Proposal to the

City of Fort Bragg

for the

MILL SITE TRAFFIC & CONGESTION STUDY

Proposal by

HEXAGON TRANSPORTATION CONSULTANTS, INC.

July 30, 2019

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Ms. June Lemos, CMC, City clerk
City of Fort Bragg
416 North Franklin Street
Fort Bragg, CA 95437

Re: Proposal for Mill Site Traffic and Congestion Study

Dear Ms. Lemos:

Hexagon Transportation Consultants, Inc. is pleased to submit this proposal for the Mill Site Traffic and Congestion Study. We are excited about the opportunity to work with the City on this corridor study. We believe that we possess the technical expertise and experience to provide the services necessary to complete this project as described in the RFP and have provided details for this in the attached proposal.

We have built our firm around three fundamental principles. First, we are committed to delivering the highest quality work. This means that all work is double-checked and findings are presented clearly and concisely. Second, we deliver products when we promise them. Among our top priorities is delivering our services in a way that ensures the overall scheduling needs of our clients are met. Finally, we are accessible and responsive. We understand our clients are busy and often faced with the challenge of managing complex projects, so anything we can do to keep the transportation-aspects of those projects moving along smoothly is a valued service.

We appreciate the opportunity to submit this proposal for your consideration. Please do not hesitate to contact us if additional information is needed.

Sincerely,

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Gary Black
President

4 North Second Street, Suite 400 · San Jose, California 95113 · phone 408.971.6100 · fax 408.971.6102 · www.hextrans.com

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Firm Description

Hexagon Transportation Consultants, Inc. was founded in 1998 in San Jose, California with the goal of providing top-quality, professional transportation consulting services to private and public entities. Hexagon provides services in all major aspects of transportation planning and traffic engineering. We have built our firm around three fundamental principles. First, we deliver the highest quality work with findings that are double checked and presented clearly and concisely. Second, we deliver work products when promised. Last, we are accessible and responsive.

Hexagon's staff members have prepared thousands of studies, both large and small, over their professional careers. Hexagon's public clients include city, county and state agencies and regional planning organizations. Hexagon has a wide range of private clients including technology companies, developers, architects, civil engineers, and environmental firms.

Hexagon has California offices in San Jose, Pleasanton and Gilroy offering a wide range of services including:

- Countywide and Citywide
- Corridor Studies
- Major Investment Studies
- Specific Plans
- Area Plans
- Site Master Plans
- Traffic Impact Analyses
- Traffic Simulation
- Travel Demand Forecasting
- Pavement Delineation and Signing
- Greenhouse Gas Traffic Emissions
- Traffic Impact Fee Studies
- Traffic Safety Studies
- Site Review Studies
- Neighborhood Traffic Control Studies
- Campus Plans
- Ballpark and Stadium Studies
- Site Feasibility Studies
- Signal Designs
- Parking Studies
- Traffic Control/Construction Staging
- Roundabout Studies, Analysis and

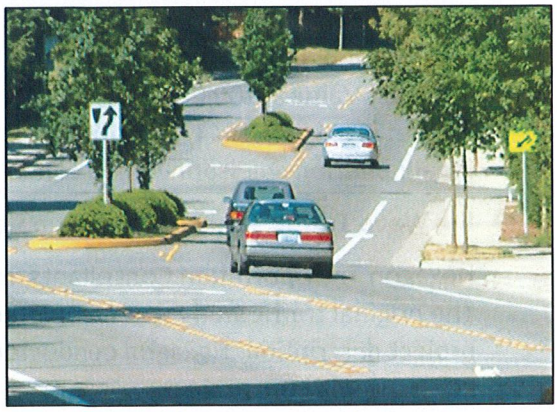
Hexagon has 27 employees within its four offices. Hexagon's professional staff is experienced in all technical aspects of transportation consulting and highly proficient in state-of-the-art computer software including all major modeling packages, traffic simulation software, intersection level of service programs, advanced traffic operations programs, CADD programs and many specialized programs that process and analyze traffic data. Hexagon's clients can be sure they are being provided high-quality, leading-edge technical services.

Relevant Experience

Traffic Impact Analysis (TIA)

Over the past ten years or so, Hexagon staff has prepared well over 500 Transportation Impact Analysis (TIA) reports and Circulation sections of EIRs for all types of new development in numerous jurisdictions. The projects have ranged from as small as one gas station or five houses to as large as 10 million square feet of research and development space (Edenvale area of San Jose) or 3,000 homes (Evergreen Specific Plan). The most common types of new development that we analyze are residential subdivisions, apartment buildings, schools, hotels, offices, and shopping centers. Shopping centers range from small neighborhood centers with grocery store anchors up to super regional malls with four department stores and over one million square feet. Other developments Hexagon staff has studied include theaters (live and cinema), health clubs, parks, golf courses, day care centers, restaurants, warehouses, gas stations, churches, hospitals, medical buildings, a city hall, a fire station, and even a sanitary landfill.

Transportation impact studies typically include extensive intersection and roadway traffic counts as well as intersection level of service analyses. Hexagon staff is fully familiar with all types of Level of Service software and is experienced with databases ranging from 1 to 140 intersections. All transportation impact studies also include an analysis of pedestrian, bicycle, and transit issues and recommendations for improvements, if necessary. Many traffic impact studies also include an evaluation of roadway safety. These typically include accident diagnosis, computation of accident rates and recommendations for potential improvements.



Transportation impact analyses are almost always prepared at the direction of city or county staff. We have worked with city and county staff in every county and almost every city in the San Francisco Bay Area. All TIAs involve traffic data collection and analysis using the techniques that are accepted in the county and city where the project is located. Hexagon staff is sensitive to local traffic issues and local preferences. It is our policy to always research local standards and practices prior to initiating a study.

VMT Calculations for Projects

As part of the air quality analysis for transportation improvements plans and land use development proposals, Hexagon has developed Vehicle Miles Traveled (VMT) estimates for numerous projects in the region. This involves calculating daily VMT's and vehicle hours traveled (VHT's) by speed interval on the roadways within the project's study area. Hexagon developed these statistics using Citywide and Countywide Travel Demand Models. VMT and VHT estimates were prepared for projects in the City of San Mateo, Gilroy, Palo Alto, Sunnyvale, Milpitas, San Jose, Morgan Hill and Dublin. In addition, consistent with the recommendations documented in the Senate Bill 743 Guidelines for calculating VMT's for the purpose of assessing transportation impacts for CEQA, Hexagon used trip-based travel forecasting models to compute VMT's per resident, using only home-based trips, and VMT's per job, based only on home-based work trips.

Relevant Project Experience

Mill Site Specific Plan EIR – Fort Bragg, California

Hexagon Transportation Consultants, Inc. was hired to complete a traffic study for the EIR for the Mill Site Specific Plan in Fort Bragg. Hexagon prepared a preliminary traffic analysis as part of the team that originally developed the specific plan. Issues include site access and on-site circulation for all modes.

Client: Lesley Lowe, ESA
Contract Value: $34,900
Phone: (415) 896-5900
Email: llowe@esassoc.com

Georgia-Pacific Mill Site Specific Plan – Fort Bragg, California

Hexagon Transportation Consultants, Inc. was hired as part of the team to prepare the specific plan for reuse of the Georgia-Pacific mill site in Fort Bragg. The mill site comprises 430 acres of coastal land, which is 1/3 the area of the town of Fort Bragg. The specific plan includes the specification of land uses and infrastructure. Hexagon specified the location and design of all roads within the reuse area and the roads providing access to the area from the rest of the town. The existing site has no roads at all. The specific plan will be built out over a 20-year period, so development phasing and infrastructure financing was an important part of the plan.

Client: Bonnie Nelson, Nelson Nygaard
Contract Value: $100,000
Phone: (415) 284-1544
Email: bnelson@nelsonnygaard.com

Big Wave Traffic Study – San Mateo County, California

Hexagon Transportation Consultants, Inc. was hired to redo the traffic study for the Big Wave project. The original traffic study was completed in 2012. The update was necessary to respond to a revised project description. Hexagon conducted new traffic counts and analysis. Impacts to Highway 1 were a key issue with the project.

Client: Camille Leung, County of San Mateo
Contract Value: $43,700
Phone: (650) 363-1826
Email: cleung@smcgov.org

Key Personnel Qualifications

Gary K. Black, AICP is the President of Hexagon and has over thirty years of experience in transportation engineering. Mr. Black has worked on numerous transportation planning, traffic engineering, parking, and transit studies. He has prepared traffic studies for EIRs for over 100 development projects throughout the Bay Area. Gary will serve as Principal-in-Charge for this assignment.

Resume of key personnel can be found at the end of this proposal.

References

Ms. Carol Shariat
City of Santa Clara, Department of Public Works
1500 Warburton Avenue
City of Santa Clara, CA 95050
(408) 615-3024
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Ms. Jessica Manzi
City of Redwood City, Community Development Department, Engineering
1017 Middlefield Road
Redwood City, CA 94063
(650) 780-7372
jmanzi@redwoodcity.org

Ms. Arlyn Villanueva
City of San Jose, Department of Public Works, Development Services Division
200 E. Santa Clara St.
San José, CA 95113
(408) 793-4336
Arlyn.Villanueva@sanjoseca.gov

Scope of Work

Task 1 – Project Management

Hexagon will coordinate with City staff to develop a detailed work plan and schedule. Meetings and conference call schedules to discuss progress will be established. Assuming a project schedule of 12 weeks, this scope includes 4 conference calls with staff. Minutes for all conference calls and meetings will be provided within two business days. Staff meeting agendas will be provided two business days prior to the meetings. It is envisioned that the conference calls will be used to provide city staff progress updates as well as discuss any potential issues.

Unless otherwise specified, this scope includes responses to one round of staff comments on all deliverables.

Task 2– Review Existing Documents

Hexagon will review the City's proposed Land Use Plan and maximum build-out analysis for the former GP Mill Site, as well as the Circulation Element of the City's proposed Coastal General Plan Amendment and Caltrans highway planning documents.

Task 3 – Attend a Kick-Off Meeting

Hexagon will meet with City staff for a kick-off meeting to review and discuss the Land Use Plan, maximum build-out analysis, and proposed circulation network and discuss the project scope and schedule.

Task 4 – Methodology

Hexagon will coordinate with City staff to determine the methodologies for the traffic analysis. It is our understanding that the traffic analysis will require a vehicle-miles travelled (VMT) analysis in accordance with SB 743 as well as potentially intersection level of service (LOS) and roadway capacity analysis. An evaluation of other modes of transportation such as trucks, transit, bicycles and pedestrians will also be needed.

Task 5 – Traffic Congestion Analysis

This task assumes the preparation of an intersection LOS analysis, a roadway capacity analysis and a VMT analysis.

Task 5.a Project Trip Generation, Distribution and Assignment

In order to evaluate the project effects on intersection LOS, roadway capacity and VMT, the number of projects trips to be generated onto the surrounding roadway network needs to be determined. Estimates of trips for the maximum build-out to be added to the surrounding roadway network by the proposed rezoning will be based on the trip generation rates recommended by the Institute of Traffic Engineers' *Trip Generation Manual, 10th Edition*. Potential trip generation reductions due to the mixed-use nature of the project will be calculated using the EPA MXD model. The directional distribution of site-generated traffic will be determined in conjunction with City staff. The team will need to identify the origins and destinations of work trips. The site-generated traffic will be assigned to the roadway network based on the trip generation and distribution pattern discussed above.

Task 5.b Analyze LOS

Hexagon will evaluate intersection levels of service for up to 10 intersections during the peak periods of roadway traffic (Friday 7-9 AM and 4-6 PM, and Saturday 10 AM – 3PM). Hexagon will conduct traffic counts and field observations to determine existing intersection operating conditions during the three identified peak periods of roadway traffic. Intersection levels of service will be calculated using the Synchro software employing the latest Highway Capacity Manual (HCM) methodology. The 10 study intersections are listed below:

1. Main Street and Elm Street
2. Main Street and Spruce Street [unsignalized]
3. Main Street and Fir Street [unsignalized]
4. Main Street and Pine Street [unsignalized]
5. Main Street and Laurel Street
6. Main Street and Redwood Street
7. Main Street and Maple Street [unsignalized]
8. Main Street and Cypress Street
9. Highway 1 and Highway 20
10. Highway 1 and Pudding Creek Road [unsignalized]

Cumulative (no project and with project) conditions will be evaluated to determine the potential project effects on intersection operations. Cumulative no project conditions traffic volumes will be estimated referencing relevant environmental documents. Traffic generated by the maximum build-out of the proposed project will be added onto the cumulative no project conditions to represent the cumulative with project conditions. Intersection levels of service under cumulative conditions will be analyzed using the Synchro software. The intersection LOS results under the cumulative with project conditions will be compared to the cumulative no project conditions to determine potential project effects on intersection operations.

Task 5.c Roadway Segment Analysis

Hexagon will evaluate five roadway segments near the project site. Hexagon will conduct weekly roadway traffic counts (separated by vehicle classification) for one regular week. The study roadway segments are listed below.

1. Highway 1, between Cypress Street and Highway 20
2. Highway 1, between Highway 20 and Hare Creek Bridge
3. Highway 1, between Hare Creek Bridge and Fern Creek Road
4. Highway 1, between northern City Limits of Fort Bragg and Cleone
5. Highway 20, from Highway 1 to 3 miles west of Highway 1

The magnitude of project trips on five (5) roadway segments near the site will be determined. based on the trip assignment task described above. An analysis will be conducted on the Average Daily Traffic (ADT) of the roadway segments. Traffic conditions will be compared for existing, cumulative no project, and cumulative with project conditions. Cumulative no project traffic volumes will be estimated referencing the relevant environmental documents. Roadway segments will be evaluated with the

latest HCM methodology for roadway segments. The results of this task will be documented in the traffic study. The project's potential effect on truck traffic will also be evaluated.

Task 5.d Vehicle Miles Traveled Analysis

The VMT analysis will be conducted in accordance with SB 743. It is our understanding that there are no transportation models available for VMT analysis. Hexagon will coordinate with City staff to determine a VMT methodology based on a combination of air quality software, available survey data, and/or qualitative analysis. Potential conflicts between the City's Coastal General Plan and the Stat's GHG reduction goals as well as potential resolutions will be identified.

Task 6 – Recommended Changes to the Circulation Plan

Hexagon will review the Circulation Plan for the Land Use Plan and determine the overall adequacy of the circulation plan for all modes of transportation. A review of the circulation element in the Coastal General Plan will also be conducted. Shared site access and on-site circulation of the Mill Site Land Use Plan will be reviewed in accordance with generally accepted traffic engineering standards and to identify any access or circulation issues that should be improved. Additionally, Hexagon will recommend changes to the circulation element in the General Plan, as needed, based on the VMT analysis conducted in the above task. Our findings and recommendations will be summarized in the traffic study.

Task 7 – Draft Report

Our findings and recommendations for the traffic analyses for Task 4 through Task 6 identified above will be summarized in an administrative draft traffic study report. The administrative draft report, as well as all appendices, will be submitted in electronic format.

Task 8 – Final Report

Hexagon will respond to staff comments and prepare a final report.

Task 9 – Presentation to City Council

Hexagon will provide a brief summary presentation (approximately 20 minutes) to the City Council of the key findings of the report. Hexagon will provide the draft presentation material for staff comments and provide the final presentation material incorporating any comments.

Task 10 – Electronic and Paper Copies

Hexagon will submit both electronic and 3 hard copies of the finished report including appendices in Microsoft Word and PDF, and all other supporting material (including counts, analysis models, etc.) will be provided in their original software formats.

Budget and Schedule of Charges

The total fee for the services outlined in the scope of work (Task 1 through Task 10) will be based on staff time plus expenses not to exceed $91,000. $10,100 of the proposed budget is for direct expenses such as travel reimbursement and data collection. Intersection counts are quoted for $700 per intersection.

#	Task	Staff Hours					
		President	Associate	Engineer	Admin	Direct	
	Rates	$ 280	$ 170	$ 125	$ 105	Expenses	Total
1	**Project Management**	8		12			$ 3,740
2	**Review Existing Documents**	4		20			$ 3,620
3	**Attend a Kick-Off Meeting**	26				$ 600	$ 7,880
4	**Methodology**	8	20	8		$ -	$ 6,640
5	**Traffic Congestion Analysis**	24	74	116	4	$ 8,800.00	$ 43,020
5.a	*Project Trip Generation, Distribution and Assignment*	*8*	*16*				*$ 4,960*
5.b	*Intersection LOS Analysis*	*8*	*46*	*74*	*2*	*$ 7,800*	*$ 27,320*
5.c	*Roadway Segment Analysis*	*4*	*4*	*26*	*2*	*$ 1,000*	*$ 6,260*
5.d	*Vehicle Miles Traveled Analysis*	*4*	*8*	*16*			*$ 4,480*
6	**Recommended Changes to the Circulation Plan**	8	16				$ 4,960
7	**Draft Report**	4	20	40	4		$ 9,940
8	**Final Report**	4	10	10	2		$ 4,280
9	**Presentation to City Council**	16		8		$ 600	$ 6,080
10	**Electronic and Paper Copies**				4	$ 100	$ 520
	Total	102	140	214	14	$ 10,100	$ 90,680
						Total Budget:	$ 91,000

Work Schedule

Assuming budget authorization is provided the week of August 12th, 2019, data collection and field observations will be completed by August 26th, 2019, barring any unforeseen delays. Once the Land Use Plan is complete and both City Council and the Planning Commission have decided on the various land uses, the administrative draft report will be submitted within approximately 12 weeks. The final report will be submitted 2 weeks of receipt of all comments.

Insurance

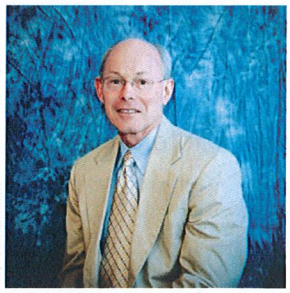
Hexagon Transportation Consultants, Inc. will maintain the City's insurance amount throughout the project.

Consultant Agreement

Hexagon Transportation Consultants, Inc. has no issues with the provisions of the city's standard consulting services agreement.

Resumes of Key Personnel

Gary K. Black, AICP, President



Education

Master of City Planning in Urban Transportation, University of California at Berkeley
Bachelor of Arts in Geography, University of California at Los Angeles

Professional Associations

American Institute of Certified Planners
Institute of Transportation Engineers

Experience

Since 1982, Mr. Black has directed a number of transportation planning, traffic engineering, parking, and transit studies. He has prepared transportation plans for the Cities of San Jose, Palo Alto, San Mateo, and San Carlos, and areawide plans for reuse of the Bay Meadows racetrack site in San Mateo, the Cargill salt ponds site in Redwood City, and many parts of San Jose (North San Jose, Downtown, Edenvale, and Evergreen). He has prepared traffic studies for new development in most cities within the Bay Area. He also has prepared numerous parking studies, including downtown parking studies for San Carlos, San Mateo, Gilroy, and San Jose.

Representative Projects

- **Areawide Transportation Plans:**

  Circulation Elements for General Plans in San Mateo, Sunnyvale, San Carlos, and Palo Alto.

  Bay Meadows – Hexagon prepared the transportation plan for redevelopment of the Bay Meadows Race Track in San Mateo into a mixed-use, transit orientated development.

  San Carlos - Citywide study involved estimating and analyzing the traffic conditions that would occur from buildout of known development sites within the city. Intersection levels of service were calculated and recommendations were made for possible transportation network improvements.

  North San Jose – Hexagon developed a revised development policy for North San Jose that included a long-range forecast of traffic conditions and development of a long list of necessary transportation improvements – both roads and transit. The policy resulted in the adoption of an impact fee to fund transportation improvements.

  Redwood City – Hexagon has done the transportation planning for the proposed reuse of the Cargill salt ponds in Redwood City. The potential reuse includes essentially the development of a new town with 12,000 homes, office buildings, a shopping center, and schools.

- **Campus Studies**:

  Foothill College –The campus is served by one ring road that is accessed through a single intersection. Hexagon staff recommended that the ring road be made one-way. Other recommendations were also made for better signage and lighting around the ring road.

City College – Hexagon staff was hired to measure parking demand and to determine the amount of new parking needed. Hexagon staff conducted parking occupancy surveys. Student parking in neighborhoods was estimated by comparing overnight occupancy to occupancy at typical student peak times.

IBM Campus - Hexagon staff was hired to address various problems occurring on the internal roads. Many recommendations came out of the study, including modifying speed limits, narrowing streets, channelizing pedestrian crossings, adding signals, and modifying intersection geometries to improve sight distance.

- **Site Traffic Analyses:**

  For offices, hotels, restaurants, residential subdivisions, apartments, schools, warehouses, industrial complexes, and mixed-use developments in San Jose, Santa Clara, Sunnyvale, Milpitas, Los Gatos, Fremont, Monterey, Palo Alto, Menlo Park, Redwood City, San Carlos, San Mateo, Los Altos, Santa Rosa, Napa, Hayward, Bakersfield, Richmond, Concord, and Cupertino, California. These included estimation of future trip generation, impacts on adjacent intersections, and site-specific pedestrian and auto circulation issues such as driveway and crosswalk locations.

- **Corridor Studies:**

  Route 238 Bypass – Mr. Black evaluated several transportation alternatives to the proposed Rte. 238 Bypass in Hayward. The Planning Area 2 Travel Forecasting model was used to project future traffic in the Central County area. The basis of the evaluation was to analyze the effects of each scenario in terms of (a) changes in traffic volumes on major roads and freeway segments, (b) congested versus uncongested vehicle miles traveled (VMT), and (c) the impacts on major street intersection operations.

- **Parking Studies:**

  San Carlos – Staff believed that the available parking spaces were utilized to such an extent that any future development could not be accommodated. It was determined that future development could be accommodated only by planning a parking structure. A suitable site was identified, and a three-level parking structure was designed (one level underground and two levels above). To help the financial feasibility of the parking structure, it was designed to have two levels of housing above.

  San Mateo – Due to recent and projected growth, many downtown merchants believed that more parking facilities were needed. Surveys revealed that the existing parking situation was adequate, although during peak times customers sometimes had to settle for less desirable spaces because the prime spaces were taken by employees. The study was able to show that a relatively modest increase in downtown parking meter rates combined with a small property assessment could finance an additional parking structure.

- **Major Developments:**

  Valley Fair – Valley Fair is a 1.2 million square foot regional mall that was proposed for enlargement by approximately 300,000 square feet.

  Santana Row – This project transformed a 1960's era shopping center into a mixed-use "Main Street" style shopping, entertainment and residential center.

Oakridge Mall – The proposed expansion consisted of the addition of 85,000 square feet of movie theater space plus additional retail and restaurant space.

Evergreen Specific Plan - The plan called for the construction of over 4,000 dwelling units on about 600 acres. Hexagon staff analyzed both on-site and off-site traffic impacts of the plan and developed the circulation element of the EIR.