CITY OF GRASS VALLEY
GASOLINE POWERED
VEHICLE REPLACEMENT PROJECT
PROPOSAL

TO

NORTHERN SIERRA AIR QUALITY MANAGEMENT DISTRICT

FOR

AB 2766 DMV SURCHARGE FUND PROGRAM

2021-2022

EXHIBIT SUMMARY SHEET

Proposing Entity (include other participating entities):

City of Grass Valley

Contact Person: Bjorn Jones, PE Assistant City Engineer

Address: 125 East Main St Grass Valley, CA 95945

Phone #: 530-274-4353 **FAX #:** 530-274-4399 **EMAIL:** bjornj@cityofgrassvalley.com

Total Project Budget:

	AB 2766 Funds	**Co-Funding**	**Total Project Costs**
Capital Costs	$ 55,000	$ 40,000	$ 95,000
Operating Costs	$ 0	$ 0	$ 0
TOTAL	$ 55,000	$ 40,000	$ 95,000

Type of Project: (check one)

_X_ Quantifiable Project

___ Reduced Emission Vehicles Project

Implementation Area for Project: Check if District-wide ___

Describe the Implementation Area for the Project (e.g. city, county, region):

City of Grass Valley

Estimated Emission Reductions:

A. Emission Reductions (lbs/yr)

Reactive Organic Gases _24.04__ Nitrogen Oxides _27.49_ PM10 _14.50_

B. Vehicle Miles Traveled (VMT) Reduced _N/A_

Single Occupancy Vehicle Trips Reduced _N/A_

C. Number of people reached per day through public education __N/A____

Cost-effectiveness: $ 97.64 per pound (AB 2766 Funds Only)

Brief Project Description: The goal of this project is to reduce the emissions from motor vehicles by replacing older gas-powered vehicles with new electric vehicles, thereby substituting vehicle trips that would otherwise have been made in a high emissions sport utility vehicle with trips in a fully electric vehicle.

REQUEST FOR PROPOSAL CONTENTS CHECKLIST

Applicant: City of Grass Valley

Please complete and attach this checklist with your application.

- [x] Exhibit Summary Sheet - page 1
- [x] Request for Proposal Contents Checklist - page 2
- [x] Authorization Letter/Resolution - page 3
- [x] Project Description - page 4
- [x] Project Organization/Background - page 5
- [x] Emissions Benefits/Cost-Effectiveness - page 6
- [x] Work Statement - page 7
- [x] Funding Request/Breakdown of Cost - page 8
- [x] Schedule of Deliverables/Monitoring - page 9
- [x] All Pages Numbered
- [x] Proposal, One Original
- [ ] Quantifiable Project

- OR -

- [x] Reduced Emission Vehicles Project

AUTHORIZATION LETTER/ RESOLUTION

The City of Grass Valley is a Municipal Corporation and Charter City. The Public Works Department and specifically the Engineering Division prepared this Proposal as a representative of the City.

An existing resolution was approved on September 12, 2017, designating the authority of the Public Works Director/City Engineer to sign the AB 2766 DMV Surcharge Fund Program application, agreement, and related documents. A copy of this resolution is included in Appendix A

Entity contact information for this proposal is as follows:

Name: City of Grass Valley

Address: 125 East Main Street Grass Valley CA 9594

Contact Person: Bjorn Jones, PE Assistant City Engineer

Telephone Number: 530-274-4353

Email: bjornj@cityofgrassvalley.com

Submitted by:

Tim Kiser, PE Public Works Director/City Engineer

Bjorn Jones, PE Assistant City Engineer

PROJECT DESCRIPTION

The goal of this project is to reduce the emissions from motor vehicles by replacing older gas-powered vehicles with new electric vehicles, thereby substituting vehicle trips that would otherwise have been made in a high emissions sport utility vehicle with trips in a fully electric vehicle. This project coincides with the Charge Ahead California Initiative , which establishes various goals, including the goal of placing in service at least 1,000,000 zero-emission and near-zero-emission vehicles by January 1, 2023.

The two electric vehicles being proposed for purchase will replace two existing gas-powered sport utility vehicles (Chevy Tahoe) used by the Grass Valley Police Department. This vehicle exchange supports the purchasing policies of Executive Order (EO) N-19-19 wherein local governmental agencies can utilize the state vehicle contracts to provide the ability for additional low emission vehicles to be purchased throughout California.

After the electric vehicles are purchased, an annual assessment will be performed to determine the total mileage travelled. Emissions rates per mile of the existing gas-powered vehicles will be determined, and the difference between that and the zero emissions rate of the new electric vehicles will be quantified to calculate the actual level of motor vehicle emissions reductions.

PROJECT ORGANIZATION/ BACKGROUND

The City of Grass Valley has a proven track record of performance on past grant projects. The City has successfully delivered several Congestion Mitigation and Air Quality, Safe Routes to Schools, Community Development Block Grants and American Recovery and Reinvestment Act grants over the years.

The City of Grass Valley's Engineering Division staff consists of three licensed professional engineers that are experienced in project implementation, bidding, and contracting. Additionally, the City's Fleet Supervisor maintains a detailed vehicle maintenance program which includes a New Vehicle Replacement Standard wherein new vehicles are specified, recommended, and bid by the Fleet Supervisor. The Fleet Supervisor ensures the vehicles purchased by the City are the most cost efficient and that appropriate vehicles are being assigned to the various City departments. The Fleet Supervisor manages the leasing, purchasing, and financing of equipment/vehicles through various suppliers.

The City will follow standard procurement procedures for the acquisition of motor vehicles in accordance with the Public Contract Code.

The City's on-call professionally licensed electrical maintenance contractor will be tasked with procuring and installing the electric vehicle charging station.

Engineering staff are familiar with the guidelines of ***Methods to Find the Cost-Effectiveness of Funding Air Quality Projects*** and are capable of preparing accurate estimates of emissions reductions for both the proposal and reporting. The City's Finance Department is available to supplement Engineering efforts to track project expenditures, assign costs by project task and identify funding sources for each expenditure.

The City of Grass Valley has the necessary resources and experience to deliver a Northern Sierra Air Quality District grant project on time and on budget.

EMISSION BENEFITS

It is estimated that the project will lead to significant emissions reductions over its initial effectiveness period (20 years) and into the future. Based upon the ***Methods to Find the Cost-Effectiveness of Funding Air Quality Projects***, the quantifiable, estimated lifetime reductions are calculated to be:

- Nox = 550 lbs
- ROG = 481 lbs
- PM10 = 290 lbs

Additionally, reductions in vehicle miles traveled and total trips are estimated to be:

- VMT reductions = N/A
- Trip reductions = N/A

The cost effectiveness of funding dollars for this project is estimated to be:

- AB 2766 Funding Dollars = $97.64/lb
- All Funding Dollars = $159.77/lb

The calculations and assumptions necessary to derive these emission reduction estimates are included in Appendix B.

WORK STATEMENT

The Vehicle Replacement Project involves the replacement of two existing gasoline powered sport utility vehicles (Chevy Tahoes) currently in service in the City of Grass Valley Police Department vehicle fleet. Upon notification of award of AB 2766 DMV Funds, the City Fleet Manager will diligently pursue the solicitation and procurement of two new all electric vehicles. This process is expected to take 3-4 months.

Simultaneously with vehicle procurement the Fleet Manager, Facilities Department and Engineering Staff will evaluate infrastructure needs and the installation of an electric vehicle charging station. The City's on call Electrical Maintenance Consultant will be utilized to purchase and construct a functioning charging station in advance of new vehicle delivery.

Depending on the timing of notification of grant award and the availability of suitable electric vehicles for purchase, the City would anticipate taking delivery of the new vehicles and have a functional charging system in place by Spring 2022. Upon placement into the vehicle fleet, the two existing sport utility vehicles would be retired from service.

As public acknowledgement of the use of DMV Surcharge Funds the City will obtain and apply logos to both electric vehicles designating the vehicles as partially funded through AB 2766 DMV Funds.

FUNDING REQUEST

The project will be fully funded through a combination of City of Grass Valley funding sources and the requested AB 2766 DMV Funds. Project costs will split between the requested $55,000 in AB 2766 DMV funds used to pay for vehicle purchase costs and a combination of City of Grass Valley Gas Tax, Measure E and/or General Funds used to pay the remainder of the vehicle purchase costs, staff time for procurement and for electrical charging infrastructure costs (estimated at $40,000).

A project estimate worksheet and funding breakdown of cost by project task is included in Appendix C.

Cost accounting records and tracking will be performed on a regular basis by the City of Grass Valley Finance Department staff to monitor and assign project costs in accordance with budgeted amounts.

SCHEDULE OF DELIVERABLES/ MONITORING PROGRAM

A timeline of the anticipated project schedule is included in Appendix D. The schedule calls for initiating vehicle procurement in November 2021, receiving delivery in early 2022, with project closeout anticipated in May 2022.

The primary goal of the project is to replace the vehicle trips and vehicles miles travelled currently undertaken in gas powered sport utility vehicles with trips in fully electric, zero emissions vehicles. The trips and miles travelled is expected to remain relatively constant once the new vehicles are entered into service and if anything, the City will attempt to increase use of the vehicles through sharing with other departments in order to take advantage of the fuel savings, reliability and reduced emissions of the newer vehicles.

Over the first year of service, or first several years, if suitable, the City will evaluate the annual vehicle miles travelled in the new electric vehicles. By multiplying the miles travelled by listed emissions factors of old gas vehicles and comparing this to a zero emissions output of the new vehicles, a fairly straightforward calculation can be completed to determine an accurate emissions reduction.

APPENDIX A

RESOLUTION 2017 - 57

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GRASS VALLEY DESIGNATING THE AUTHORITY TO SIGN THE AB 2766 DMV SURCHARGE FUND PROGRAM'S APPLICATION, AGREEMENTS, AND RELATED DOCUMENTS

WHEREAS, Article X, Section 6 of the Grass Valley City Charter authorizes the City Council to issue debt secured by revenues; and,

WHEREAS, the City wishes to submit a proposal to the Northern Sierra Air Quality Management District (AQMD) for AB 2766 DMV Surcharge Funds and, if so awarded, to execute an agreement for the receipt of funds and,

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GRASS VALLEY, as follows:

1. That the foregoing statements are true and correct; and

2. That the Mayor or the Public Works Director/City Engineer of the City of Grass Valley, or his/her designee, is hereby authorized to sign and file, for and on behalf of the City of Grass Valley, a Proposals to the Northern Sierra AQMD for the award of AB 2766 DMV Surcharge Funds, and any documents pertaining to the application; and

3. That the Mayor or the Public Works Director/City Engineer of the City of Grass Valley, or his/her designee, is hereby authorized and designated to provide the assurances, certifications, and commitments required for the execution of an agreement with the Northern Sierra AQMD for the award of AB 2766 DMV Surcharge Funds, and any amendments or changes thereto.

ADOPTED as a Resolution by the City Council of the City of Grass Valley at a regular meeting thereof held on the 12th day of September 2017, by the following vote:

AYES: Council Members Aguilar, Arbuckle, Fouyer, Swarthout + Mayor Levine

NOES: NONE

ABSTAINS: NONE

ABSENT: NONE

By: _____
Howard Levine, Mayor

Attest: _____
Kristi K. Bashor, City Clerk

Approved as to Form: _____
~~Michael G. Colantuono~~, City Attorney
Douglas M. Johnson, Asst.

CERTIFICATION

I do hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the Grass Valley City Council held on September 12, 2017.

_____

(Name, Signature, and Seal of the Clerk or Authorized Record Keeper of the Governing Board of the Agency)

APPENDIX B

CITY OF GRASS VALLEY ELECTRIC VEHICLE PURCHASES
Jun-21

Value	Abbreviation	Formula	Value	Units	Description
All Funding Dollars			95,000	$	Per cost estimate
AB 2766 DMV Funding Dollars	Funding		55,000	$	Per available funding
Lifetime Period	Life		20	years	
Effectiveness Period	EffP		10	years	
Annual VMT per vehicle =	VMT	L*ADT*D	15000	miles/year	Estimated
Vehicles	Veh		2	vehicle	
Annual VMT=	VMT		30000	miles/year	
Average Annual Trip Ends	TE		1600	trips	
ROG					
Auto VMT Factor ROG	ROGf		0.318	g/mile	Per Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, May 2005
Auto Trip End Factor	TEf		0.86	g/trip	
Annual Emission Reductions ROG =	ROG	VMT*ROGf/454+TE*TEf/454	24.04	lb/year	
Lifetime Emission Reductions ROG =	ROGL	ROG*Life	481	lb	
NOx					
Auto VMT Factor NOx	NOxf		0.39	g/mile	Per Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, May 2005
Auto Trip End Factor	TEf		0.489	g/trip	
Annual Emission Reductions NOx =	Nox	AVMT*NOxf/454+TE*TEf/454	27.49	lb/year	
Lifetime Emission Reductions NOx =	NOxL	Nox*Life	550	lb	
PM10					
Auto VMT Factor PM10	PM10f		0.219	g/mile	Per Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, May 2005
Auto Trip End Factor	TEf		0.008	g/trip	
Annual Emission Reductions PM10 =	PM10	AVMT*PM10f/454+TE*TEf/454	14.50	lb/year	
Lifetime Emission Reductions PM10 =	PM10L	PM2.5*Life	290	lb	
Discount Rate	i		0.03	%	Per Methods to Find the Cost-Effectiveness of Funding Air Quality Projects, May 2005
Project Life	n		10	years	Effectiveness Period
Capital Recovery Factor	CRF	((1+i)^n *i)/((1+i)^n - 1)	0.12		
Cost Effectiveness of AB 2766 Funding Dollars		(CRF*Funding)/(ROG+Nox+PM2.5)	$97.64	$/lb	
Cost Effectiveness of All Funding Dollars		(CRF*Funding)/(ROG+Nox+PM10)	$168.64	$/lb	

PRELIMINARY COST ESTIMATE

APPENDIX C

PROJECT DESCRIPTION:

PROPOSED IMPROVEMENT (SCOPE): Purchase two electric powered vehicles. Install electric vehicle charging station.

SUMMARY OF PROJECT COST ESTIMATE:

				FUNDING SOURCE
VEHICLE ACQUISITION COSTS			$86,000	
CHARGING SYSTEM EQUIPMENT COSTS		+	$5,000	
CHARGING SYSTEM INSTALLATION COSTS		+	$1,250	
TOTAL PROJECT ACQUISITION AND INSTALLATION COSTS		=	$92,250	
CITY STAFF ADMINSTRATIVE COSTS	3%	+	$2,768	100% City General Funds
PROJECT CONSTRUCTION COSTS		+	$92,250	AB 2766 DMV Funds requested $55,000 City General Funds co-funding $12,250 City Measure E Funds co-funding $25.000
TOTAL PROJECT COSTS		=	**$95,018**	

ESTIMATE PREPARED September 2, 2021

APPENDIX D

Vehicle Replacement Project Schedule