.50 | 0.00 | 5.50 |
| | NB | 5.50 | 5.50 | 0.00 | 5.50 |
| MINOR THROUGHS | | | | | |
| | EB | 6.50 | 6.50 | 0.00 | 6.50 |
| | WB | 6.50 | 6.50 | 0.00 | 6.50 |
| MINOR LEFTS | | | | | |
| | EB | 7.00 | 7.00 | 0.00 | 7.00 |
| | WB | 7.00 | 7.00 | 0.00 | 7.00 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road improvements

## CAPACITY AND LEVEL-OF-SERVICE

Page-3

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LO |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 21 | 707 | 678 | 678 | 657 | |
| THROUGH | 117 | 820 | 819 | 819 | 703 | |
| RIGHT | 4 | 999 | 999 | 999 | 995 | |
| MINOR STREET | | | | | | |
| WB LEFT | 10 | 689 | 595 | 595 | 585 | |
| THROUGH | 53 | 829 | 828 | > 828 > | 775 > | |
| RIGHT | 3 | 999 | 999 | > 836 999 > | 780 995 > | A |
| MAJOR STREET | | | | | | |
| SB LEFT | 1 | 997 | 997 | 997 | 996 | |
| NB LEFT | 0 | 998 | 998 | 998 | 998 | |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Porter
NAME OF THE NORTH/SOUTH STREET.... Pitt School
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp rovements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 50000

NAME OF THE EAST/WEST STREET......... Parkway Blvd.

NAME OF THE NORTH/SOUTH STREET....... Pitt School Rd.

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 06-22-1994

TIME PERIOD ANALYZED................. Cum + Proj AM

OTHER INFORMATION.... W/ City N. First Street Improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | -- | 0 | 0 | 31 |
| THRU | -- | 0 | 27 | 49 |
| RIGHT | -- | 183 | 0 | 0 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | -- | 1 | 1 | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | ----- | --- | --- | - |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | --- | --- | --- |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS SB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS WB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Pitt School Rd.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj AM
OTHER INFORMATION.... W/ City N. First Street Improvements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE $v$(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| WB LEFT | 0 | 813 | 796 | > 796 > 999 | > 796 > 797 | A >A |
| RIGHT | 201 | 999 | 999 | > 999 > | 797 > | A |
| MAJOR STREET | | | | | | |
| SB LEFT | 34 | 1000 | 1000 | 1000 | 966 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Pitt School Rd.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj AM
OTHER INFORMATION.... W/ City N. First Street Improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 50000

NAME OF THE EAST/WEST STREET......... Parkway Blvd. 16

NAME OF THE NORTH/SOUTH STREET....... Pitt School Rd.

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 06-22-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... w/ City N. First Street Improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | -- | 0 | 0 | 23 |
| THRU | -- | 0 | 61 | 42 |
| RIGHT | -- | 57 | 0 | 0 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | -- | 1 | 1 | 1 |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | ----- | --- | --- | - |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | --- | --- | --- |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS WB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS SB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS WB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Pitt School Rd.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj PM
OTHER INFORMATION.... w/ City N. First Street Improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) P | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LO |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| WB LEFT | 0 | 794 | 782 | > 782 > | 782 > | |
| | | | | > 997 > | 954 | >A |
| RIGHT | 63 | 997 | 997 | > 997 > | 954 > | |
| MAJOR STREET | | | | | | |
| SB LEFT | 25 | 1000 | 1000 | 1000 | 975 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Pitt School Rd.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj PM
OTHER INFORMATION.... w/ City N. First Street Improvements

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 50000

NAME OF THE EAST/WEST STREET......... Parkway Blvd. 17

NAME OF THE NORTH/SOUTH STREET....... Village Parkway

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 06-22-1994

TIME PERIOD ANALYZED................. Cum + Proj AM

OTHER INFORMATION.... w/ City N. First Street Improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 16 | 0 | -- | 41 |
| THRU | 15 | 91 | -- | 0 |
| RIGHT | 0 | 12 | -- | 92 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 1 |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS EB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS SB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Village Parkway
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ City N. First Street Improvements



| MOVEMENT | FLOW-RATE v(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 45 | 792 | 784 | > 784 | > 739 | > A |
| | | | | > 919 | > 772 | >A |
| RIGHT | 101 | 995 | 995 | > 995 | > 894 | > A |
| MAJOR STREET | | | | | | |
| EB LEFT | 18 | 1000 | 1000 | 1000 | 982 | A |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Village Parkway
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ City N. First Street Improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 50000

NAME OF THE EAST/WEST STREET......... Parkway Blvd.

17

NAME OF THE NORTH/SOUTH STREET....... Village Parkway

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 06-22-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... W/ City N. First Street Improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 12 | 0 | -- | 17 |
| THRU | 11 | 28 | -- | 0 |
| RIGHT | 0 | 41 | -- | 29 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS | | | | |
| SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | |
| EB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS | | | | |
| SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Village Parkway
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ City N. First Street Improvements

CAPACITY AND LEVEL-OF-SERVICE Pag

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) P | ACTUAL MOVEMENT CAPACITY c (pcph) M | | SHARED CAPACITY c (pcph) SH | | RESERVE CAPACITY c = c - v R SH |
|---|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | | |
| SB LEFT | 19 | 849 | 842 | > | 842 | > | 823 > |
| | | | | > 934 | | > 883 | > |
| RIGHT | 32 | 998 | 998 | > | 998 | > | 966 > |
| MAJOR STREET | | | | | | | |
| EB LEFT | 13 | 1000 | 1000 | | 1000 | | 987 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Village Parkway
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ City N. First Street Improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 50000

NAME OF THE EAST/WEST STREET......... Parkway Blvd. (8)

NAME OF THE NORTH/SOUTH STREET....... Village Parkway E.

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 06-22-1994

TIME PERIOD ANALYZED................. Cum + Proj AM

OTHER INFORMATION.... W/ City N. First Street Improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 15 | 0 | -- | 41 |
| THRU | 41 | 12 | -- | 0 |
| RIGHT | 0 | 12 | -- | 91 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 1 |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS EB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Village Parkway E.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj AM
OTHER INFORMATION.... W/ City N. First Street Improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 45 | 846 | 838 > | 838 > | 795 > | A |
| | | | > | 943 > | 797 > | A |
| RIGHT | 100 | 999 | 999 > | 999 > | 899 > | A |
| MAJOR STREET | | | | | | |
| EB LEFT | 17 | 1000 | 1000 | 1000 | 984 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Village Parkway E.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj AM
OTHER INFORMATION.... W/ City N. First Street Improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 50000

NAME OF THE EAST/WEST STREET......... Parkway Blvd. 18

NAME OF THE NORTH/SOUTH STREET....... Village Parkway E.

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 06-22-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... w/ City N. First Street Improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE SOUTHBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 11 | 0 | -- | 17 |
| THRU | 17 | 41 | -- | 0 |
| RIGHT | 0 | 41 | -- | 28 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | 1 | -- | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | 0.00 | 90 | 20 | N |
| NORTHBOUND | ----- | --- | --- | - |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | 0 | 0 | 0 |
| NORTHBOUND | --- | --- | --- |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS SB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS EB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS SB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Village Parkway E.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj PM
OTHER INFORMATION.... w/ City N. First Street Improvements

CAPACITY AND LEVEL-OF-SERVICE Page

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| SB LEFT | 19 | 831 | 824 | > 824 > | 806 > | |
| | | | | > 984 | > 874 | >A |
| RIGHT | 31 | 997 | 997 | > 997 > | 966 > | |
| MAJOR STREET | | | | | | |
| EB LEFT | 12 | 1000 | 1000 | 1000 | 988 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... Village Parkway E.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj PM
OTHER INFORMATION.... w/ City N. First Street Improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 50000

NAME OF THE EAST/WEST STREET......... Parkway Blvd.

NAME OF THE NORTH/SOUTH STREET....... First St. 19

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 06-22-1994

TIME PERIOD ANALYZED................. Cum + Proj AM

OTHER INFORMATION.... w/ City N. First Street Improvements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 82 | -- | 0 | 0 |
| THRU | 0 | -- | 109 | 149 |
| RIGHT | 0 | -- | 0 | 24 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... First St.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ City N. First Street Improvements

CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 90 | 661 | 661 > | 661 > | 570 > | A |
| | | | > 661 | > 570 | >A | |
| RIGHT | 0 | 951 | 951 > | 951 > | 951 > | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 0 | 989 | 989 | 989 | 989 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... First St.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ City N. First Street Improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS 

## IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 50000

NAME OF THE EAST/WEST STREET......... Parkway Blvd. A

NAME OF THE NORTH/SOUTH STREET....... First St.

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 06-22-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... W/ City N. First Street Improvements

## INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

## TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 34 | -- | 0 | 0 |
| THRU | 0 | -- | 175 | 161 |
| RIGHT | 0 | -- | 0 | 82 |

## NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

## ADJUSTMENT FACTORS 

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

## VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

## CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS | | | | |
| EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS | | | | |
| NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS | | | | |
| EB | 6.50 | 6.50 | 0.00 | 6.50 |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... First St.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ City N. First Street Improvements

## CAPACITY AND LEVEL-OF-SERVICE 

| MOVEMENT | FLOW-RATE $v$(pcph) | POTENTIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | L |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 37 | 577 | 577 > | 577 > | 540 > | |
| | | | > 577 | > 540 | >A | |
| RIGHT | 0 | 888 | 888 > | 888 > | 888 > | |
| MAJOR STREET | | | | | | |
| NB LEFT | 0 | 944 | 944 | 944 | 944 | |

## IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Parkway Blvd.
NAME OF THE NORTH/SOUTH STREET.... First St.
DATE AND TIME OF THE ANALYSIS..... 06-22-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ City N. First Street Improvements

1985 HCM: UNSIGNALIZED INTERSECTIONS Page-1

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR...................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Village Parkway

NAME OF THE NORTH/SOUTH STREET....... First St 20

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj AM

OTHER INFORMATION.... w/ adjusted vols and configs per city road imp movements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 82 | -- | 2 | 2 |
| THRU | 41 | -- | 189 | 169 |
| RIGHT | 4 | -- | 9 | 24 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |

ADJUSTMENT FACTORS Page-2

| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Village Parkway
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp movements

CAPACITY AND LEVEL-OF-SERVICE Page-3

| MOVEMENT | FLOW-RATE $v$(pcph) | POTEN-TIAL CAPACITY $c_p$ (pcph) | ACTUAL MOVEMENT CAPACITY $c_M$ (pcph) | SHARED CAPACITY $c_{SH}$ (pcph) | RESERVE CAPACITY $c_R = c_{SH} - v$ | LOS |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 90 | 581 | 580 | 580 > | 490 > | A |
| | | | | > 590 | > 496 | >A |
| RIGHT | 4 | 910 | 910 | 910 > | 906 > | A |
| MAJOR STREET | | | | | | |
| NB LEFT | 2 | 986 | 986 | 986 | 984 | A |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Village Parkway
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj AM
OTHER INFORMATION.... w/ adjusted vols and configs per city road imp movements

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 30

PEAK HOUR FACTOR..................... 1

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... Village Parkway

NAME OF THE NORTH/SOUTH STREET....... First St 26

NAME OF THE ANALYST.................. HBA

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-14-1994

TIME PERIOD ANALYZED................. Cum + Proj PM

OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LEFT | 34 | -- | 5 | 2 |
| THRU | 41 | -- | 204 | 240 |
| RIGHT | 3 | -- | 9 | 82 |

NUMBER OF LANES

| | EB | WB | NB | SB |
|---|---|---|---|---|
| LANES | 1 | -- | 1 | 1 |



| | PERCENT GRADE | RIGHT TURN ANGLE | CURB RADIUS (ft) FOR RIGHT TURNS | ACCELERATION LANE FOR RIGHT TURNS |
|---|---|---|---|---|
| EASTBOUND | 0.00 | 90 | 20 | N |
| WESTBOUND | ----- | --- | --- | - |
| NORTHBOUND | 0.00 | 90 | 20 | N |
| SOUTHBOUND | 0.00 | 90 | 20 | N |

VEHICLE COMPOSITION

| | % SU TRUCKS AND RV'S | % COMBINATION VEHICLES | % MOTORCYCLES |
|---|---|---|---|
| EASTBOUND | 0 | 0 | 0 |
| WESTBOUND | --- | --- | --- |
| NORTHBOUND | 0 | 0 | 0 |
| SOUTHBOUND | 0 | 0 | 0 |

CRITICAL GAPS

| | TABULAR VALUES (Table 10-2) | ADJUSTED VALUE | SIGHT DIST. ADJUSTMENT | FINAL CRITICAL GAP |
|---|---|---|---|---|
| MINOR RIGHTS EB | 5.50 | 5.50 | 0.00 | 5.50 |
| MAJOR LEFTS NB | 5.00 | 5.00 | 0.00 | 5.00 |
| MINOR LEFTS EB | 6.50 | 6.50 | 0.00 | 6.50 |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Village Parkway
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road imp rovements

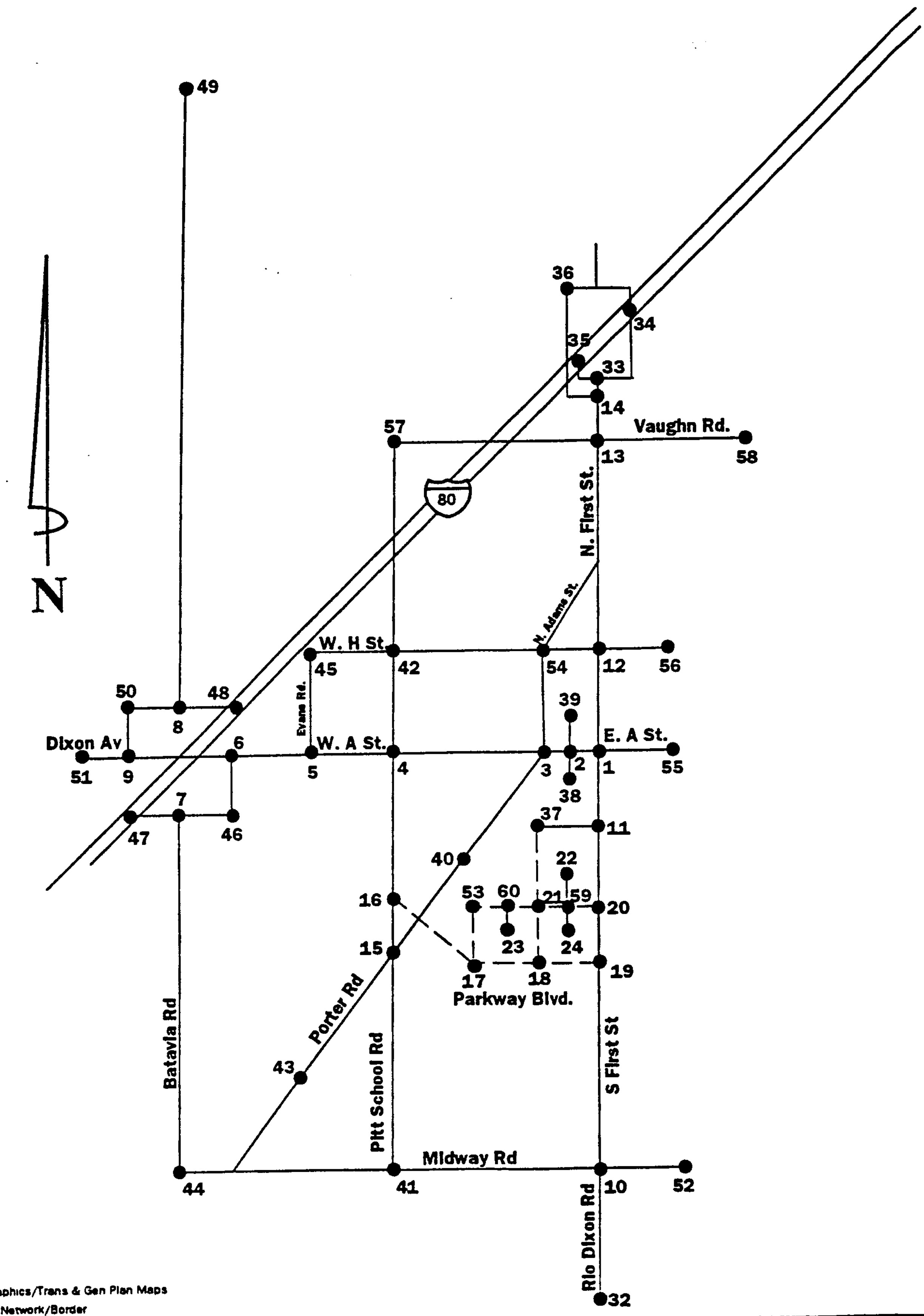


| MOVEMENT | FLOW-RATE v(pcph) | POTEN-TIAL CAPACITY c (pcph) p | ACTUAL MOVEMENT CAPACITY c (pcph) M | SHARED CAPACITY c (pcph) SH | RESERVE CAPACITY c = c - v R SH | L( |
|---|---|---|---|---|---|---|
| MINOR STREET | | | | | | |
| EB LEFT | 37 | 499 | 497 > | 497 > | 460 > | |
| | | | > 513 | > 473 | | >A |
| RIGHT | 3 | 809 | 809 > | 809 > | 806 > | |
| MAJOR STREET | | | | | | |
| NB LEFT | 6 | 869 | 869 | 869 | 864 | |

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... Village Parkway
NAME OF THE NORTH/SOUTH STREET.... First St
DATE AND TIME OF THE ANALYSIS..... 01-14-1994 ; Cum + Proj PM
OTHER INFORMATION.... W/ adjusted vols and configs per city road im rovements

# APPENDIX F
# TRIP ASSIGNMENT
# CALCULATIONS




City Of Dixon
Southpark EIR

Network Sketch

32 10 N * First (113), south of Midway
10 19 N * First (113), between Midway and Parkway (new collector)
19 20 N * First (113), between Parkway (new collector) and Village Parkway (new)
20 11 N * First (113), between Village Parkway (new) and W. Cherry
11 1 N * First (113), between W. Cherry and
1 12 N * First (113), between A and H
12 13 N * First (113), between H and Vaughn
13 14 N * First (113), between Vaughn and I-80 EB Ramps
14 33 N * First (113), I-80 EB Ramps
24 59 N * MF internal connection to Village Parkway
59 22 N * Commerical internal connection to Village Parkway
18 21 N * E. Project connection with Parkway (new collector)
21 37 N * Project connection with W. Cherry
38 2 N * Jackson south of A
2 39 N * Jackson north of A
23 60 N * one half of SF connection to Village Parkway
17 53 N * W. Project connection with Parkway (new collector)
40 3 N * Porter, south of A
3 54 N * N. Adams, north of A
41 15 N * Pitt School, south of Porter
15 16 N * Pitt School, between Porter and Parkway (new collector)
16 4 N * Pitt School, between Parkway (new collector) and A
4 42 N * Pitt School, between A and H
44 7 N * Batavia, between Midway and I-80 EB Ramps
46 6 N * Batavia, between I-80 EB Ramps and A (Dixon Ave)
5 45 N * Evans, north of A (Dixon Ave)
8 49 N * Schroeder, north of I-80 WB Ramps
9 50 N * Schroeder, north of A (Dixon Ave)
44 41 E * Midway, between Batavia and Pitt School
41 10 E * Midway, between Pitt School and First (113)
10 52 E * Midway, east of First (113)
43 15 E * Porter, west of Pitt School
15 40 E * Porter, east of Pitt School
16 17 E * Parkway (new collector), east of Pitt School
17 18 E * Parkway (new collector), between project entries on Parkway (new collector)
18 19 E * Parkway (new collector), between E. Project entry and First (113)
53 60 E * internal links
60 21 E * west leg of project zone 21
21 59 E * east leg of project zone 21
59 20 E * Village Parkway (new), west of First (113)
37 11 E * W. Cherry, west of First (113)
47 7 E * I-80 EB Ramps at Batavia
7 46 E * Batavia, north of I-80 EB Ramps
51 9 E * A (Dixon Ave), west of Schroeder
9 6 E * A (Dixon Ave), between Schroeder and Batavia
6 5 E * A (Dixon Ave), between Batavia and Evans
5 4 E * A (Dixon Ave), between Evans and Pitt School
4 3 E * A (Dixon Ave), between Pitt School and Porter

3 2 E * A (Dixon Ave), between Porter and Jackson
2 1 E * A (Dixon Ave), between Jackson and First (113)
1 55 E * A (Dixon Ave), east of First (113)
50 8 E * Shroeder Rd connector to Dixon Ave
8 48 E * Schroeder Rd Connector to I-80 WB Ramps
45 42 E * H between Evans and Pitt School
42 54 E * H between Pitt School and N. Adams
54 12 E * H between N. Adams and First (113)
12 56 E * H (Future extension), east of First (113)
57 13 E * Vaughn, between Pitt School and First (113)
13 58 E * Vaughn, east of First (113)
36 14 E * Milk Farm overcrossing
35 33 E * I-80 EB Off-ramp
33 34 E * I-80 EB On-ramp

```
21 1 I 7.0 36 14 13 12 1 11 37 21                    * E I-80
21 1 O 12.5 21 37 11 1 12 13 14 33 34                * E I-80
21 2 I 7.0 36 14 13 12 1 11 20 59 21                 * E I-80
21 2 O 12.5 21 59 20 11 1 12 13 14 33 34             * E I-80
21 3 I 6.0 51 9 6 5 4 3 2 1 11 37 21                 * W Dixon Ave
21 3 O 4.0 21 37 11 1 2 3 4 5 6 9 51                 * W Dixon Ave
21 4 I 6.0 51 9 6 5 4 3 2 1 11 20 59 21              * W Dixon Ave
21 4 O 4.0  21 59 20 11 1 2 3 4 5 6 9 51             * W Dixon Ave
21 5 I 6.5 47 7 46 6 5 4 3 2 1 11 37 21              * W I-80
21 5 O 13.0 21 37 11 1 2 3 4 5 6 9 50 8 48           * W I-80
21 6 I 6.5 47 7 46 6 5 4 3 2 1 11 20 59 21           * W I-80
21 6 O 13.0 21 59 20 11 1 2 3 4 5 6 9 50 8 48        * W I-80
21 7 B 1.0  21 59 20 19 10 32                        * S to Rio Vista
21 8 I 7.5 55 1 11 37 21                             * E A St
21 8 O 5.0  21 37 11 1 55                            * E A St
21 9 I 7.5 55 1 11 20 59 21                          * E A St
21 9 O 5.0  21 59 20 11 1 55                         * E A St
21 10 I 11.25 12 1 11 37 21                          * N A St
21 10 O 7.5 21 37 11 1 12                            * N A St
21 11 I 11.25 12 1 11 20 59 21                       * N A St
21 11 O 7.5 21 59 20 11 1 12                         * N A St
21 12 I 11.25 3 2 1 11 37 21                         * W A St
21 12 O 7.5 21 37 11 1 2 3                           * W A St
21 13 I 11.25 3 2 1 11 20 59 21                      * W A St
21 13 O 7.5 21 59 20 11 1 2 3                        * W A St


22 1 B 40.0 22 59                                    * Internalized 40%

22 2 I 5.0 36 14 13 12 1 11 20 59 22                 * E I-80
22 2 O 5.0 22 59 20 11 1 12 13 14 33 34              * E I-80
22 3 B 5.0 22 59 20 11 1 2 3 4 5 6 9 51              * W Dixon Ave
22 4 I 5.0 47 7 46 6 5 4 3 2 1 11 20 59 22           * W I-80
22 4 O 5.0 22 59 20 11 1 2 3 4 5 6 9 50 8 48         * W I-80
22 6 B 10.0 22 59 20 11 1 55                         * E A St
22 7 B 20.0 22 59 20 11 1 12                         * N A St
22 8 B 15.0 22 59 20 11 1 2 3                        * W A St

23 1 I 7.0 36 14 13 12 1 11 20 19 18 21 60 23        * E I-80
23 1 O 12.5 23 60 21 18 19 20 11 1 12 13 14 33 34            * E I-80
23 2 I 7.0 36 14 13 12 1 11 20 59 21 60 23           * E I-80
23 2 O 12.5 23 60 21 59 20 11 1 12 13 14 33 34       * E I-80
23 3 I 6.0 51 9 6 5 4 3 2 1 11 20 19 18 21 60 23             * W Dixon
Ave
23 3 O 4.0 23 60 21 18 19 20 11 1 2 3 4 5 6 9 51             * W Dixon
Ave
23 4 I 6.0 51 9 6 5 4 3 2 1 11 20 59 21 60 23        * W Dixon Ave
23 4 O 4.0  23 60 21 59 20 11 1 2 3 4 5 6 9 51       * W Dixon Ave
23 5 I 6.5 47 7 46 6 5 4 3 2 1 11 20 19 18 21 60 23          * W I-80
23 5 O 13.0 23 60 21 18 19 20 11 1 2 3 4 5 6 9 50 8 48       * W I-80
23 6 I 6.5 47 7 46 6 5 4 3 2 1 11 20 59 21 60 23             * W I-80
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23 6 O 13.0 23 60 21 59 20 11 1 2 3 4 5 6 9 50 8 48     * W I-80
23 7 B 1.0  23 60 21 59 20 19 10 32                      * S to Rio Vista
23 8 I 7.5 55 1 11 20 19 18 21 60 23                     * E A St
23 8 O 5.0  23 60 21 18 19 20 11 1 55                    * E A St
23 9 I 7.5 55 1 11 20 59 21 60 23                        * E A St
23 9 O 5.0  23 60 21 59 20 11 1 55                       * E A St
23 10 I 11.25 55 1 11 20 59 21 60 23                     * N A St
23 10 O 7.5 23 60 21 18 19 20 11 1 12                    * N A St
23 11 I 11.25 12 1 11 20 59 21 60 23                     * N A St
23 11 O 7.5 23 60 21 59 20 11 1 12                       * N A St
23 12 I 11.25 3 2 1 11 20 59 21 60 23                    * W A St
23 12 O 7.5 23 60 21 18 19 20 11 1 2 3                   * W A St
23 13 I 11.25 3 2 1 11 20 59 21 60 23                    * W A St
23 13 O 7.5 23 60 21 59 20 11 1 2 3                      * W A St

24 1 I 7.0 36 14 13 12 1 11 20 19 18 21 59 24   * E I-80
24 1 O 12.5 24 59 21 18 19 20 11 1 12 13 14 33 34 * E I-80
24 2 I 7.0 36 14 13 12 1 11 20 59 24             * E I-80
24 2 O 12.5 24 59 20 11 1 12 13 14 33 34         * E I-80
24 3 I 6.0 51 9 6 5 4 3 2 1 11 20 19 18 21 59 24 * W Dixon Ave
24 3 O 4.0 24 59 21 18 19 20 11 1 2 3 4 5 6 9 51 * W Dixon Ave
24 4 I 6.0 51 9 6 5 4 3 2 1 11 20 19 18 21 59 24 * W Dixon Ave
24 4 O 4.0  24 59 20 11 1 2 3 4 5 6 9 51         * W Dixon Ave
24 5 I 6.5 47 7 46 6 5 4 3 2 1 11 20 19 18 21 59 24 * W I-80
24 5 O 13.0 24 59 21 18 19 20 11 1 2 3 4 5 6 9 50 8 48 * W I-80
24 6 I 6.5 47 7 46 6 5 4 3 2 1 11 20 59 24       * W I-80
24 6 O 13.0 24 59 20 11 1 2 3 4 5 6 9 50 8 48    * W I-80
24 7 B 1.0 24 59 20 19 10 32                     * S to Rio Vista
24 8 I 7.5 55 1 11 20 19 18 21 59 24             * E A St
24 8 O 5.0  24 59 21 18 19 20 11 1 55            * E A St
24 9 I 7.5 55 1 11 20 59 24                      * E A St
24 9 O 5.0  24 59 20 11 1 55                     * E A St
24 10 I 11.25 12 1 11 20 19 18 21 59 24          * N A St
24 10 O 7.5 24 59 21 18 19 20 11 1 12            * N A St
24 11 I 11.25 12 1 11 20 59 24                   * N A St
24 11 O 7.5 24 59 20 11 1 12                     * N A St
24 12 I 11.25 3 2 1 11 20 19 18 21 59 24         * W A St
24 12 O 7.5 24 59 21 18 19 20 11 1 2 3           * W A St
24 13 I 11.25 3 2 1 11 20 59 24                  * W A St
24 13 O 7.5 24 59 20 11 1 2 3                    * W A St
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21 1 I 12.5 36 14 13 12 1 11 37 21                  * E I-80
21 1 O 7.0 21 37 11 1 12 13 14 33 34                * E I-80
21 2 I 12.5 36 14 13 12 1 11 20 59 21               * E I-80
21 2 O 7.0 21 59 20 11 1 12 13 14 33 34             * E I-80
21 3 I 4.0 51 9 6 5 4 3 2 1 11 37 21                * W Dixon Ave
21 3 O 6.0 21 37 11 1 2 3 4 5 6 9 51                * W Dixon Ave
21 4 I 4.0 51 9 6 5 4 3 2 1 11 20 59 21             * W Dixon Ave
21 4 O 6.0  21 59 20 11 1 2 3 4 5 6 9 51            * W Dixon Ave
21 5 I 13.0 47 7 46 6 5 4 3 2 1 11 37 21            * W I-80
21 5 O 6.5 21 37 11 1 2 3 4 5 6 9 50 8 48           * W I-80
21 6 I 13.0 47 7 46 6 5 4 3 2 1 11 20 59 21         * W I-80
21 6 O 6.5 21 59 20 11 1 2 3 4 5 6 9 50 8 48        * W I-80
21 7 B 1.0  21 59 20 19 10 32                       * S to Rio Vis
ta
21 8 I 5.0  55 1 11 37 21                           * E A St
21 8 O 7.5  21 37 11 1 55                           * E A St
21 9 I 5.0  55 1 11 20 59 21                        * E A St
21 9 O 7.5  21 59 20 11 1 55                        * E A St
21 10 I 7.5 12 1 11 37 21                           * N A St
21 10 O 11.25 21 37 11 1 12                         * N A St
21 11 I 7.5 12 1 11 20 59 21                        * N A St
21 11 O 11.25 21 59 20 11 1 12                      * N A St
21 12 I 7.5 3 2 1 11 37 21                          * W A St
21 12 O 11.25 21 37 11 1 2 3                        * W A St
21 13 I 7.5 3 2 1 11 20 59 21                       * W A St
21 13 O 11.25 21 59 20 11 1 2 3                     * W A St

22 1 B 40.0 22 59                                   * Internalized
 40%
22 2 I 5.0 36 14 13 12 1 11 20 59 22                * E I-80
22 2 O 5.0 22 59 20 11 1 12 13 14 33 34             * E I-80
22 3 B 5.0 22 59 20 11 1 2 3 4 5 6 9 51             * W Dixon Ave
22 4 I 5.0 47 7 46 6 5 4 3 2 1 11 20 59 22          * W I-80
22 4 O 5.0 22 59 20 11 1 2 3 4 5 6 9 50 8 48        * W I-80
22 6 B 10.0 22 59 20 11 1 55                        * E A St
22 7 B 20.0 22 59 20 11 1 12                        * N A St
22 8 B 15.0 22 59 20 11 1 2 3                       * W A St

23 1 I 12.5 36 14 13 12 1 11 20 19 18 21 60 23      * E I-80
23 1 O 7.0 23 60 21 18 19 20 11 1 12 13 14 33 34    * E I-80
23 2 I 12.5 36 14 13 12 1 11 20 59 21 60 23         * E I-80
23 2 O 7.0 23 60 21 59 20 11 1 12 13 14 33 34       * E I-80
23 3 I 4.0 51 9 6 5 4 3 2 1 11 20 19 18 21 60 23    * W Dixon Ave
23 3 O 6.0 23 60 21 18 19 20 11 1 2 3 4 5 6 9 51    * W Dixon Ave
23 4 I 4.0  51 9 6 5 4 3 2 1 11 20 59 21 60 23      * W Dixon Ave
23 4 O 6.0  23 60 21 59 20 11 1 2 3 4 5 6 9 51      * W Dixon Ave
23 5 I 13.0 47 7 46 6 5 4 3 2 1 11 20 19 18 21 60 23   * W I-80
23 5 O 6.5 23 60 21 18 19 20 11 1 2 3 4 5 6 9 50 8 48  * W I-80
23 6 I 13.0 47 7 46 6 5 4 3 2 1 11 20 59 21 60 23      * W I-80
23 6 O 6.5 23 60 21 59 20 11 1 2 3 4 5 6 9 50 8 48     * W I-80
23 7 B 1.0  23 60 21 59 20 19 10 32                    * S to Rio Vis
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ta                                                     * E A St
23 8 I 5.0 55 1 11 20 19 18 21 60 23                   * E A St
23 8 O 7.5  23 60 21 18 19 20 11 1 55                  * E A St
23 9 I 5.0  55 1 11 20 59 21 60 23                     * E A St
23 9 O 7.5  23 60 21 59 20 11 1 55                     * N A St
23 10 I 7.5 12 1 11 20 19 18 21 60 23                  * N A St
23 10 O 11.25 23 60 21 18 19 20 11 1 12                * N A St
23 11 I 7.5 12 1 11 20 59 21 60 23                     * N A St
23 11 O 11.25 23 60 21 59 20 11 1 12                   * W A St
23 12 I 7.5 3 2 1 11 20 19 18 21 60 23                 * W A St
23 12 O 11.25 23 60 21 18 19 20 11 1 2 3               * W A St
23 13 I 7.5 3 2 1 11 20 59 21 60 23                    * W A St
23 13 O 11.25 23 60 21 59 20 11 1 2 3

24 1 I 12.5 36 14 13 12 1 11 20 19 18 21 59 24         * E I-80
24 1 O 7.0 24 59 21 18 19 20 11 1 12 13 14 33 34       * E I-80
24 2 I 12.5 36 14 13 12 1 11 20 59 24                  * E I-80
24 2 O 7.0 24 59 20 11 1 12 13 14 33 34                * E I-80
24 3 I 4.0 51 9 6 5 4 3 2 1 11 20 19 18 21 59 24       * W Dixon Ave
24 3 O 6.0 24 59 21 18 19 20 11 1 2 3 4 5 6 9 51       * W Dixon Ave
24 4 I 4.0  51 9 6 5 4 3 2 1 11 20 59 24               * W Dixon Ave
24 4 O 6.0  24 59 20 11 1 2 3 4 5 6 9 51               * W Dixon Ave
24 5 I 13.0 47 7 46 6 5 4 3 2 1 11 20 19 18 21 59 24   * W I-80
24 5 O 6.5 24 59 21 18 19 20 11 1 2 3 4 5 6 9 50 8 48  * W I-80
24 6 I 13.0 47 7 46 6 5 4 3 2 1 11 20 59 24            * W I-80
24 6 O 6.5 24 59 20 11 1 2 3 4 5 6 9 50 8 48           * W I-80
24 7 B 1.0 24 59 20 19 10 32                           * S to Rio Vis
ta                                                     * E A St
24 8 I 5.0 55 1 11 20 19 18 21 59 24                   * E A St
24 8 O 7.5  24 59 21 18 19 20 11 1 55                  * E A St
24 9 I 5.0 55 1 11 20 59 24                            * E A St
24 9 O 7.5  24 59 20 11 1 55                           * N A St
24 10 I 7.5 12 1 11 20 19 18 21 59 24                  * N A St
24 10 O 11.25 24 59 21 18 19 20 11 1 12                * N A St
24 11 I 7.5 12 1 11 20 59 24                           * N A St
24 11 O 11.25 24 59 20 11 1 12                         * W A St
24 12 I 7.5 3 2 1 11 20 19 18 21 59 24                 * W A St
24 12 O 11.25 24 59 21 18 19 20 11 1 2 3               * W A St
24 13 I 7.5 3 2 1 11 20 59 24                          * W A St
24 13 O 11.25 24 59 20 11 1 2 3
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