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APPENDIX AE-06

Parking Lot Security Camera Provisions
(Contract Document)

State of Ohio
Department of Transportation
Jolene M. Molitoris, Director

**Innerbelt Bridge
Construction Contract Group 1 (CCG1)**

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Short description:

The camera shall be manufactured with a vandal-resistant metal casing and metal encapsulated electronics.

The camera shall be manufactured with an outdoor ready, IP66 and NEMA 4X-rated vandal-resistant metal casing, metal encapsulated electronics and shall operate between -40 to +55°C (-40 to +131°F), also when powered using Power over Ethernet.

The camera shall be equipped with a progressive scan megapixel sensor, varifocal DC-iris lens with remote zoom and focus capabilities, Wide Dynamic Range, so called Day/Night functionality and shall provide images down to 0.4 lux in day mode and 0.06 lux in night mode.

The camera shall be equipped with a 10BASE-T/100BASE-TX Ethernet-port, and shall include support for Power over Ethernet according to IEEE 802.3af.

The camera shall provide simultaneous Motion JPEG and H.264 video streams and shall support at least two individually configured video streams of HDTV 720p (1280x720) resolutions in full frame rate (30 fps) using H.264. The H.264 implementation shall include both unicast and multicast functionality and support Constant Bit Rate (CBR) as well as Variable Bit Rate (VBR).

The camera shall be fitted with Line In and Line Out, provide full duplex audio, and shall support AAC, G.711 or G.726 compression.

The camera shall be equipped with one digital (alarm) input and one digital output, and shall also be able to trigger its embedded event functionality based on camera tampering alarm, detection of video motion or audio, or when the local storage is full. Possible response to a trigged event shall include remote notification, incl. video upload, and activation of output and recording to local storage. The camera shall be equipped with at least 48MB of memory and hold a SD/SDHC card slot for expanding the memory.

The camera shall feature overlay text ability, that includes date and time synchronized using an NTP server. Furthermore, it shall have the ability to apply a graphical image as an overlay and a privacy mask in the video stream.

The camera shall support both static IP addresses and addresses from a DHCP-server, and shall support both IPv4 and IPv6. The camera shall incorporate support for Quality of Service (QoS).

For secure access to the camera as well as provided content, the camera shall support HTTPS, SSL/TLS and IEEE802.1X authentication. The camera shall also support IP address filtering and include at least three different levels of password security.

The camera shall contain a built-in web server making video and configuration available in a standard browser environment using HTTP and shall also be fully supported by an open and published API (Application Programmers Interface) providing necessary information for integration of functionality into third party applications.

The camera shall:

- Be manufactured with a vandal-resistant metal casing and metal encapsulated electronics.

- Be IP66 and NEMA 4X-rated and operate between -40 to +55°C (-40 to +131°F), also when powered using Power over Ethernet

- Be equipped with a 10BASE-T/100BASE-TX Ethernet interface

- Be equipped with a progressive scan megapixel sensor, support WDR and shall provide images down to 0.4 lux in day mode and 0.06 lux in night mode

- Be equipped with so called Day/Night functionality and a varifocal DC-iris lens supporting remote zoom and focus

- Provide at least two video streams at full frame rate (30 fps) in HDTV 720p (1280x720) resolution using H.264

- Support simultaneous individually configured Motion JPEG and H.264 video streams

- Support both unicast and multicast H.264 with support for both Constant and Variable Bit Rate

- Support Power over Ethernet according to IEEE 802.3af

- Provide 1 channel of full duplex audio and be equipped with Line/Mic In and Line Out

- Accept static IP addresses as well as addresses provided by a DHCP

- Support both IPv4 and IPv6 based addresses

- Provide text overlay that includes date/time support synchronized with an NTP server and the ability to apply a graphical image as an overlay into the video image

- Provide multiple user password levels, support for HTTPS and SSL/TLS and incorporate IEEE 802.1X authentication

- Be equipped with one digital (alarm) input and one digital output

- Include embedded event functionality, which may be triggered by:
    - alarm input
    - camera tampering alarm
    - video motion detection
    - audio detection
    - local storage full

- Event actions supported by the camera shall include:
    - remote notification, including video upload
    - activation of output
    - recording to local storage

- Be equipped with a built-in web server

- Be supported by an open and published API