



## Norwich Police Department Police Cruiser Requisition Request

|  |   |                      |                     |
|--|---|----------------------|---------------------|
| Date:  | 08/28/2019  | Images:              |                     |
| Submitting Officer:                          | Chief Jennifer Frank  |                      |                     |
| Gen. Description                             | Police cruiser  |                      |                     |
| Purpose:                                     | The Norwich Police Department proposes via this requisition request to utilize funds established in Designated Fund 1-5-500702: Cruiser Capital Exp. for the purchase and outfitting of a 2020 Ford Police Interceptor Utility Hybrid SUV vehicle which will be utilized as a patrol vehicle, replacing EQ 3, a 2013 Ford Explorer Utility vehicle with >72,000 miles (est: 88,000 miles at trade-in) |                      |                     |
|  |   |                      |                     |
| Date of invoice:                             | 10/01/2019  | Date of acquisition: | 10/01/2020          |
| Estimated life:                              | 6 years (estimated replacement: January 2026)   |                      |                     |
|  |   |                      |                     |
| Fleet Status:                                | <b>10-28:</b>   | <b>Year:</b>         | <b>Vehicle:</b>     |
|  | CDX964  | 2013                 | Ford Taurus - EQ4   |
|  | AAM421  | 2013                 | Ford Explorer - EQ3 |
|  | AAM416  | 2013                 | Ford Taurus - EQ1   |
|  | AAS724  | 2017                 | Ford Explorer – EQ2 |
|  |   |                      |                     |
| Quote:                                       | <b>Company:</b>   |                      | <b>Cost:</b>        |
| Vehicle:                                     | VT State bid – Formula Ford   |                      | \$39,000            |
|  | NH State Bid - Irwin Ford   |                      | \$37,267            |
|  |   |                      |                     |
| Item(s):                                     | <b>Description:</b>   |                      | <b>Cost:</b>        |
|  | Base Upfit  |                      | \$38,000            |
|  | Equipment & Light Upfit   |                      | \$16,000            |
|  | Radar & Radio Upfit   |                      | \$5,200             |
|  | Appearance Upfit  |                      | \$800               |
|  | Camera upfit  |                      | \$4,200             |
|  |   |                      |                     |
| Total amount requested from designated fund: |   |                      | \$65,000            |
|  |   |                      |                     |
| Summary:                                     | <b>I.     <u>Current Vehicle</u></b> <ul style="list-style-type: none"> <li>2013 Ford Explorer</li> <li>71,000 miles</li> <li>Powered by: Fossil fuel: gasoline</li> </ul>  |                      |                     |
|  | <b>II.    <u>Proposed vehicle</u></b> <ul style="list-style-type: none"> <li>2020 Ford Hybrid Police Interceptor Utility</li> <li>Powered by: Fossil fuel: gasoline &amp; HEV: electric</li> <li>Hybrid upcharge \$4,000 (w/ gas savings recouped by using a hybrid vehicle = B/E 2.5 years)</li> </ul>   |                      |                     |

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|--|--|
|  | <p><b>III. <u>Financial Savings</u></b></p> <ul style="list-style-type: none"> <li>• <u>Current police cruiser = 13.6 mpg</u> <ul style="list-style-type: none"> <li>○ 15,000 mi / 13.6mpg = 1,103 gallons of fuel consumed per year x \$2.56 gal = \$2,824 expended on gasoline for motorized patrol</li> </ul> </li> <li>• <u>2020 Police Interceptor Utility = 17 mpg</u> <ul style="list-style-type: none"> <li>○ 15,000 mi / 17.1 mpg = 877 gallons of fuel consumed per year x \$2.56 gal = \$2,245 expended on gasoline for motorized patrol</li> </ul> </li> <li>• <u>2020 Police Interceptor Utility (HEV) = 24 mpg</u> <ul style="list-style-type: none"> <li>○ 15,000 mi / 24 mpg = 625 gallons of fuel consumed per year x \$2.56 gal = \$1,600 expended on gasoline / fuel savings of 478 gallons per year, Total cost savings of \$1,224</li> </ul> </li> <li>• Electrical draw on police cruisers require increased idling. Research shows cruisers idle for approximately 61% of any given shift. HEV cruisers contain a lithium-ion battery that intermittently tops off battery.             <ul style="list-style-type: none"> <li>○ Using a reduced rate of 25% idle time per shift = 2hrs idling x .750 gallons of fuel consumed per hour x 260 days per year (5 days of use per week) = 390 gallons of fuel consumed per year x \$2.56 gal = \$998</li> <li>○ 2020 Police Interceptor Utility 2hrs x .204 gal of fuel consumed per hour x 260 days = 53.04 gallons of fuel consumed a year x \$2.56 gal = \$135</li> </ul> </li> <li>• Summary:             <ul style="list-style-type: none"> <li>○ Anticipated fuel savings: 815 gal/yr = cost savings of \$2,086</li> </ul> </li> </ul> |
|  | <p><b>IV. <u>Environmental Savings</u></b></p> <ul style="list-style-type: none"> <li>• 03/05/19 – Town of Norwich passed Article 36 – “...take immediate and sustained efforts to gradually and continually reduce the Town’s direct use of fossil fuels, beginning at a rate of no less than 5% per year...”</li> <li>• US Energy info. Admin reports that burning 1 gal of ethanol fuel produces 17.68 pounds of Co2 emitted from fossil fuel content             <ul style="list-style-type: none"> <li>○ Current police cruiser = 1,103 gallons of fuel/yr</li> <li>○ 2020 HEV Interceptor Utility = 877 gallons of fuel/yr</li> <li>○ 2020 Police Interceptor Utility (HEV) fuel reduction of 478 gal per year x 17.68 lb Co2 emitted = reduction of 8,451 lbs of Co2 emitted annually</li> </ul> </li> <li>• Idling differential:             <ul style="list-style-type: none"> <li>• Current vehicle expends approximately 390 gallons of fuel per year idling</li> <li>• 2020 Police Interceptor Utility 2hrs x .204 gal of fuel consumed per hour x 260 days = 53.04 gallons of fuel consumed a year = 337 gal not expended x 17.68 lbs of Co2 = 5,958 lbs of Co2 emissions not emitted.</li> </ul> </li> <li>• Summary:             <ul style="list-style-type: none"> <li>○ Anticipated environmental savings: 14,409 lbs Co2 not emitted annually</li> </ul> </li> </ul>   |
|  | <p><b>V. <u>Maintenance / Repair Savings</u></b></p> <ul style="list-style-type: none"> <li>• Over the last 3 calendar years EQ 3 has undergone \$9,693 in repairs (not accounting for routine maintenance or the work performed at DPW by the former mechanic)</li> <li>• Last vehicle inspection report: indicated impending issues with: Transmission, engine, intermittent camera system</li> </ul>  |