



Department of Administrative Services

Purchasing and Contracts

500 S Grand Central Pky 4th Fl • Box 551217 • Las Vegas NV 89155-1217
(702) 455-2897 • Fax (702) 386-4914

Sabra Smith Newby, Chief Administrative Officer
Adleen B. Stidhum, Purchasing Manager

CLARK COUNTY, NEVADA
BID NO. 603795-15
CIRCUS CIRCUS DRIVE FROM INDUSTRIAL ROAD TO
LAS VEGAS BOULEVARD

November 3, 2015

ADDENDUM NO. 2

INVITATION TO BID

1. The bid opening date of November 5, 2015 at 2:15:00 p.m. **has been changed to Friday, November 13, 2015 at 2:15:00 p.m.**

SPECIAL PROVISIONS

Changes are shown in bold type.

2. Incorporate the following to Section 104:

Replace Sub-section **104.04 MAINTENANCE OF TRAFFIC** with the following:

104.04 MAINTENANCE OF TRAFFIC

Paragraph A of this subsection is changed to read as follows:

Public traffic shall be maintained, with the exception of specific closures described in this subsection, for the duration of this project. For purposes of this requirement, public traffic shall mean the movement of vehicles, bicycles, and pedestrians along Las Vegas Boulevard, **Industrial Road**, and Circus Circus Drive from Las Vegas Boulevard to Industrial Road from private driveways and adjacent properties.

The Contractor shall construct the required improvements in such a manner and sequence that not less than two 12 foot wide paved travel lanes (one in each direction) remain open to traffic at all times along main arterial streets.

Left turn lanes shall be a minimum of 10 feet in width when there is either no adjacent physical obstruction or an obstruction on only one side. Examples of physical obstructions include, but are not limited to, any type of curb, portable barrier rail, traffic drums, barricades, or cones. When a single left turn lane passes between two physical obstructions, the minimum single lane width shall be 14 feet from face to face of the two obstructions.

Contractor's operations that involve lane closure changes, detour modifications, or any other activity that requires workers to enter the traffic stream to place or remove traffic control devices on the roadways shall be restricted to being performed during the hours of 9:00 AM to 3:00 PM, Monday through Friday, and 9:00 PM to 6:00 AM, Sunday through Thursday, excluding holidays. This restriction does not apply to emergency repair or replacement of damaged or displaced devices.

The Contractor shall be required to keep all travel lanes open to traffic on Las Vegas Boulevard outside of working hours. Work is permitted on Las Vegas Boulevard, Monday through Friday, except legal holidays, from 2:00 AM to 10:00 AM.

The Contractor shall be required to keep all travel lanes open to traffic on Industrial Road outside of working hours. Work is permitted on Industrial Road, Sunday through Thursday, except legal holidays, from 9:00 PM to 6:00 AM. No work will be allowed Friday night through Sunday Morning.

The Contractor shall be required to keep not less than one 12 foot wide paved travel lane open to traffic while he is working during the day along and when crossing the remaining streets. Not less than two travel lanes (one in each direction) shall be reopened to traffic at the end of each working day and shall remain open until work begins the following morning. At those locations where only one lane is left open while the Contractor is working during the day, the Contractor shall provide sufficient flaggers whose sole duty is to direct traffic in accordance with the requirements of subsection 624.03.02 "Flaggers".

The Contractor's attention is directed to Subsection 107.07 for additional requirements.

The indicated allowable time frames for lane restrictions and/or closures as detailed in this subsection include set-up and removal of all barricades, signs, and other traffic control devices.

Travel lanes shall only be closed while active work is taking place.

Night work will be required as part of this project. Contractor shall provide sufficient lighting for public and worker protection as required by the Engineer. Costs of said lighting shall be borne by the contractor.

Access to businesses, driveways, and streets must be maintained.

3. Incorporate the following paragraph to Section 107:

107.07 TRAFFIC AND ACCESS

Where necessary or required for the convenience of the public or individual residents at street crossings, alleys, or private driveways, the Contractor shall provide suitable temporary bridges over unfilled excavations, except in such cases as the Contractor shall secure permission from the Engineer to omit such temporary bridges. All such bridges shall be maintained in service until after the Contractor has complied with all of the specifications governing the work prior to backfilling.

At least one permanent business access point to the Travelodge and associated business located on the northwest corner of Las Vegas Blvd. and Circus Circus Drive shall be maintained at all times during construction. The Contractor shall provide suitable temporary bridges over unfilled excavations at a secondary business access point, except in such cases as the Contractor shall secure permission from the Engineer to omit such temporary bridges. All such bridges shall be maintained in service until after the Contractor has complied with all of the specifications governing the work prior to backfilling.

4. Incorporate the following to Section 108:

108.04 LIMITATION OF OPERATIONS

The following replaces the paragraph G:

G. Contractor is to coordinate with Clark County Traffic Management Division and the Las Vegas Convention and Visitors Authority (LVCA) throughout the duration of the Project to become aware of special events that are currently planned on Circus Circus Drive, Industrial Road, and on Las Vegas Boulevard and that will affect the contractor's work on this Project. The contractor is to be aware that some special events will result in a non-work day or several non-work days, throughout the duration of the event including set up through clean up, for the contractor's construction activities. When non-

work days due to special events occur, these days will be added to the construction time for this Project without compensation or Historical Owner Caused Delays. Additionally, contractor is to be aware that special events may be requested during the duration of this Project and the contractor is to coordinate construction schedule such that reasonable accommodations for the special event can be made. The following table are currently known planned events, contractor to verify and coordinate as stated above.

Event	Event Dates	Event Days	Event Times	Circus Circus Drive Contractor Work Times	Conflict
ACM Awards	March 31-April 4, 2016	March 31-April 4, 2016	9:00 a.m. - 10:00 p.m.	7:00 pm to 7:00 a.m. Monday through Friday	Yes

5. Incorporate the following to Section 413:

413.05.01 PAYMENT

The following replaces the first paragraph:

The 1-Inch UTACS Bonded with a PMM, S3 Gradation will be paid at the contract price bid per square yard, which shall include all material, mixing, loading, hauling, placing, compacting, **crack seal**, incidentals, and for all labor, tools, and equipment necessary to complete the work as shown on the plans, as specified herein, and as directed by the Engineer.

6. Incorporate the following to Section 623:

623 L.02.03 STREET LIGHTING LUMINAIRES

The following replaces paragraph C.2-2c:

- 2. The optical assembly shall consist of a borosilicate prismatic glass refractor for 150-watt through 750-watt luminaires or, when specified, shall be of polycarbonate resin vandal resistant material.
 - a. The refractors shall have accurately molded light controlling prisms and shall be resistant to impact and thermal shock.
 - b. The refractor shall provide maximum transmission and minimize unwanted spill light.
 - c. Standard street light fixtures shall be supplied with full-cutoff photometrics and IES **type II** distribution, unless otherwise specified in the Contract Documents or directed by the Engineer.

The following replaces paragraph Q:

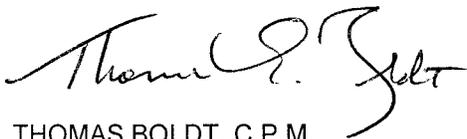
- Q. **A manufacturer’s warranty must be provided for the replacement or repair of the tube lamp due to any electrical failure (including light source and power supplies/drivers) for a minimum of five (5) years from final acceptance of the project. All other components shall have a warranty for a minimum of one (1) year after final acceptance of the project. Warranty documents shall have Clark County Public Works as the warrantee. Contractor shall provide all warranty documents to Clark County Public Works Traffic Management Division. Documents shall contain project name, bid number of the project, manufacturer, brand, model, contact information for warranty claim, and quantity of tube lamps installed. Warranty replacement of fixture shall be delivered no more than sixty (60) calendar days upon notification by Clark County Public Works.**

DRAWINGS

7. Replace Drawing Nos. I-2, RM-4, RD-3, RD-4, SD-1, SD-2 (Attached)

Except as modified herein and in Addendum 1, all other bid specifications, terms, conditions and special provisions shall remain the same.

ISSUED BY:

A handwritten signature in black ink, appearing to read "Thomas Boldt". The signature is fluid and cursive, with the first name "Thomas" and last name "Boldt" clearly legible.

THOMAS BOLDT, C.P.M.
Sr. Purchasing Analyst

Attachments: Drawing Nos. I-2, RM-4, RD-3, RD-4, SD-1, SD-2
Special Provisions Nos. 104, 107, 108, 413, 623

cc: Kathleen Kingston, Public Works
Mike Mamer, Public Works
Cindy Beauchamp, Public Works

SECTION 104

SCOPE OF THE WORK

104.04 MAINTENANCE OF TRAFFIC

Paragraph A of this subsection is changed to read as follows:

Public traffic shall be maintained, with the exception of specific closures described in this subsection, for the duration of this project. For purposes of this requirement, public traffic shall mean the movement of vehicles, bicycles, and pedestrians along Las Vegas Boulevard, **Industrial Road**, and Circus Circus Drive from Las Vegas Boulevard to Industrial Road from private driveways and adjacent properties.

The Contractor shall construct the required improvements in such a manner and sequence that not less than two 12 foot wide paved travel lanes (one in each direction) remain open to traffic at all times along main arterial streets.

Left turn lanes shall be a minimum of 10 feet in width when there is either no adjacent physical obstruction or an obstruction on only one side. Examples of physical obstructions include, but are not limited to, any type of curb, portable barrier rail, traffic drums, barricades, or cones. When a single left turn lane passes between two physical obstructions, the minimum single lane width shall be 14 feet from face to face of the two obstructions.

Contractor's operations that involve lane closure changes, detour modifications, or any other activity that requires workers to enter the traffic stream to place or remove traffic control devices on the roadways shall be restricted to being performed during the hours of 9:00 AM to 3:00 PM, Monday through Friday, and 9:00 PM to 6:00 AM, Sunday through Thursday, excluding holidays. This restriction does not apply to emergency repair or replacement of damaged or displaced devices.

The Contractor shall be required to keep all travel lanes open to traffic on Las Vegas Boulevard outside of working hours. Work is permitted on Las Vegas Boulevard, Monday through Friday, except legal holidays, from 2:00 AM to 10:00 AM.

The Contractor shall be required to keep all travel lanes open to traffic on Industrial Road outside of working hours. Work is permitted on Industrial Road, Sunday through Thursday, except legal holidays, from 9:00 PM to 6:00 AM. No work will be allowed Friday night through Sunday Morning.

The Contractor shall be required to keep not less than one 12 foot wide paved travel lane open to traffic while he is working during the day along and when crossing the remaining streets. Not less than two travel lanes (one in each direction) shall be reopened to traffic at the end of each working day and shall remain open until work begins the following morning. At those locations

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where only one lane is left open while the Contractor is working during the day, the Contractor shall provide sufficient flaggers whose sole duty is to direct traffic in accordance with the requirements of subsection 624.03.02 “Flaggers”.

The Contractor’s attention is directed to Subsection 107.07 for additional requirements.

The indicated allowable time frames for lane restrictions and/or closures as detailed in this subsection include set-up and removal of all barricades, signs, and other traffic control devices.

Travel lanes shall only be closed while active work is taking place.

Night work will be required as part of this project. Contractor shall provide sufficient lighting for public and worker protection as required by the Engineer. Costs of said lighting shall be borne by the contractor.

Access to businesses, driveways, and streets must be maintained.

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

SECTION 107

LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.07 TRAFFIC AND ACCESS

The following is added to paragraph D:

The Contractor's operations shall not result in the closure of any two consecutive Regional Transportation Commission (RTC) bus stops on routes for buses traveling in the same direction.

Temporary bus stops may be considered upon approval by the RTC. The Contractor may call the RTC with any questions. A map of bus stop locations may be obtained from the Regional Transportation Commission.

Paragraph L is changed to read as follows:

All costs involved shall be absorbed in the Contractor's bid. All barricades, warning signs, lights, temporary signals, and other protective devices must conform to the latest edition of the *Manual for Uniform Traffic Control Devices (MUTCD)*.

The following is added to this subsection:

The Contractor shall comply with all requirements contained in Section 624 and 625 of the Standard Specifications and with the supplemental requirements contained herein, except that no direct payment shall be made to the Contractor for signing and/or detours unless otherwise specified herein.

The Contractor, as required by the Engineer, shall provide and station competent flaggers whose sole duties shall consist of directing the movement of public traffic either through or around the work. Traffic work zone technicians on the project must be certified in work zone traffic control at least at the "Technician" level by the American Traffic Safety Services Association (ATSSA) or International Municipal Signal Association (IMSA).

Where necessary or required for the convenience of the public or individual residents at street crossings, alleys, or private driveways, the Contractor shall provide suitable temporary bridges over unfilled excavations, except in such cases as the Contractor shall secure permission from the Engineer to omit such temporary bridges. All such bridges shall be maintained in service until after the Contractor has complied with all of the specifications governing the work prior to backfilling.

At least one permanent business access point to the Travelodge and associated business located on the northwest corner of Las Vegas Blvd. and Circus Drive shall be maintained at all times during construction. The Contractor shall provide suitable temporary bridges over unfilled excavations at a secondary business access point, except in such cases as the Contractor shall secure permission from the Engineer to omit such temporary bridges. All such bridges shall be maintained in service until after the Contractor has complied with all of the specifications governing the work prior to backfilling.

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Temporary bridges for street crossings shall conform to the requirements of the authority having jurisdiction in each case, and shall submit designs for approval by said authority as may be required. Steel plates used on this project must be capable of carrying the heaviest loads utilizing the roadway.

When the Contractor's construction operations encroach upon a sidewalk, walkway or crosswalk area, the Contractor shall take special precautions to protect the pedestrian's safety including provisions to separate pedestrian traffic from the work area.

Pipe stockpiled along pipeline alignments shall be within 1,000 feet of the Contractor's laying operations. Pipe strung within street right-of-way that is to remain one night or more shall be protected by barricades spaced at intervals not exceeding 50 feet.

The following subsections are added:

107.07.01 TRAFFIC CONTROL REGULATIONS

All traffic and/or traffic control devices under this contract shall be provided, maintained, and/or controlled as specified in this section and in the latest edition of the MUTCD.

If the Contractor, at any time, fails to maintain traffic and/or traffic control devices as specified in the above documents or elsewhere by these specifications, the Engineer will immediately notify the Contractor in writing of such non-compliance. If the Contractor fails to remedy unsatisfactory maintenance within two hours after receipt of such notice, the Engineer may immediately proceed to perform such maintenance, and the entire direct cost of this maintenance will be deducted from money due or to become due the Contractor.

If, in the opinion of the Engineer, a condition develops that is dangerous to public safety, such condition may be immediately remedied with whatever means is available to the Owner and the cost of this maintenance will be deducted from money due or to become due to the Contractor.

Further, each instance of failure to remedy unsatisfactory maintenance within two hours of notification will result in a deduction of one day's value of the traffic control pay item from the bid amount. One day's value is determined by dividing the bid amount by the number of working or calendar days (whichever is applicable) allowed for the project. This sum is in addition to any direct costs incurred by the Contracting Agency to remedy unsatisfactory maintenance.

107.07.02 TRAFFIC CONTROL REQUIREMENTS

The Contractor will also, as a minimum, provide the following traffic control measures:

Temporary traffic lanes must be delineated using either paint or traffic tape, excepting that paint may only be used on pavement to be replaced or overlaid as part of this contract.

The tape shall conform to State of Nevada specifications. The temporary pavement striping shall be by pilot line method. The tape shall be 6 inches wide and 4 feet long and spaced every 40 feet. The color of the tape shall match the color of the line that it replaces. The double yellow line shall have two pieces of tape side by side with a 4-inch space between, and spaced to the increments above.

Painted temporary traffic lines shall be 6 inches wide and shall be continuous or intermittent in

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accordance with the MUTCD. Existing lines either painted or raised pavement markers, that conflict with required temporary lines shall be effectively removed in such a manner to leave no residue or other trace of the former line that may be misconstrued by a driver to be a traffic line under any condition of daylight, darkness and wetness of pavement.

At the completion of the project, the Contractor shall install additional pilot lines using 4-inch square pieces of tape to show the alignment of any permanent lines that were destroyed during construction. It shall be the responsibility of the Contractor to remark said lines. This 4-inch square tape shall be removed just prior to the installation of the permanent lines.

Type 3 barricades shall be used to protect all approaches to sites of excavation.

Flaggers must be used to assist trucks for safe ingress and egress whenever truck movements may interfere with safe passage through the work zone. In addition, flaggers shall be used whenever the Engineer deems it necessary for safety purposes.

If, in the opinion of the Engineer, a condition develops or exists that is dangerous to the safety of the general public, concrete barrier rails and fencing shall be used around the work site, excavations, trenches for underground utilities, and/or stockpiled materials. The barrier rails and fencing shall be maintained until the Engineer determines that the hazard no longer exists.

Portable concrete barrier rail ("F" rail) shall be used to separate travel lanes from excavations when any excavation:

- a. Exceeds 1 foot in depth;
- b. Exceeds 1 foot in width;
- c. Is sloped steeper than 4:1; and
- d. Is less than 18 feet from the nearest travel lane.

Fencing shall be used around open trenches exceeding 2 feet in depth. The fencing may be placed on top of concrete barrier rails. Type 2 barricades used for delineation shall have Type C steady burn lights. All barricades used for closures shall have Type A lights. Type B lights shall be used with appropriate advance warning signs.

107.07.03 TRAFFIC CONTROL AND BARRICADE PLAN

The Contractor shall submit a written and diagramed 11-inch by 17-inch "Traffic Control and Barricade Plan" to the Engineer no later than 14 calendar days prior to proposed use. Two copies of the plan shall be submitted as a submittal directly to the Project Manager, who will review it for conformance to the contract documents and the MUTCD.

No monies for Traffic Control shall be deemed earned until Contractor obtains approval of a "Traffic Control and Barricade Plan." The total sum subsequently paid for Traffic Control shall be the bid amount minus a day's value, as determined in accordance with 107.07.05, for each day after the Notice to Proceed that the Contractor fails to obtain approval for the "Traffic Control and Barricade Plan." Further, work items requiring traffic control devices to be placed in the traveled way will not be allowed to proceed until the Contractor has an approved "Traffic Control and Barricade Plan" for such work.

Traffic Control Plans shall be submitted on 11-inch by 17-inch plans unless required to be full plan size due to the complexity of the plan. All Traffic Control Plans shall be prepared by an

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IMSA or ATSSA Certified Traffic Control Technician. Each sheet shall have the following information:

- Project Name
- Bid Number of the Project
- Name/address of Company that prepared the plan
- Name of the individual that prepared the plan
- The IMSA or ATSSA Certification number of the plan preparer
- The phone number of the Company that prepared the plan
- A 24-hour contact for the Company if different from above
- Whether the setup is day, night, or a 24-hour set up
- What work will be conducted with the plan
- Date the plan was prepared
- Dates the plan is proposed to be implemented
- Duration of each plan
- A 3-inch by 5-inch blank area in the upper right hand corner of each plan sheet
- Roadways shall be oriented with north to the top or left of the plan sheet
- Key to what each symbol used indicates
- If a sand barrel attenuator is used, the barrel layout and fill of each barrel.

Plans shall provide the following minimum items:

- (1) All advance warning signs and arrow boards;
- (2) Method of protecting excavations and work sites;
- (3) Method of barricading at intersections;
- (4) Delineation patterns, lengths, etc., (including laterals);
- (5) All regulatory signs;
- (6) All warning signs within delineation;
- (7) Driveway access plan and business access signage;
- (8) Method for protecting pedestrians and pedestrian access;
- (9) Provisions for emergency vehicle access at all times;
- (10) Lane widths, transitions, and tangent sections;
- (11) Proposed bus stop closures and relocations;
- (12) The existing posted speed on each roadway, and
- (13) Any and all pedestrian pathways.

Temporary Traffic Control Devices shall not be pre-strung or left within the right-of way during non-working hours or when the devices are not being used. Drums shall be used on all tapers and lane shifts.

Contractor is required to provide a minimum of three workdays advance written notice to Clark County Traffic Operations for any changes to the traffic or pedestrian signal operations within the accepted traffic control plan. Contractor is responsible for all costs associated with any changes required to the traffic signal for vehicle or pedestrian movements.

The above-described plan must conform to the Special Provisions, Section 625 contained herein as well as the MUTCD for all traffic control methods, devices, and appurtenances.

The Contractor is required to post with the Contracting Agent all information relative to any subcontractor for barricade control, including: Name of firm, address of firm, telephone number

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of firm, name of responsible agent for the project, and a 24-hour number for emergency response. All traffic control devices must display the 24-hour contact number of the traffic control (sub)contractor on their reverse side, along with an identifying name, initials or logo.

The "Traffic Control and Barricade Plan" must be completed to the Engineer's satisfaction and all traffic control devices must be installed according to the approved plans before construction begins.

107.07.04 TRAFFIC CONTROL PLAN FOR HIGHWAY WORK ZONES

The Contractor may not utilize the "Traffic Control Plans for Highway Work Zones" as shown in the Standard Drawings in lieu of preparing a "Traffic Control and Barricade Plan" per Subsection 107.07.03.

107.07.05 TRAFFIC CONTROL MEASUREMENT AND PAYMENT

Measurement for payment for traffic control shall be per contract calendar day for all traffic control required to safely perform the work, described in the general and special provisions and the project plans, including punch list and clean up.

The bid amount paid for traffic control shall be full compensation for performing all required control of traffic, including barricading, signing, temporary fencing, project signs, temporary lane delineation, arrow boards, portable changeable message signs, removal of conflicting markings, temporary paving to provide a minimum number of paved travel lanes as specified in Section 104, detours, driveway access and flag persons, fencing, trench plates, temporary bridges, concrete barrier rail to protect trenches, as specified herein, and as required by the Engineer.

The bid amount paid for traffic control shall include all weekends, holidays and non-working days encountered during the duration of the contract including any days required for completion of corrective punch-list items.

The bid amount will be divided by the number of calendar days in the contract to establish a daily value for Traffic Control. Each progress payment will reflect payment on the bid amount equal to this daily value times the number of days since the previous progress payment. The bid amount for this item shall not be increased. In the event compensable time is added to the contract, additional payment for traffic control shall be included in the payment for Historical Owner Caused Delay Allowance Over \$500 Per Day.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Traffic Control	Day

107.16 CONTRACTOR’S RESPONSIBILITY FOR THE WORK AND MATERIALS

The following is added to this subsection:

The contractor shall maintain on-site, copies of all applicable Material Safety Data Sheets (MSDS) for all materials used on the project.

SECTION 107 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

These MSDS sheets shall be readily available for inspection and review by any individual who may so request.

107.18 FURNISHING RIGHT-OF-WAY

The following is added to this subsection:

- (a) Lands or rights-of-way for the work to be constructed under the contract will be provided by the Owner as shown on the Drawings. Nothing contained in the Specifications or Drawings shall be interpreted as giving the Contractor exclusive occupancy of the lands or rights-of-way provided. Any additional lands or rights-of-way required for construction operations shall be provided by the Contractor at his own expense.
- (b) The Contractor shall not enter nor occupy with men, equipment, or materials any lands outside the rights-of-way or easements shown on the Drawings without the written consent of the owner of the property. Evidence of written permission to occupy lands outside those rights-of-way shown shall be presented to the Engineer prior to entry upon said land by the Contractor.

The following subsection is added:

107.23 PUBLIC RELATIONS AND NOTIFICATION

The Contractor shall be responsible to keep the residents and business owners within or adjacent to the project informed of the Project. This information shall be as accurate and informative as possible with emphasis placed on timely communication in Spanish and English.

Ten (10) working days after receiving the Notice of Award from Clark County Purchasing and Contracts Division, the Contractor shall prepare a draft public notification for approval by the Engineer that informs all property owners, residents and/or businesses within or adjacent to the project of the project status. The notification letter shall be distributed by the Contractor only after approval of the Engineer.

This notification shall be an introductory letter, which shall contain information such as the scope of the project, an anticipated construction start date and sequence of work, and the Contractors contact information.

Seventy-two hours prior to commencement of construction, the Contractor shall notify, in person, all property owners and/or businesses which will be affected by the construction operation and will install "No Parking" signs at no more than 250-foot intervals along each side of the road where vehicle removal is required. Whenever personal notification is not possible, the Contractor, at his expense, shall reproduce and distribute written or printed notification in the form of a leaflet, door-hanger, etc., approved by the Engineer, to each residence or business affected.

This notification shall contain information such as the date and time of construction, brief explanation of work, vehicle removal instructions, Contractor's name, business address, and 24-hour telephone number of the Contractor or one of his agents. After notification by the Contractor, the Engineer will make any arrangements necessary to remove vehicles remaining in the roadway at the time of construction.

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The cost of this work shall be considered as incidental to other related items of work and no separate payment will be made therefor. The Contractor shall keep records of the notification process and be able show proof to the Engineer, when required.

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SECTION 108

PROSECUTION AND PROGRESS

108.02 NOTICE TO PROCEED

Replace paragraphs A and B with the following:

The authorization to commence with acquisition of materials will be as described per the General Conditions in the contract documents.

The authorization to proceed with actual physical work will be given to the successful bidder in writing.

108.03 PROSECUTION AND PROGRESS

This subsection is revised to read as follows:

The Contractor shall be responsible for planning, scheduling and reporting the progress of the work to ensure timely completion of the contract.

The Contractor shall submit an anticipated Schedule in two parts, based upon the Sequence of Construction shown in the project plans or in these Special Provisions, in accordance with the following:

- A. Part I shall be a preliminary schedule and shall be submitted prior to or at the pre-construction conference for the Engineer's acceptance. The preliminary schedule shall be a schematic (arrow) diagram or precedence diagram, showing the work stages and operations for all activities required by the contract. The diagram shall be in sufficient detail to allow day-to-day monitoring of the Contractor's operations. Along with the preliminary schedule, the Contractor shall include his calendar for the contract period which shall show work days, calendar days and dates. The diagram shall include four to ten milestone events as identified by the Contractor and accepted by the Engineer.
- B. Part II shall be submitted for the Engineer's acceptance within 15 calendar days after Part I has been accepted by the Engineer. This second schedule shall include a complete critical path schedule to cover the Contractor's anticipated time schedule. The schedule shall include a detailed network diagram acceptable to the Engineer with the following features:
 - 1. The schedule shall be time-scaled in calendar days. All activities shall be plotted on their anticipated early start and finish dates. Unless approved by the Engineer, activities shall not exceed 15 working days in length. The plot shall have a size and scale acceptable to the Engineer.
 - 2. The schedule shall show the order and interdependence of activities and the sequence of work as reflected in the schedule report specified in B.7, below. The critical activities shall be prominently distinguished on all reports by the use of color or other means acceptable to the Engineer.

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3. The schedule shall include, in addition to all construction activities, such tasks as mobilization, demobilization, submittal and approval of samples of materials and shop drawings, procurement of significant or long-lead time materials and equipment fabrication of special items, installation and testing and interfacing with other projects.
 4. The activities shall be sufficiently detailed so that a reviewer can follow the sequence. For example, the activities shall show forming, reinforcing, and placement of concrete on the calendar days they are anticipated to be performed.
 5. The diagram shall show for each activity the preceding and following event numbers or activity numbers, the activity description, the total float, if any and the anticipated duration of the activity in working days.
 6. The activities shall be organized and described so as to conform to the contract bid items, as closely as possible. Activity descriptions shall be unique and specific with respect to the type of work and location.
 7. The diagram shall be accompanied by a schedule report of the network with a tabulation of the following data for each activity:
 - a. Preceding and following event numbers or activity number.
 - b. Activity description
 - c. Activity duration
 - d. Earliest start date
 - e. Earliest finish date
 - f. Latest start date
 - g. Latest finish date
 - h. Total float times
 - i. Responsibility for activity - e.g., Contractor, subcontractor, supplier, etc.
 - j. A balanced resource loading for each activity listing personnel and equipment anticipated to accomplish the activity. Personnel should be identified as the number of each trade anticipated. Equipment shall be identified by type and, if known, by model/size.
 - k. Contractor shall be responsible for including in the balanced resource loaded schedule all subcontractors designated for completing 5 percent or more of the total contract value.
- C. The Contractor shall make updated schedules and reports under the following circumstances or as requested:
1. The Contractor shall submit a monthly report of actual construction progress with the monthly pay request by updating his schedule report to reflect all complete and in progress activities on the project. All negative float shall be explained in detail. If, in the opinion of the Engineer, the detailed network diagram requires revision, either wholly or in part, he will so direct the Contractor and the Contractor shall submit such revision within 10 calendar days.

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2. The monthly report also shall show the activities or portions of activities completed during the one month reporting period and the portions completed on the project to date, showing actual start and finish dates plus all future activities.
3. The monthly report shall state the amount and percentage of revenue actually earned as of the report date.
4. The monthly report shall be accompanied by a narrative description of job progress, problem area, current and anticipated delaying factors and their expected effect, and any corrective actions proposed or taken. The narrative description shall also clearly identify any departures from earlier schedules, including, but not limited to, changes in logical sequence or logical ties, constraints, changes in activity durations and changes, additions or deletion in event numbers, activity numbers, activity descriptions and resource combinations. The reasons for each departure shall be included in the narrative description. All additions, deletions or milestone events must be approved by the Engineer.
5. The monthly report shall include a summary of all activities sequenced by a total float from least to greatest float and ordered by early start.
6. The required schedules and reports shall be submitted to the Engineer as follows:
 - a. Part I (Preliminary Schedule) - Seven originals
 - b. Part II (Detail Network Diagram) - Seven originals
 - c. Revisions to Part II - Seven originals
 - d. Monthly Report - Original plus three copies of the narrative
7. The monthly report shall include a detailed predecessor/successor analysis showing the predecessors, successors, logic ties, and constraints for each activity schedule. These activities shall be ordered by event number or activity number from least to greatest.
8. All Extra Work shall be shown on an updated schedule.

No measurement or direct payment will be made for Contractor costs relating to preparation and submission of Schedules and Reports and revisions thereto, the cost being considered as included in the prices paid for contract items.

Failure of the Contractor to comply with the Part 1, Part II or monthly updated schedules and report requirements specified herein will be grounds for the Engineer to deduct 10 percent of the monthly progress payments, until the Contractor is in compliance. Upon compliance, this amount will be paid to the Contractor in the next scheduled monthly estimate.

Float time is not for the exclusive use or benefit of either the Department or the Contractor. Extension of time for performance may be granted for delays caused solely by action or inaction by the Contracting Agency to the extent that equitable time adjustment for the activity affected exceeds the total float of the project, or where an impact on the contract completion can be shown.

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Acceptance of the Contractor's schedules by the Engineer is not to be construed as relieving the Contractor of his obligation to complete the work within the contract time; or as granting, rejecting, or in any other way acting on the Contractor's requests for adjustments to the date for completing contract work or claims for additional compensation. Such requests will be processed in strict compliance with other relevant provisions of the contract.

The Contractor shall participate in a review and evaluation of the proposed Part I preliminary schedule and Part II schedule and monthly updated schedule by the Engineer. Any revisions necessary as a result of the review shall be submitted for acceptance to the Engineer within 10 calendar days after the review. The accepted Part II schedule shall then be used by the Contractor for planning, organizing, executing, and directing the work and for report progress of work accomplished. The Contractor shall furnish a copy of the Part II schedule and monthly updated schedule on a 3½ inch floppy disk or CD-ROM to the Engineer for project use.

108.04 LIMITATION OF OPERATIONS

Add the following paragraphs:

- D. At no time shall materials and supplies be stored or stockpiled within thirty feet of a travel lane unless separated by guardrail or concrete barrier rail,
- E. Within 500 feet of any residential dwelling, work shall only be performed between 7:00 a.m. and 4:00 p.m. weekdays. In other areas, night work may be performed between 12:00 a.m. and 9:00 a.m. from Monday morning through Friday morning.
- F. Contractor's operations shall be restricted to areas shown on the Drawings that depict the limits of construction and/or right-of-way. Contractor shall limit disturbance to the work area.
- G. Contractor is to coordinate with Clark County Traffic Management Division and the Las Vegas Convention and Visitors Authority (LVCA) throughout the duration of the Project to become aware of special events that are currently planned on Circus Circus Drive, Industrial Road, and on Las Vegas Boulevard and that will affect the contractor's work on this Project. The contractor is to be aware that some special events will result in a non-work day or several non-work days, throughout the duration of the event including set up through clean up, for the contractor's construction activities. When non-work days due to special events occur, these days will be added to the construction time for this Project without compensation or Historical Owner Caused Delays. Additionally, contractor is to be aware that special events may be requested during the duration of this Project and the contractor is to coordinate construction schedule such that reasonable accommodations for the special event can be made. The following table are currently known planned events, contractor to verify and coordinate as stated above.

Event	Event Dates	Event Days	Event Times	Circus Circus Drive Contractor Work Times	Conflict
ACM Awards	March 31- April 4, 2016	March 31- April 4, 2016	9:00 a.m. - 10:00 p.m.	7:00 am to 7:00 a.m. Monday through Friday	Yes

108.08 DETERMINATION AND EXTENSION OF CONTRACT TIME

The following is added to paragraph B:

4. If the Contractor's schedule, submitted and accepted by the Engineer per subsection 108.03 "Prosecution and Progress" of these specifications, reflects a total completion time less than that allowed by contract under the Instruction to Bidders, "Time: Completion Of Project", then the contract time will be adjusted by a no-cost change order to reflect the Contractor's submitted schedule completion time.

The following is added to this subsection:

If the Contractor is unable to prosecute the portion of the work which is the currently controlling operation or the portion of the work which is the currently controlling operation is suspended due to unsuitable weather or to such conditions as are considered unfavorable to the suitable prosecution of the work, an excusable, non-compensable time extension may be awarded if the following conditions are satisfied:

- 1) The weather must actually cause a delay to the completion of the project and the delay must be beyond the control and without the fault or negligence of the Contractor; or
- 2) The Engineer orders the suspension of the work in the interest of public safety or health or due to specification requirements.

The Contractor is to provide written notification to the Engineer of the occurrence of adverse weather delay days and resultant impact to the currently controlling operation within 10 calendar days of each occurrence, when such weather prevents work on critical activities for 50 percent or more of the Contractor's scheduled work day.

No compensation will be made for re-work, traffic control, delay impact costs, or other monetary damages due to adverse weather delay(s).

108.09 FAILURE TO COMPLETE THE WORK ON TIME

The following is added to this subsection:

At the time of presumptive completion of the work, which shall include all valve and manhole adjustments, complete signal systems and streetlight assemblies, all permanent signage, striping and other pavement markings and excepting minor corrections to punch list items and clean-up, the Contractor will receive a Notice of Substantial Completion from the Engineer. On the date of the Notice of Substantial Completion, the time specified in the contract for completion of the work will terminate. Thereafter, the Contractor shall complete all work on the "punch list" and required clean-up within 30 calendar days or other time as agreed to by the Contractor and the Engineer.

Should the Contractor fail to complete the "punch list" within the above allocated time or within such extra time as allowed by the Engineer, there will be deducted from any money due the Contractor the sum of \$2,000.00 per each calendar day exceeding the allotted time. This sum shall be considered and treated not as a penalty, but as damage due the Contracting Agency from the Contractor by reason of added cost of engineering and supervision and other items

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which have caused an expenditure of funds resulting from the Contractor's failure to complete the work on the "punch list" and required clean-up.

The following subsections are added:

108.14 CONTRACT CLOSE-OUT PROCEDURE

When the Contractor considers that all work under the contract is completed, he shall inform the Engineer in writing and submit the completed Record Drawings to the Engineer.

Upon receipt of notification from the Contractor that all work has been completed, the Engineer will:

1. Inspect the work to determine if it is substantially complete, and inform Contractor in writing of this determination.
2. Notify, in writing, all affected utilities and other governmental agencies and request their acceptance, or punch list comments within 14 calendar days of receipt of the request or, as an alternate, their participation in the project walk-thru.
3. Schedule an inspection with the Contractor's representative and any other affected agency. This inspection shall be for the purpose of developing a "punch list" of items requiring correction, repair, or completion. The punch list shall include comments made by the Engineer on the Record Drawings submitted by the Contractor.
4. Compile the "punch list" from the comments provided at the inspection and supply a typewritten copy to the Contractor. Upon distribution of the punch list items to the Contractor, the punch list time allotment shall commence.

Scheduled completion of the punch list shall not exceed 30 calendar days from date of the punch list letter or as otherwise agreed to by the Engineer. When all punch list items are completed, Contractor shall notify in writing the Owner/Engineer who will verify their completion.

Should the Owner/Engineer be required to perform second inspections, either "punch list" or final, because of failure of work to be complete, Contractor shall compensate the Owner for any costs incurred by the second and any subsequent inspections.

Failure of the Contractor to complete the "punch list" within the stated time shall be cause for assessment of liquidated damages in accordance with Section 108.09 of the Special Provisions.

108.15 WARRANTY INSPECTION

The Contractor shall be responsible for coordinating the schedule of and conducting a warranty inspection with the Owner and its representatives approximately one month prior to the expiration of the warranty period. This shall also include a Pre-Activity meeting for the warranty inspection activity.

All warranty corrections identified during the warranty inspection shall be commenced prior to the Warranty Bond expiration date. The Contractor shall be required to comply with all Federal, State and local laws, regulations and ordinances regarding safety and environmental issues as

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it applies to the warranty inspection. The warranty inspection shall include but not be limited to: traffic control plan submission, approval and set-up for the inspection, confined space entry, support staff as needed, providing access to the inspection site, and all equipment, materials and manpower required to conduct the warranty inspection.

The cost of this inspection shall be considered incidental to the bid items in the contract. The Contractor's failure to perform shall not constitute waiver of warranty, and may necessitate the Owner to complete the warranty inspection and corrections, with costs incurred charged to the Contractor or against the Warranty Bond at the option of the Owner.

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SECTION 413 – PLANTMIX BITUMINOUS GAP-GRADED SURFACE

SECTION 413

PLANTMIX BITUMINOUS GAP-GRADED SURFACE

MATERIALS

413.02.01 GENERAL MATERIALS

The following is added to this subsection:

Prior to the production of the UTACS gap-graded mix material, all of the contract aggregate quantity shall be stockpiled and shall be tested by the Contractor. The tests are to be submitted to the Engineer no earlier than 2 weeks prior to placement and may be used only after the Engineer has taken no exception to the results.

METHOD OF MEASUREMENT

413.04.01 MEASUREMENT

This subsection is changed to read as follows:

The quantity of 1-Inch Ultra-Thin Asphalt Concrete Surface (UTACS) bonded with a polymer modified membrane (PMM), S3 gradation shall be the number of square yards placed at the specified minimum thickness in the accepted work.

The quantity of UTACS Polymer Modified Membrane (PMM) shall not be measured for payment as it is to be incidental to the Ultra-Thin Asphalt Concrete Surface (UTACS) pay item.

BASIS OF PAYMENT

413.05.01 PAYMENT

The following is added to this subsection:

The 1-Inch UTACS Bonded with a PMM, S3 Gradation will be paid at the contract price bid per square yard, which shall include all material, mixing, loading, hauling, placing, compacting, **crack seal**, incidentals, and for all labor, tools, and equipment necessary to complete the work as shown on the plans, as specified herein, and as directed by the Engineer.

All payments will be made in accordance with Subsection 109.01, "Scope of payment." Partial payments for UTACS may be made as set forth under Subsection 109.06, "Partial Payments."

SECTION 413 – PLANTMIX BITUMINOUS GAP-GRADED SURFACE

Payment will be made under:

Pay Item

1-Inch UTACS Bonded with a PMM, S3 Gradation

Pay Unit

Square Yard

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

SECTION 623

TRAFFIC SIGNALS AND STREET LIGHTING

DESCRIPTION

623 G.01.05 GLOBAL POSITIONING SYSTEM (GPS) COORDINATES

This subsection is replaced with the following:

The Contractor is responsible for documenting and providing traffic asset data to Clark County for traffic assets within the project limits. Traffic assets consist of all new and relocated traffic signal systems, ITS, and street lighting facilities that are connected via the underground conduit system(s) and are visible at ground level, including but not limited to poles, pull boxes, splice vaults, cabinets, service pedestals, transformers, school flasher assemblies and changeable message signs, and shall also include all pull boxes that are buried underground as shown on the plans. The Contractor shall complete the appropriate Traffic Asset Data Collection Forms 1 and/or 2, included herein, and submit to Clark County Public Works in an electronic file format (.doc or .xls) and "hard copy"/paper format at the end of the project, prior to final acceptance for maintenance. The asset information shall be complete and free from error, with Northing/Easting coordinates of the post construction location of each item or facility, based on NAD 1983, State Plane Nevada East, U.S. Survey Feet. The horizontal precision of the coordinates shall be recorded with a device that has an accuracy tolerance within 3 feet of the actual location of the object.

Clark County will not be responsible for furnishing any traffic asset information to the Contractor for this work.

MATERIALS

623 G.02.01 CONDUIT

The following is added to this subsection:

Electrical conduits, fittings, and couplings shall be joined together per NEC section 352.48.

623 G.02.02 PULL BOXES

The first sentence of paragraph B is replaced with the following:

Non-conductive lids shall be used for all pull box covers except for Type 200 splice vault. Steel lids shall be used for Type 200 splice vault.

The following is added to this subsection:

Pull boxes shall not be installed within the roadway, shoulder, nor bike lane. Pull boxes shall also not be installed within sidewalk ramp, driveway, nor within 10 feet of a driveway.

623 G.02.04 CONDUCTORS AND CABLE

The second sentence of paragraph A.4 is replaced with the following:

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

All traffic signal cable shall be 25-conductor, No. 14 AWG solid copper wire traffic signal cable.

Paragraph A.7.a is replaced with the following:

Conductors shall be seven-strand No. 4/0 AWG copper wire with THW-2 or XHHW-2 insulation, unless otherwise shown in the plans or indicated herein.

Paragraph A.9.b is replaced with the following:

The insulation shall be 15 mils of orange PVC complying with UL62 with an overall jacket of clear nylon in accordance with ASTM D4066.

The following is added:

The induction loop wires shall be soldered and sealed to the loop lead-in wires.

623 G.02.07 ELECTRICAL SERVICE PEDESTALS

Paragraph J1 is replaced with the following:

The main body of the pedestal, the hood and the main door shall be polyurethane powder coated inside and out with a gloss, mint green coating (Federal color 14672).

Paragraph M is replaced with the following:

The pedestals shall incorporate a tin plated copper load center. Bus bars for grounding and neutral connections shall be tin plated aluminum rated for both copper and aluminum wire with facilities for landing two No. 1/0 AWG conductors, six No. 2 to No. 12 AWG and 12 No. 4 to No. 14 AWG conductors. The utility landing lugs shall be tin plated aluminum rated for both copper and aluminum service wire.

Paragraph O.1 is replaced with the following:

Each lighting circuit shall have a separate test toggle switch (or toggle switch position) rated for 10 amps with sealed leads for testing the circuit during maintenance activities.

CONSTRUCTION

623 G.03.03 SCHEDULING OF WORK

The following is added to paragraph G:

The Contractor shall supply Traffic Jackets as supplied by Phoenix Highway Products, 2631 North 37th Drive, Phoenix, Arizona 85009, Phone 602-344-7770, www.phoenixhighwayproducts.com, or approved equal by the Maintaining Agency.

The covers shall be bright orange with a vertical message "NOT IN SERVICE" in black on each cover, for new construction. The covers shall be black with a vertical message "NOT IN SERVICE" in white on each cover, for modifications to a traffic signal already in operation.

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

Coverings that are not installed when a signal head is installed, and not activated, shall have a cover installed by the Contracting Agency and the cost of the covering shall be deducted from any unpaid invoices that have been or will be submitted to the Contracting Agency by the Contractor.

623 G.03.07 FOUNDATIONS

The following is added:

Service pedestal and controller cabinet foundations shall be level.

623 G.03.08 WIRING AND CONDUIT

The following is added to paragraph D of this subsection:

Splices for street light cables shall be split bolt type of the appropriate size. The split bolt connector shall be copper or copper alloy with copper plating, and shall accommodate range of cable sizes specified in the Drawings. The split bolt connector shall be Brundy KS22, Brundy KS23, or approved equivalent by the Maintaining Agency.

Paragraph I of this subsection is replaced by the following:

Wire shall be 14 AWG UF and shall be used between the pole-mounted "J" box and the traffic signal tenons on the traffic signal mast arms. All 14 AWG UF wire shall be uniquely identified in the "J" box. Six conductors shall be installed from the pole mounted "J" box to any unused tenon at the end of the mast arm. Four conductors shall be installed from the pole mounted "J" box to any unused tenons located elsewhere on the mast arm. All empty tenons shall be sealed with 10mil tape. Contractor shall determine and install the appropriate number of conductors from the pole mounted "J" box to all traffic signal indications.

623 G 03.09 ELECTRICAL SERVICES

Paragraph E of this subsection is replaced with the following:

Electrical conductors for service shall have THW-2 or XHHW-2 insulation and shall be 4/0 AWG, stranded, copper wire unless otherwise specified.

The following is added to this subsection:

623 G 03.13 CONDUIT VERIFICATION AND CONDUIT BLOCKAGE

At locations where existing conduit is to be utilized, Contractor shall verify condition of the conduit. In the event of a conduit blockage at existing conduit locations, the Contractor shall attempt to clear the blockages by any reasonable means to his disposal until the conduit is cleared of obstruction to the satisfaction of the Engineer or until the Engineer determines that further attempts to clear the conduit are not feasible. Reasonable means include any industry standard methods for removing conduit blockages, such as, blowing air through the blocked conduit(s) with an air compressor of a minimum size of 185 cfm, soaking the blocked conduit(s) with water for 24 hours then blowing air with an air compressor of a minimum size of 185 cfm, and any other methods as approved by the Engineer.

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

TRAFFIC SIGNAL SECTION

623 T.01.01 GENERAL

The following is added:

A Clark County-licensed Journeyman Electrician shall perform all electrical terminations.

MATERIAL

623 T.02.02 TRAFFIC SIGNAL CONTROLLER CABINET EQUIPMENT

The following is added to paragraph F:

Two GTT Model 764 emergency vehicle phase selectors shall be provided for each traffic signal system.

Paragraph H.1 is replaced with the following:

A 16-channel conflict monitor with flashing yellow arrow capabilities shall be furnished unprogrammed and the program card shall be wired by the Maintaining Agency.

623 T.02.03 TRAFFIC SIGNAL CONTROLLERS

Paragraph B.5.d of this subsection is deleted.

Paragraph C of this subsection is deleted.

Paragraph D.1 is replaced with the following:

Contractor shall supply a Siemens M53 (with OS9 version 3.3.0 operating software) with installed Naztec Apogee actuated signal controller software (latest version) or Naztec model 980 ATC signal controller with Apogee actuated signal controller software (latest version).

623 T.02.04 MAGNETIC INDUCTION LOOP DETECTORS

The following is added to paragraph A:

A 6-foot diameter circular detection loop may be used in lieu of a 6 feet by 6 feet square detection loop. Spacing between each loop and the number of loops shall be as specified in the plans.

Paragraph G.1 is replaced with the following:

A separate lead-in cable to the controller cabinet shall be provided for each left turn, straight through, and right turn lanes. A separate lead-in cable to the controller cabinet shall be provided for advanced detection loops for each approach. Each lead-in cable shall be individually tagged.

Paragraph H.2 is replaced with the following:

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All loop amplifiers shall be shelf mounted.

623 T.02.05 EMERGENCY VEHICLE PRIORITY CONTROL SYSTEM (INTERNAL PREEMPTION)

Paragraph D.4.b.1 is replaced with the following:

This module unit shall be a plug-in, four-channel device, dual-priority, multimode encoded signal device designed to be used with optical Emitters and Detectors.

623T.02.06 TRAFFIC SIGNAL VIDEO IMAGE DETECTION SYSTEMS

This subsection is replaced with the following:

Video detection systems shall be approved by the Engineer for installation. The system shall be PEEK VideoTrak IQ, ITERIS Edge 2, ECONOLITE Auto Scope Rack Vision or an alternate system that is pre-approved by the Traffic Manager. All video detection systems installed shall have eight channels with the capability of expanding to more channels of detection by adding additional modules. A video detection system color LCD monitor, minimum size of 9 inches, shall be provided as part of the detection system.

623 T.02.07 SYNCHRONIZING CLOCK

Paragraph B is replaced with the following:

The timing device provided shall be a stand alone unit to be shelf mounted and capable of accuracy to within 10 milliseconds of the GPS data stream. The timing device shall be an output only device and shall not receive commands from the controller. The clock shall be designed to maintain accuracy through continuous communication with a minimum of three satellites. Time zone and daylight savings shall be selected by means of an eight-position dipswitch on the circuit board. The clock shall have a time of day display utilizing temperature compensated LCD.

TRAFFIC SIGNALS AND FITTINGS

623 T.02.08 VEHICLE SIGNAL FACES

The following is added to paragraph D.5:

Testing by an independent laboratory may be required if the LED offered does not have prior approval of the Traffic Manager. All vehicular LED modules not previously approved shall be tested by Intertek - ETL/Semko, Cortland, NY. Test reports for each ball LED module shall include verification of power consumption, chromaticity, luminous intensity and light distribution and shall indicate compliance to the ITE VTCOSH-LED specification. Test reports for arrow LED modules shall indicate compliance with the luminous intensity of the CALTRANS standards and measurement criteria. All supporting data and test results shall be delivered to the maintaining Agency Operations Engineer for approval prior to the installation of the LED modules.

Paragraph I.5 is replaced with the following:

All traffic signal backplates shall be louvered and shall be painted or powder coated flat black

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(front side)/dark olive green (backside), using the same technique as on the signal housing.

623 T.02.09 PROGRAMMED VISIBILITY VEHICLE SIGNAL FACES

The first sentence paragraph C is replaced with the following:

All signal sections shall be provided with an adjustable connection that permits incremental tilting from 7 degrees to 15 degrees above or below the horizontal while maintaining a common vertical axis through couplers and mountings.

623 T.02.11 PEDESTRIAN PUSH BUTTONS

The following is added to this subsection:

The pedestrian push button assembly shall be rectangular in shape and have nominal dimensions of 9"x16". A 9"x12" pedestrian push button sign must fit within the pedestrian push button assembly without any gaps or modifications to the sign and/or the assembly. The rear brackets shall be curved and adjustable to permit mounting on traffic signal poles type 1-A, 1-B, XX, XX-A, and XX-B, as well as mounting on a flat surface. At the rear of the assembly at the center shall be a wire entrance of 1-inch diameter. On the vertical centerline, two inches above the wire entrance hole, shall be two 3/8-inch diameter holes for securing the assembly to a pole, spaced 9-1/4-inch apart. The case shall be reinforced at these holes to provide adequate bearing surface. Four drilled and tapped holes shall be provided for mounting the pedestrian push button sign. Four 10-32 x 3/8-inch stainless steel tamper-proof screws per each push button assembly shall be used to mount the pedestrian push button sign.

All pedestrian push button signs shall conform to MUTCD requirements. Signs shall be 9"x12" and shall be porcelain enameled sheet steel of 0.036-inch minimum thickness. Each hole shall be provided with a brass grommet. Signs shall have four holes, one on each corner of the sign, for mounting on the pedestrian push button assembly.

623 T.02.12 FLASHERS

The following subsection is added:

G. Crosswalk Warning Lighting System

Each system shall consist of in-roadway warning light fixtures, a pedestrian microwave presence sensor, and a system controller. The number and configuration of in-roadway warning light fixtures and pedestrian microwave presence sensors shall be as indicated on the contract drawings.

The crosswalk warning lighting system shall meet or exceed the following specifications:

1. In-Roadway Warning Light Fixture

- a) The fixture shall have bi-directional and uni-directional capability, have a modular design comprised of 6 major parts with the top and bottom castings of high tensile strength aluminum alloy. The top and bottom casting shall be sealed by means of a flat gasket. The fixture shall have a smooth shaped face projecting not more than

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0.64" when installed in the factory provided mounting base. The fixture shall incorporate a self-cleaning design with an outward sloping light channel to promote drainage and facilitate maintenance. Diameter shall not exceed 8" and all mounting hardware shall be stainless steel. Fixture will operate on 12 VDC and be furnished pre-wired with a waterproof 90P plug.

- b) Fixture shall withstand a static load of 44,000 lb. without sustaining permanent deformation or cracking of materials. Leads, gaskets, etc. shall be rated to withstand 300 degrees F.
- c) The fixture's light beam shall be refractor controlled and pre-focused to simplify maintenance. The refractors shall be molded high performance optical grade glass and formed to provide a sealed fit within the fixture. High density silicone rubber gaskets shall be used to provide a proper seal. There will be two hardened glass refractors per fixture, one aimed at 0 degrees and the other aimed at 180 degrees, to be installed parallel to roadway center line. To prevent moisture intrusion, each fixture shall be installed with a Schrader valve to facilitate verification that the entire assembly is sealed at the time of installation and to allow for re-testing during maintenance. Two refractor beam spread options shall be provided – 60 degrees and 10 degrees, as well as the capability to operate in a uni-directional mode through the use of a blank plate. The glass refractor pointed towards the inside of the crosswalk shall normally have a beam angle of 60 degrees. To facilitate early onset of the driver's awareness of the crosswalk, the outboard facing refractors shall normally have beam angle of 10 degrees, except on curves were a 60 degree beam may be more desirable. In some cases it may be desirable to utilize the fixture in a uni-directional mode and a blank may be inserted in place of one of the refractors.
- d) The fixture shall be clearly visible in any weather condition, daytime and at night, and shall produce a yellow light using a 12 Volt, 3 watt LED array with a brightness level of more than 600,000 candela per meter squared using the 10 degree refractor option.
- e) The top cover shall be natural anodized aluminum, grey in color. The bottom cover shall have a black powder coat.
- f) Fixture shall be installed in mounting base of high strength steel, hot dip galvanized after fabrication per ASTM-153 specifications, with a 7.25" diameter bolt circle, a 0.75" mud ring, and standard base depth of 5". The mud ring shall be detachable from the base. Mounting base without mud ring shall be made available upon request. The base shall be supplied with a plywood cover to protect the mounting flange during installation.

2. Pedestrian Microwave Presence Sensor

The pedestrian microwave presence detector shall have the following features:

- a) Detect pedestrians standing curbside
- b) Microwave reliability of up to 22-feet
- c) Automated and hands-free activation of in-roadway warning light fixtures
- d) Unaffected by temperature, humidity, color or background noise variations
- e) Minimal false activations from nearby moving traffic

The pedestrian microwave presence detector shall have the following specifications:

- a) Operating Frequency: 24.125 GHz (K-band)

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- b) Detection Method: Microprocessor analyzed Doppler microwave with MICROMOTION technology
- c) Detection Pattern: Adjustable with cover off
- d) Detection Angle: Adjustable
- e) Detection Mode: Selectable: approach-only, depart-only or bidirectional motion
- f) Detection Verification Time: 0.1 to 5 seconds
- g) Power Requirements: 12 to 24V AC or DC \pm 10%
- h) Power Consumption: 1W maximum
- i) Relay Output: Form C, rated at 1 Amp @ 24V DC (N.O. and N.C.)
- j) Output Power: 5mW typical, 2mW minimum
- k) Relay Contact Ratings: 0.5A:50V AC; 1A:24V DC
- l) Operating Temperature: -22°F to 158°F (-30°C to 70°C)
- m) Physical Dimensions: 4"W x 4"H x 7"L
- n) Enclosure: Powder coated aluminum
- o) Weight: 4 lb.

3. System Controller

- a) System controller shall support multiple MUTCD compliant regular and enhanced flash patterns, and be capable of auto-sequencing through all enhanced flash patterns, one pattern per activation period.
- b) Output pattern operation, power limitations and output flash pattern selection:
 - i. *Output A (Primary DC Power Output)*
The maximum DC power output of the primary (10 amp limit) shall be 120 watts (150 watts for high-power model). The output flash pattern shall be selected by the pattern selector control located on the control card.
 - ii. *Output B (Secondary DC Power Output)*
The maximum DC power output of the secondary (10 amp limit) shall be 120 watts (150 watts for high-power model). The output flash pattern shall be selected by a set of output mode selector switches (1-4) located on the control card: 1-Same as primary; 2-In sync with primary, but non-enhanced; 3-Non-enhanced complement of primary; 4-Continuously on while primary is flashing. Notes: (a) Enhanced flash patterns cannot be used when operating in wig-wag mode. (b) Only one output mode switch can be on (closed) at a time for proper operation of the system.
 - iii. The combined output power of the primary and secondary DC outputs shall be 120 watts (300 watts for the high-power model).
 - iv. A dual AC output option shall be available. The AC outputs shall be in sync with the primary and secondary DC outputs. The output power capability on each output shall be limited to 360 watts (120 volts x 3 amps). Enhanced flash patterns cannot be used when operating in the wig-wag mode.
- c) System controller shall be based on an integrated, high-speed 8-bit microcontroller with non-volatile firmware and memory. All settings must be retained in the event that input power is removed.
- d) System controller shall include the following controls and indicators:
 - i. *Power LED Indicator:* A visual indicator LED shall be provided to indicate the "power on" condition.
 - ii. *Activation Duration Setting:* Activation duration shall be field adjustable in one-second increments, over a range of 1 to 99 seconds. Duration setting shall be displayed on a digital numeric display.

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- iii. *Flash Pattern Setting*: Flash pattern setting shall be field adjustable and be displayed on a digital numeric display.
 - iv. *Push-Button Test and LED Indicator*: System shall include an internal push-button used to activate the system during field tests. System shall include a visual indicator LED to indicate internal push-button and external activation device calls.
 - v. *Override Switch*: System shall include an override switch to allow switching from manual system activation to continuous system activation.
 - vi. *Output LED Indicators*: System shall include visual indicator LEDs which indicate: system activation, primary output (A), and secondary output (B) status.
- e) System shall support activation from standard contact-closure type push-buttons, push-buttons with audio message capability, and passive pedestrian sensors.
 - f) All DC outputs shall be protected with a replaceable fuse. In the AC powered model, the input AC voltage shall be protected by a thermal-magnetic circuit breaker integral to the AC power supply. The AC power supply shall include transient surge protection. All DC electronics shall be electrically isolated from the AC input voltage.
 - g) The system shall include a single enclosure for ease of installation. The system shall be housed in a NEMA 4 compliant, aluminum enclosure with a thickness of 0.125" and with approximate dimensions of (20" H x 16" W x 7.32" D, mounting tabs add an additional 3" in height) to provide protection from adverse weather conditions. The enclosure shall have a mill finish and be supplied with NEMA 4 compliant lock for security from unauthorized access, and come with a minimum of one key.

4. Activation and Operation

- a) System shall have a continuous operation, 24 hours a day, 365 days a year

5. Environmental Specifications

- a) The system shall be able to withstand and operate at temperature extremes of -22 deg F to 158 deg F

6. Warranty

- a) The system, including system controller, microwave sensor, in-roadway light fixture and all components, shall be guaranteed by the manufacturer for a minimum of three years
- b) Warranty shall include all parts of the system

623 T.02.13 TRAFFIC SIGNAL POLES

The following is added to paragraph B:

Multi-sided (minimum of 18 sides) steel traffic signal mast arms may be used.

623 T.02.15 RED LIGHT DISPLAY INDICATORS

This subsection is replaced with the following:

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

Red light display indicators shall be provided for all traffic signals installed. The indicator shall be installed at the locations shown in the plans or as directed by the Maintaining Agency.

The devices shall be the McCain Red Light Violator Detection Unit, current models for red and blue indicators or approved equal. It shall operate from 120-volt VAC signal lines without additional power requirements. The indicators shall be visible for a minimum of 200 feet from the placement of the device.

The red indicator shall be mounted between 16 to 20 feet above the base plate of the signal pole and shall detect the mast arm straight through signal red indication. The blue indicator shall be mounted 1 foot above the red indicator and shall detect the side mount left turn red indication. Contractor shall install the indicators at a mounting height where they will not be obstructed by any side mounted signal hardware.

The Display indicators shall have a warranty of one year on all parts and labor (including installation) from final acceptance of the project.

623 T.02.16 INTERNALLY ILLUMINATED STREET NAME SIGNS

This subsection is replaced with the following:

Internally illuminated street name signs shall be provided at all traffic signal locations, with street names on both sides of the sign. The internally illuminated street name sign is an assembly that consists of an enclosure and two sign panels, and shall be weather-tight and consist of aluminum alloy housing. The sign assembly shall be secured to the mast arm by two 3/4-inch wide, 0.03-inch thick stainless steel bands with ear-lock buckle and one bandable mounting bracket for each "L" bracket of the street name sign.

A. Street Name Sign Enclosure

1. The sign enclosure shall be 97 to 97-1/4 inches in length and 20-1/2 to 20-3/4 inches in height.
2. The sign enclosure shall have minimum yielding tensile strength of 22 ksi, minimum shear strength of 17 ksi, and minimum bending strength of 10 ksi.
3. The sign assembly (enclosure and sign panels) shall have a maximum weight of 93 lbs.
4. The sign enclosure shall be wired and equipped with two 8-foot light emitting diode (LED) dual-tube lamps, with single pin Fa8 contact at each end of the lamp, spaced 6 inches apart.
5. The internal wires shall be carefully installed along the side of the sign enclosure and secured in place with a continuous bead of clear silicon rubber.
6. Thumb screws shall be brass or stainless steel, and shall not go through the sign panel framework.

B. Street Name Sign Panel

1. The sign panels shall be fabricated of clear, impact resistant, acrylic or polycarbonate sheeting with aluminum framing.
2. The clear, impact resistant, acrylic or polycarbonate panels shall be covered with translucent white, wide-angle, prismatic reflective sign face sheeting. Sheeting shall conform to ASTM D4956 Type XI sheeting.

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3. The sign sheeting shall be applied in a vertical orientation in accordance with the manufacturer's recommendations.
4. The sign panel shall be capable of withstanding winds of 90 mph or greater without damage or separation from the sign enclosure.
5. The aluminum frame shall have a minimum inside dimension of 94-3/4 inches in length, and an outside dimension of 96-1/4 to 96-3/8 inches in length.
6. The aluminum frame shall have a minimum inside dimension of 16-1/2 inches in height, and an outside dimension of 18-11/16 to 18-13/16 inches in height.
7. The sign panel shall be hinged into the housing and secured by the bottom rail of the street name sign enclosure. No drilling or screws will be allowed in the panel and/or fascia.

C. Street Name

1. Street names shall be applied on top of the prismatic reflective sign face sheeting by either reverse-screened with manufacturer's recommended green ink and clear coating or overlaid with green, electronic cuttable, transparent overlay film.
2. Street names shall be in upper and lower case letters. Street names shall be 12-inch series D, unless other specified in the plans. If necessary to make spacing fit, 12-inch series C letters may be used upon approval by the Traffic Manager. Lower case letters shall be 9 inches in height.
3. Letters for the street cardinal direction, street name suffix, and block number shall be 5-inch series C.
4. The Kerning value of 110 percent shall be used.
5. Street name shall be centered between the cardinal direction and the street name suffix.
6. Cardinal direction shall be located in the upper left corner of each sign panel in upper case letter (N, S, E, or W).
7. Street name suffix abbreviation shall be located in the upper right corner of the sign panel in upper case letters. Postal Service standard suffix abbreviations shall be used.
8. Block number shall be located at the lower right corner in numerals.

D. Lamp

Lamps shall be 8-foot light emitting diode (LED) dual-tube lamps, with single pin Fa8 contact at each end of the lamp. The lamp shall also meet the minimum requirements below:

1. Photometric
 - a. A normal Correlated Color Temperature (CCT) of 4000 °K to 5000 °K.
 - b. A Coloring Rendering Index (CRI) ≥ 80.
 - c. 180 degree light distribution.
 - d. bi-directional (dual side's illumination).
2. Electrical
 - a. Power factor ≥ 0.92.
 - b. Operating voltage 120 VAC.
 - c. Frequency 50-60 Hz.
 - d. Total power consumption 40 watts maximum per tube connector/receptacle.
 - e. UL 1310 class 2, UL 1598 and/or UL 8750 approved.
 - f. Radio frequency (RF) emission > 50 kiloHertz.

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

3. LED Tube Lamp

- a. Full light output at initial lamp turn on.
- b. Operating temperature range from -10 °F to 120 °F (-23 °C to 49 °C).
- c. Must fit into a single pin T-12 fluorescent lamp receptacle for an 8-foot illuminated street name sign enclosure.
- d. Lamp shall have a Fa8 lamp single-pin contacts.
- e. Rated life \geq 70,000 hours.
- f. Tube lens shall be polycarbonate.
- g. Luminaire must operate at 77 °F (25 °C) for a minimum of 50,000 hours before the LED light output has decreased to 70% of initial output (L70).
- h. Shall have internally built-in drivers. No external drivers are accepted.
- i. The 8-foot tube lamp shall have light output of minimum 2,500 lumens per tube lamp.

4. Warranty

A manufacturer's warranty must be provided for the replacement or repair of the tube lamp due to any electrical failure (including light source and power supplies/drivers) for a minimum of five years from final acceptance of the project. Warranty documents shall have Clark County Public Works as the warrantee. Contractor shall provide all warranty documents to Clark County Public Works Traffic Management Division. Documents shall contain project name, bid number of the project, manufacturer, brand, model, and quantity of tube lamps installed.

CONSTRUCTION

623 T.03.01 PAINTING

Paragraph A.4 is replaced with the following:

Directional louvers shall be painted or powder coated flat black (interior)/dark olive green (exterior) and backplates shall be painted or powder coated flat black (front side)/dark olive green (backside), using the same technique as the signal housing.

623 T.03.02 ELECTRICAL TESTING

Paragraph A.3 is replaced with the following:

A megohm test shall be conducted on all single conductor, except ground wire, between a new service pedestal and transformer, and between service pedestal to controller cabinet. Additionally, loop continuity shall be tested using a loop amplifier. The insulation resistance shall not be less than 100 megohms when tested at 500 volts for one minute.

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STREET LIGHTING SECTION

DESCRIPTION

623 L.01.01 GENERAL

Paragraph G is replaced with the following:

Refer to Subsection 623 G.01.05 GLOBAL POSITIONING SYSTEM (GPS) COORDINATES of these Special Provisions for requirements the collection of field data including State Plane and Geodetic coordinates.

MATERIALS

623 L.02.01 STREET LIGHT POLES AND ARMS

Paragraph O.1 is replaced with the following:

The handhole shall be 4-inch by 6-inch O.D. reinforced frame with slip-resistant indented type cover located 12 inches above the base plate. The edges of the handhole at the base of the streetlight pole shall be continuously, permanently welded shut by bead welding, after project walk-thru and prior to final acceptance of the project. Welded surfaces shall be galvanized by hot-stick galvanizing per Section 623 T.03.01. Welding shall be done by American Welding Society (AWS) certified welders.

623 L.02.03 STREET LIGHTING LUMINAIRES

Paragraph A is replaced with the following:

- A. The standard luminaire shall be of the light emitting diode (LED) type, cobra head style. Luminaires installed for typical street lighting shall achieve average minimum foot-candle as outlined in IESNA RP-8-00 (latest edition) Table 5 for mixed vehicle and pedestrian area.
1. The luminaire shall consist of a rugged die cast aluminum housing with integral heat sink fins, refractor, driver, surge protective device, field adjustable output (optional), LED module(s) and hinged cover.
 2. The hinged door shall be lowered by releasing a latch mechanism and allowing the door to swing free on its hinge.
 3. The latch assembly shall be easily operated while wearing lineman's gloves.
 4. The hinged door latch shall provide easy access to the refractor, driver, surge protective device, field adjustable output (optional), and LED modules.
 5. The luminaire shall be provided with a terminal connection block installed in the housing.

Paragraph B is replaced with the following:

- B. The luminaire housing shall be bonded to earth ground at the ground screw within the housing using a grounding conductor.

Paragraph C.2 is replaced with the following:

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2. The optical assembly shall consist of a borosilicate prismatic glass refractor for 150-watt through 750-watt luminaires or, when specified, shall be of polycarbonate resin vandal resistant material.
 - a. The refractors shall have accurately molded light controlling prisms and shall be resistant to impact and thermal shock.
 - b. The refractor shall provide maximum transmission and minimize unwanted spill light.
 - c. Standard street light fixtures shall be supplied with full-cutoff photometrics and IES **type II** distribution, unless otherwise specified in the Contract Documents or directed by the Engineer.

Paragraphs D, E and F are replaced with the following:

- D. The driver shall be mounted in the housing of the light fixture and shall be prewired to the LED module(s) surge protective device, and field adjustable output (optional).
 1. Drivers mounted on the hinged door are not allowed.
 2. Luminaire housing shall have a minimum IP (International Protection Rating) rating of IP65.
- E. The driver shall be of the multi-voltage (120-277V) type, capable of operating the wattage indicated in the Drawings and specified herein from a nominal 120-volt, 240-volt, 60 Hz power source, as shown in the Drawings within the limits specified by the LED module manufacturer.
 1. The expected life of the driver shall be rated at 100,000 hours at 25°C ambient.
 2. The power factor shall be greater than or equal to 0.90 for primary application up to 50% of full load rating.
 3. Input current total harmonic distortion shall be less than 20% up to 50% of full load rating.
- F. The electronic light module/light engine shall be mounted to a single plate and factory prewired.
 1. Light engine shall be rated at 100,000 hours at 25°C, L70.
 2. Color Rendering Index (CRI) shall be a minimum of 70.
 3. Correlated Color Temperature (CCT) shall be 4000K.
 4. The surge protective device shall be tested in accordance with IEEE/ANSI C62.41 to Category C.

Delete Paragraphs G, H and J.

Paragraph N is replaced with the following:

- N. A permanent data sheet shall be provided on the inside of the housing containing pertinent information, such as a connection diagram, operating voltages, total watts/total lumens, part number for driver and driver requirements.

Remove Paragraphs O and P.

Paragraph Q is replaced with the following:

- Q. **A manufacturer's warranty must be provided for the replacement or repair of the tube lamp due to any electrical failure (including light source and power**

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

supplies/drivers) for a minimum of five (5) years from final acceptance of the project. All other components shall have a warranty for a minimum of one (1) year after final acceptance of the project. Warranty documents shall have Clark County Public Works as the warrantee. Contractor shall provide all warranty documents to Clark County Public Works Traffic Management Division. Documents shall contain project name, bid number of the project, manufacturer, brand, model, contact information for warranty claim, and quantity of tube lamps installed. Warranty replacement of fixture shall be delivered no more than sixty (60) calendar days upon notification by Clark County Public Works.

The following is added to this subsection:

For new construction, Contractor shall install light emitting diode (LED) type LED optical assembly with cobra head style fixture. For existing intersection lighting, Contractor shall remove the existing high pressure sodium type fixture at street intersections and replace with light emitting diode (LED) type LED optical assembly with cobra head style fixture. The LED luminaire and fixture for intersection lighting shall meet the following requirements:

A. Photometric

1. A normal Correlated Color Temperature (CCT) of 5000 °K to 6000 °K.
2. A Color Rendering Index (CRI) ≥ 65 .
3. A minimum luminaire efficacy ≥ 60 lumen/watts.
4. Photometric measurement shall be documented by an independent test lab report according to IESNA specification.
5. LED light distribution shall be in accordance with IESNA Type III distribution with a true 90° light cutoff.
6. Luminaire must operate at 77°F (25 °C) for a minimum of 50,000 hours before the LED light output has decreased to 80% of initial output (L80).
7. LED's in the fixture shall be manufactured by Cree, Nichia or Lumileds.
8. Fixtures installed for typical intersection lighting for an intersection shall achieve average maintained illumination as outlined in IESNA RP-8-14, Table 8 (Major/Major, High and E_{avg}/E_{min}) within the limits of the intersection (see Limits of Intersection detail). Lighting luminaire arms are 15 ft in length, with fixtures at the mounting height of 30 or 37 ft. Supplier must provide an illuminance study for both 30-ft and 37-ft luminaire mounting heights, that proves that lighting luminaire standards are met or exceeded per IESNA RP-8-14, with a light loss factor of 0.94.
9. Per IESNA TM-15-2007 (Revised) Backlight, Uplight, and Glare (BUG) rating shall be B3 U1 G3 or better. Fixture shall be Dark Sky compliant.

B. Electrical

1. Off state power draw of 0 watts (excluding photocell).
2. Power factor of ≥ 0.90 .
3. Maximum LED forward current of ≤ 530 mA.
4. UL 1310 class 2, UL 1598 and/or UL 8750 approved.
5. Operating temperature range of -10°F to 120°F (-23°C to 49°C).
6. Transient voltage/surge suppression protection must meet or exceed the requirements of ANSI/IEEE C.62.41-1991 Class A operation, which consists of seven strikes of a 100 Hz ring wave, 6 KV level, for both common mode and differential mode.
7. Class A sound rating for power supply per ANSI C63.4.
8. Power supply shall meet FCC 47 CFR 15/18.

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9. Nominal operating voltage within a range of 120 to 277 volts at 60 Hz \pm 3 Hz.
10. Output operating frequency must be \geq 120 Hz for switched output drivers.
11. Fixture shall have a prewired heavy-duty barrier type terminal block, with captive screws capable of terminating three (3) #14 to #10 AWG.
12. Total power consumption of the fixture shall not exceed 258 Watts.

C. Housing

1. Luminaires shall be painted with 2 finish coats of high gloss gray enamel or polyurethane powder coating, free of lead and mercury.
2. Constructed of die cast aluminum. Stamped and formed aluminum housings shall not be permitted.
3. Lens shall be made of high impact acrylic.
4. Driver(s) mounted internally and replaceable.
5. All parts to be corrosion resistant.
6. Fixture shall have heat sink integrated into fixture body, and be resistant to debris buildup that may cause degraded heat dissipation. No fans, pumps or liquids are allowed. Light engines with integrated head sinks will not be accepted.
7. Fixture weight \leq 50 Lbs.
8. Fixture must withstand a minimum vibration of 2Gs per ANSI C136.31-2001.
9. Fixture shall have a photoelectric receptacle, 3-prong twist-lock per ANSI C136.10. The receptacle (socket) will need to be able to rotate to face north direction without the use of tools.
10. The fixture shall have a slip-fitter capable of adapting to 1-1/4-inch through 2-inch pipe bracket without rearrangement of parts and be adjustable $+5^\circ$ degrees from horizontal. There shall be no more than four (4) 9/16-inch hex bolts to secure fixture to pipe. Bolts shall be secured from bottom of fixture and mounted internally.
11. The optical assembly of the fixture shall have a minimum IP-65 rating to protect internal components.
12. The maximum effective projected area (calculated from either side) shall not exceed 1.2 square foot. (slim, low profile design to optimize for wind loading).
13. Maximum dimension 41" long x 19" wide x 10" tall.
14. Fixture shall have bird guard or wildlife intrusion protection.
15. Fixture shall have tool-less entry.

D. Fixture Identification

1. Each fixture shall have the manufacturer's name, trademark, model number, serial number, date of manufacture (month/year), and lot number permanently marked on inside of each unit.
2. The wattage of the fixture must be able to be detected visibly from an observer standing at ground elevation at base of pole. (See Wattage Label detail)
3. Operating characteristics shall be permanently marked inside each unit: Voltage rating, power rating (in watts and volt-ampere) and fixture efficiency rating (LER).
4. Each LED fixture shall be permanently marked with correlated color temperature (CCT) rating in Kelvin, color rendering index (CRI) and wattage driver current.

E. Measurements and Performance

1. IESNA LM-79-08 approved method for electrical and photometric measurements of solid-state lighting products. Documentation shall be provided with the shop drawing

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

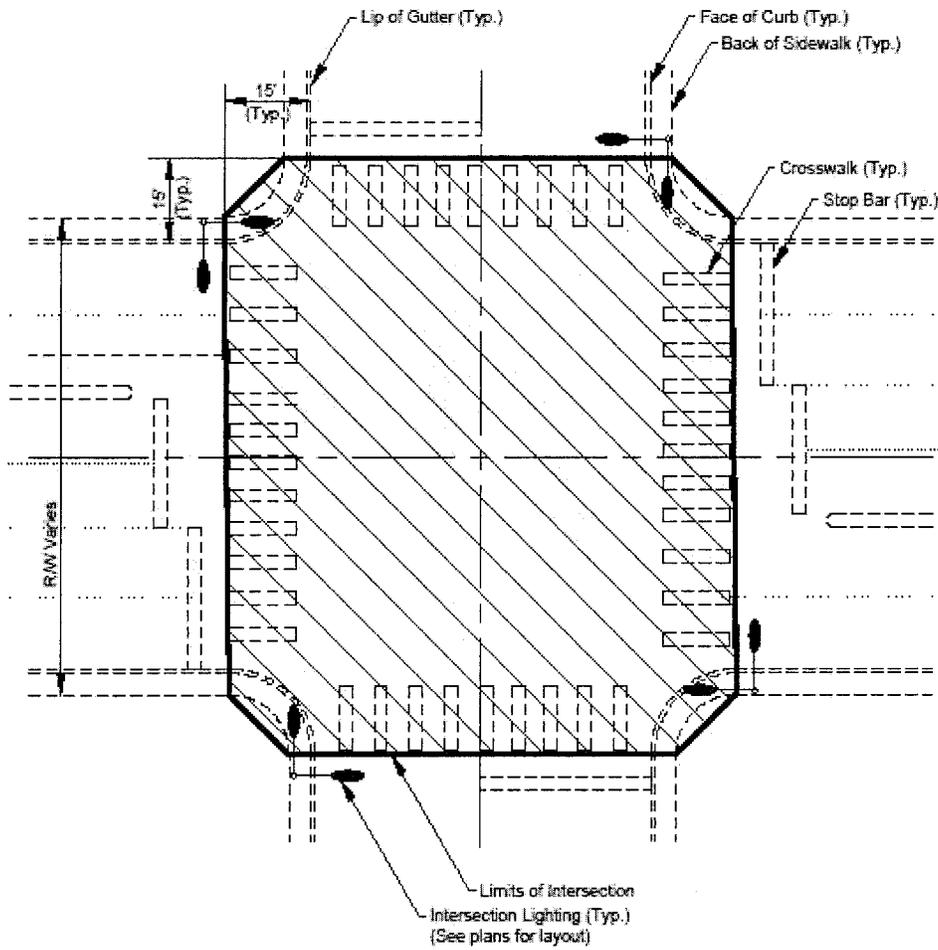
submittals.

2. IESNA LM-80-08 approved method for measuring lumen maintenance of LED lighting sources. Documentation shall be provided with the shop drawing submittals.
3. IESNA files shall be submitted for each fixture type, and also must include photometric test results for 30 foot and 37 foot mounting heights. Dimensions of the intersection and luminaire arms shall be clearly visible on the illumination exhibit.

F. Warranty

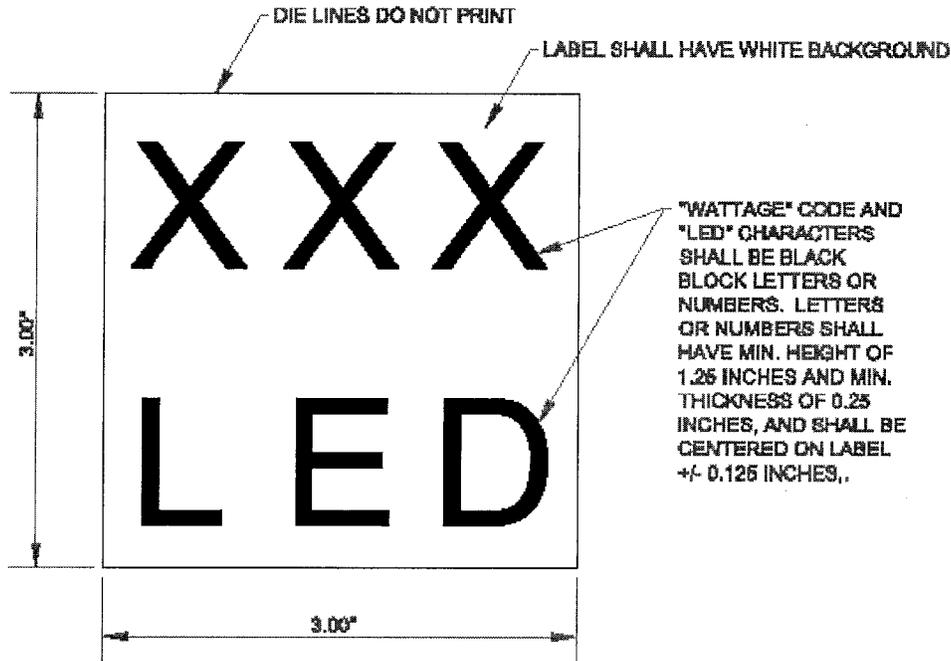
A manufacturer's warranty must be provided for the replacement or repair of the tube lamp due to any electrical failure (including light source and power supplies/drivers) for a minimum of five (5) years from final acceptance of the project. All other components shall have a warranty for a minimum of one (1) year after final acceptance of the project. Warranty documents shall have Clark County Public Works as the warrantee. Contractor shall provide all warranty documents to Clark County Public Works Traffic Management Division. Documents shall contain project name, bid number of the project, manufacturer, brand, model, contact information for warranty claim, and quantity of tube lamps installed. Warranty replacement of fixture shall be delivered no more than sixty (60) calendar days upon notification by Clark County Public Works.

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TYPICAL LIMITS OF INTERSECTION DETAIL
(N.T.S)

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING



WATTAGE LABEL
(N.T.S)

623 L.02.04 FUSEHOLDERS AND FUSES

Paragraph F is replaced with the following:

Fuse holders shall be rated for 600 volts. Single fuse holders shall be Littlefuse, 600 volt, Series LEB fuse holders, with WPB1 rubber boots and Littlefuse BLF10, fast-acting Midget, 250 volt, L4J12F fuse or approved equal. Double pole fuseholders shall be Littlefuse double fuse holder, Series LEX rated for 600 volts with Littlefuse rubber boot WPB1 and Littlefuse BLF10, Fast-Acting, Midget 250 volt L4J12F fuse or approved equal for 240 volt multiple street lighting systems. Glass, paper or indicating type fuses are not acceptable.

CONSTRUCTION

623 L.03.03 ELECTRICAL TESTING

Paragraph A.3 is replaced with the following:

A megohm test shall be conducted on all single conductor, except ground wire, between a new service pedestal and transformer. The insulation resistance shall not be less than 100 megohms when tested at 500 volts for one minute.

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

METHOD OF MEASUREMENT

623.04.01 MEASUREMENT

Add the following to this subsection:

The quantity of Traffic Signal System Modifications (Circus Circus Dr and Industrial Rd) will be measured as a lump sum, installed as a system, in place and operational, as shown on the contract drawings, as specified herein, and as directed by the Engineer.

The quantity of Traffic Signal System Modifications (Circus Circus Dr and Las Vegas Blvd) will be measured as a lump sum, installed as a system, in place and operational, as shown on the contract drawings, as specified herein, and as directed by the Engineer.

The quantity of 200 AMP Service Pedestal and Foundation will be measured per each, in place and operational, as shown on the contract drawings and as directed by the Engineer.

The quantity of LED Street Light Assembly and Foundation will be measured per each, in place and operational, as shown on the contract drawings and as directed by the Engineer.

The quantity of LED Luminaire will be measured per each, in place and operational, as shown on the contract drawings and as directed by the Engineer.

The quantity of No. 3 ½ Pull Box will be measured per each, complete and in place, as shown on the contract drawings, as specified herein, and as directed by the Engineer.

The quantity of Adjust Pull Box to Finished Grade will be measured per each, complete and in place, as shown on the contract drawings, as specified herein, and as directed by the Engineer.

The quantity of Crosswalk Warning Lighting System will be measured as a lump sum, installed as a system, in place and operational, as shown on the contract drawings, as specified herein, and as directed by the Engineer.

The quantity of Modified Pedestrian Pole and Foundation will be measured per each, complete and in place, as shown on the contract drawings, as specified herein, and as directed by the Engineer.

BASIS OF PAYMENT

623.05.01 PAYMENT

Add the following to this subsection:

The lump sum price paid for Traffic Signal System Modifications (Circus Circus Dr and Industrial Rd) shall be full compensation for supplying all labor, materials, and equipment necessary to complete the work in place as shown on the Drawings, as specified, and as directed by Engineer. The work shall include but is not limited to: the modification of traffic signal system and related components at the designated intersection including all pull strings, conduits, wires, cables, pull boxes (No. 5, No. 7, and/or P30), splice vaults (Type 200), removal/salvage of existing pull boxes, removal/salvage of existing luminaires, LED luminaires, trenching, bedding, backfill, conductors, poles, foundations, excavation, anchor bolts, pedestrian heads, tactile pedestrian push buttons, metal signs, testing, and all associated incidentals.

The lump sum price paid for Traffic Signal System Modifications (Circus Circus Dr and Las Vegas Blvd) shall be full compensation for supplying all labor, materials, and equipment necessary to complete the work in place as shown on the Drawings, as specified, and as directed by Engineer. The work shall include but is not limited to: the modification of traffic signal

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system and related components at the designated intersection including all pull strings, conduits, wires, cables, pull boxes (No. 5, No. 7, and/or P30), splice vaults (Type 200), remove/relocate existing pull boxes, removal/salvage of existing pull boxes, removal/salvage of existing luminaires, LED luminaires, trenching, bedding, backfill, conductors, poles, foundations, excavation, anchor bolts, pedestrian heads, tactile pedestrian push buttons, metal signs, testing, and all associated incidentals.

The accepted quantity of 200 AMP Service Pedestal and Foundation shall be paid per each which price shall be full compensation for furnishing and installing all materials including, but not limited to removal/salvage of existing service pedestal, excavation, trenching, backfill, concrete, foundations, connections, restoring improvements designated to remain in place, coordination and fees with NV Energy for disconnecting existing service pedestal and connection of 200 AMP Service Pedestal, and all labor, equipment, hardware and other incidentals required to be installed by the Contractor to make the service pedestal complete and fully operational as shown on the drawings, as specified herein, and as required by the Engineer.

The accepted quantity of LED Street Light Assembly and Foundation shall be paid per each which price shall be full compensation for furnishing and installing all materials including, but not limited to excavation, trenching, backfill, concrete, foundations, poles, LED luminaires, luminaire arms, connections, conduit and conductors from pull box to the street light, fittings, bends, pull strings, pull box, restoring improvements designated to remain in place, and all labor, equipment, hardware and other incidentals required to be installed by the Contractor to make the assemblies complete and fully operational as shown on the drawings, as specified herein, and as required by the Engineer.

The accepted quantity of LED Luminaire shall be paid per each which price shall be full compensation for furnishing and installing LED luminaires, removal/salvage of existing luminaires, connections, fittings, tools and required hardware for mounting, and all labor, equipment, hardware and other incidentals required to be installed by the Contractor to make the LED luminaire complete and fully operational as shown on the drawings, as specified herein, and as required by the Engineer.

The accepted quantity of No. 3 ½ Pull Box will be paid for at the contract unit price per each and shall be full compensation for all labor, equipment, and materials, including but not limited to pull boxes, pull box covers with appropriate markings, fittings, connections to existing conduit and circuits, conduit, conductors, for making all required tests, trenching, bedding, backfill, needed to complete the work in place as shown on the Drawings, as specified, and as directed by Engineer.

The accepted quantity of Adjust Pull Box to Finished Grade will be paid for at the contract unit price per each and shall be full compensation for supplying all labor, materials, and equipment necessary to complete the work in place as shown on the Drawings, as specified herein, and as directed by the Engineer.

The lump sum price paid for Crosswalk Warning Lighting System shall be full compensation for all labor and materials, including but not limited to in-roadway warning light fixtures, pedestrian microwave presence sensors, system controller, conduit and conductors from service pedestal, conduit and conductors from controller to all pedestrian microwave presence sensors, pull string for future flashing beacons, connection to drain pipes, shipping and delivering costs, tools and required hardware for mounting, fittings, connections, equipment, making all required tests, and all other incidentals required to make the "Crosswalk Warning Lighting System" operational as a system, and to function as specified and shown in the contract drawings, the manufacturer's recommendations, and these Supplemental Project Special Provisions.

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The accepted quantity of Modified Pedestrian Pole and Foundation will be paid for at the contract unit price per each and shall be full compensation for supplying all labor, materials, and equipment necessary to complete the work in place as shown on the Plans, as specified, and as directed by Engineer. The work shall include but is not limited to: furnishing and installing the modified pedestrian poles and related components at the designated locations including all foundations, anchor bolts, excavation, trenching, bedding, backfill, testing, and all associated incidentals required to make the system operational, as specified and shown in the contract drawings, the Clark County Area Uniform Standard Specifications, and these Supplemental Project Special Provisions.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Traffic Signal System Modifications (Circus Circus Dr and Industrial Rd)	Lump Sum
Traffic Signal System Modifications (Circus Circus Dr and Las Vegas Blvd)	Lump Sum
200 AMP Service Pedestal and Foundation	Each
LED Street Light Assembly and Foundation	Each
LED Luminaire	Each
No. 3 ½ Pull Box	Each
Adjust Pull Box to Finished Grade	Each
Crosswalk Warning Lighting System	Lump Sum
Modified Pedestrian Pole and Foundation	Each

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

CLARK COUNTY PUBLIC WORKS TRAFFIC MANAGEMENT DIVISION
TRAFFIC ASSET DATA COLLECTION FORMS
FORM 1 – SIGNAL ASSET

SIGNAL ASSET:

Signal Type: _____ (Traffic / Fire / School Flasher / Pedestrian Flasher)

Street name 1 _____

Street name 2 _____

Controller Cabinet:

Type: _____ (R-type / School / Other - Specify)

X _____ Y _____

Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)

Service Pedestal: X _____ Y _____

Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)

Address: _____

Meter #: _____

Amp Rating: _____ (200A / 125A / Other)

Poles:

Pole Type: _____ (1A / 1B / XX / XX-A / XX-B / TYPE 7 / SPECIAL)

Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)

Pole Height: _____

Mast arm length: _____ (Feet)

Luminaries: _____ (1 / 2)

X _____ Y _____

Pole Type: _____ (1A / 1B / XX / XX-A / XX-B / TYPE 7 / SPECIAL)

Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)

Pole Height: _____

Mast arm length: _____ (Feet)

Luminaries: _____ (1 / 2)

X _____ Y _____

Pole Type: _____ (1A / 1B / XX / XX-A / XX-B / TYPE 7 / SPECIAL)

Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)

Pole Height: _____

Mast arm length: _____ (Feet)

Luminaries: _____ (1 / 2)

X _____ Y _____

Pole Type: _____ (1A / 1B / XX / XX-A / XX-B / TYPE 7 / SPECIAL)

Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)

Pole Height: _____

Mast arm length: _____ (Feet)

Luminaries: _____ (1 / 2)

X _____ Y _____

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

CLARK COUNTY PUBLIC WORKS TRAFFIC MANAGEMENT DIVISION
TRAFFIC ASSET DATA COLLECTION FORMS
FORM 1 – SIGNAL ASSET

SIGNAL ASSET (CONTINUED)

Pull Boxes:

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / 7 / P30 / T200 / other)
Corner/median: _____ (NE / NW / SE / SW / N / S / E / W)
X _____ Y _____

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

CLARK COUNTY PUBLIC WORKS TRAFFIC MANAGEMENT DIVISION
TRAFFIC ASSET DATA COLLECTION FORMS
FORM 2 – STREET LIGHTING

STREET LIGHTING

Circuit: _____ (A, B, C, etc.)

Service Pedestal: X _____ Y _____

Address: _____

Meter #: _____

Amp Rating: _____ (200A / 125A / Other)

Poles:

Pole designation: _____ (A-1, A-2, etc.; must be same designation from the plans)

Street name: _____ (NE / NW / SE / SW / N / S / E / W)

Pole Height: _____ (Feet)

Pole Type: _____ (CCPW, NDOT, Summerlin, Southern Highland, Other - Specify)

Pole Base: _____ (Standard, Safety)

Pole Gage: _____ (7, 11, Other - Specify)

Luminaire arms: _____ (single, double)

Luminaire arm type: _____ (3-Bolt / Single Bolt)

Luminaire arm length: _____ (Feet) (8', 12', 15', 18')

Fixture type: _____ (HPS / Induction / LED)

Fixture Wattage: _____

Voltage: _____ (120 / 240 / 277)

X _____ Y _____

Pole designation: _____ (A-1, A-2, A-3, etc.; must be same designation from the plans)

Street name: _____ (NE / NW / SE / SW / N / S / E / W)

Pole Height: _____ (Feet)

Pole Type: _____ (CCPW, NDOT, Summerlin, Southern Highland, Other - Specify)

Pole Base: _____ (Standard, Safety)

Pole Gage: _____ (7, 11, Other - Specify)

Luminaire arms: _____ (single, double)

Luminaire arm type: _____ (3-Bolt / Single Bolt)

Luminaire arm length: _____ (Feet) (8', 12', 15', 18')

Fixture type: _____ (HPS / Induction / LED)

Fixture Wattage: _____

Voltage: _____ (120 / 240 / 277)

X _____ Y _____

Pole designation: _____ (A-1, A-2, A-3, etc.; must be same designation from the plans)

Street name 1: _____ (NE / NW / SE / SW / N / S / E / W)

Pole Height: _____ (Feet)

Pole Type: _____ (CCPW, NDOT, Summerlin, Southern Highland, Other - Specify)

Pole Base: _____ (Standard, Safety)

Pole Gage: _____ (7, 11, Other - Specify)

Luminaire arms: _____ (single, double)

Luminaire arm type: _____ (3-Bolt / Single Bolt)

Luminaire arm length: _____ (Feet) (8', 12', 15', 18')

Fixture type: _____ (HPS / Induction / LED)

Fixture Wattage: _____

Voltage: _____ (120 / 240 / 277)

X _____ Y _____

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

CLARK COUNTY PUBLIC WORKS TRAFFIC MANAGEMENT DIVISION
TRAFFIC ASSET DATA COLLECTION FORMS
FORM 2 – STREET LIGHTING

STREET LIGHTING (CONTINUED)

Pull Boxes:

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

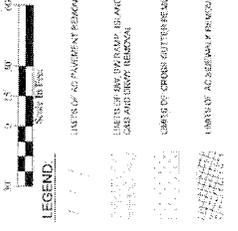
Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

Pull Box Type: _____ (3½ / 5 / Other)
X _____ Y _____

SECTION 623 – TRAFFIC SIGNALS AND STREET LIGHTING

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REMOVAL NOTES:

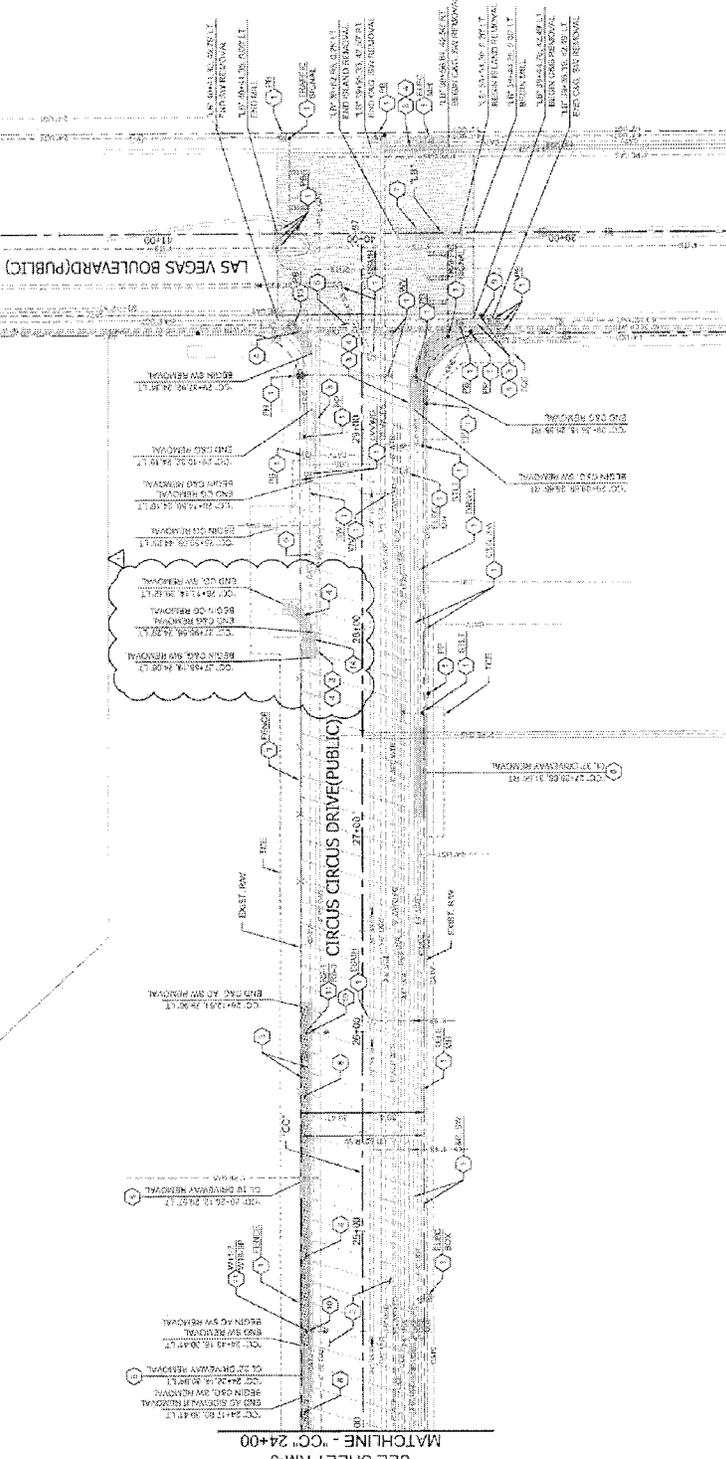
1. PROTECT IN PLACE
2. REMOVE EXISTING ASPHALT
3. SPRING EXISTING CURB & GUTTER
4. REMOVE EXISTING CONCRETE SUBGRADE
5. REMOVE EXISTING CONCRETE GUTTER
6. REMOVE EXISTING DRIVEWAY
7. REMOVE EXISTING MEDIAN ISLAND
8. PATCH EXISTING ASPHALT
9. REMOVE EXISTING GROUND BUILT
10. REMOVE EXISTING STREET LIGHT ASSEMBLY & FOUNDATION
11. REMOVE SIGN
12. MARKING AND REPAIRS TO EXISTING SURFACE
13. REMOVE EXISTING SUBGRADE

ALL EXISTING UTILITIES ARE TO BE PROTECTED IN-PLACE UNLESS NOTED OTHERWISE

CONTRACTOR TO VERIFY ALL EXISTING UTILITY LOCATION BOTH HORIZONTALLY & VERTICALLY PRIOR TO COMMENCEMENT OF CONSTRUCTION

FAST Call Center
 1-702-227-2929
 1-702-432-5300

Call Center
 1-702-227-2929



APPROVED FOR CONSTRUCTION
 Las Vegas Valley Water District Engineering Services Manager
 Project No. 12-2907
 Date: _____

CH2MHILL
 Clark County, Nevada
 1-702-432-5300

- NOTES:**
1. SEE NEXT PLAN FOR SPECIAL SECTIONS.
 2. USE SHEET HEAD TO INDICATE FOR RECORD PLANS.
 3. SEE SHEET 041 TO 044 FOR RECORD PLANS.
 4. SEE SHEET 041 & 042 FOR RECORD PLANS AND PROFILES.
 5. SEE SHEET 041 & 042 FOR RECORD PLANS AND PROFILES.
 6. ANY ADJUSTMENTS MADE TO THE ORIGINAL PLAN SHALL BE INDICATED BY A DASHED LINE. ANY ADJUSTMENTS MADE TO THE ORIGINAL PLAN SHALL BE INDICATED BY A DASHED LINE. ANY ADJUSTMENTS MADE TO THE ORIGINAL PLAN SHALL BE INDICATED BY A DASHED LINE.

**CIRCUS CIRCUS DRIVE FROM INDUSTRIAL RD TO LAS VEGAS BLVD
 REMOVAL PLAN
 "CC" 24+00 TO "CC" 29+07**

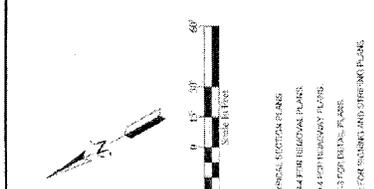


NO.	DATE	BY	REVISION

CH2MHILL
 Clark County, Nevada
 1-702-432-5300

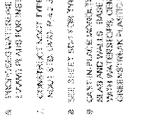
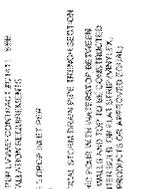
L-2041
 PROJECT NO. 48836
 SHEET 5 OF 24

CIRCUS CIRCUS DRIVE FROM INDUSTRIAL RD TO LAS VEGAS BLVD



NOTES

- SEE SHEETS 14 FOR TYPICAL SECTION PLANS
- SEE SHEETS 15 TO 18 FOR REMOVAL PLANS
- SEE SHEETS 19 TO 20 FOR REMOVAL PLANS
- SEE SHEETS 21 TO 22 FOR REMOVAL PLANS
- SEE SHEETS 23 TO 24 FOR REMOVAL PLANS
- SEE SHEETS 25 TO 26 FOR REMOVAL PLANS
- SEE SHEETS 27 TO 28 FOR REMOVAL PLANS
- SEE SHEETS 29 TO 30 FOR REMOVAL PLANS
- SEE SHEETS 31 TO 32 FOR REMOVAL PLANS
- SEE SHEETS 33 TO 34 FOR REMOVAL PLANS
- SEE SHEETS 35 TO 36 FOR REMOVAL PLANS
- SEE SHEETS 37 TO 38 FOR REMOVAL PLANS
- SEE SHEETS 39 TO 40 FOR REMOVAL PLANS
- SEE SHEETS 41 TO 42 FOR REMOVAL PLANS
- SEE SHEETS 43 TO 44 FOR REMOVAL PLANS
- SEE SHEETS 45 TO 46 FOR REMOVAL PLANS
- SEE SHEETS 47 TO 48 FOR REMOVAL PLANS
- SEE SHEETS 49 TO 50 FOR REMOVAL PLANS
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- SEE SHEETS 83 TO 84 FOR REMOVAL PLANS
- SEE SHEETS 85 TO 86 FOR REMOVAL PLANS
- SEE SHEETS 87 TO 88 FOR REMOVAL PLANS
- SEE SHEETS 89 TO 90 FOR REMOVAL PLANS
- SEE SHEETS 91 TO 92 FOR REMOVAL PLANS
- SEE SHEETS 93 TO 94 FOR REMOVAL PLANS
- SEE SHEETS 95 TO 96 FOR REMOVAL PLANS
- SEE SHEETS 97 TO 98 FOR REMOVAL PLANS
- SEE SHEETS 99 TO 100 FOR REMOVAL PLANS



NOTES

- SEE SHEETS 14 FOR TYPICAL SECTION PLANS
- SEE SHEETS 15 TO 18 FOR REMOVAL PLANS
- SEE SHEETS 19 TO 20 FOR REMOVAL PLANS
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- SEE SHEETS 99 TO 100 FOR REMOVAL PLANS

CONTRACTOR TO VERIFY ALL EXISTING UTILITY LOCATION BOTH HORIZONTALLY & VERTICALLY PRIOR TO COMMENCEMENT OF CONSTRUCTION

ALL EXISTING UTILITIES ARE TO BE PROTECTED IN PLACE UNLESS NOTED OTHERWISE

APPROVED FOR CONSTRUCTION

Las Vegas Valley Water District Engineering Services Manager

Date: _____ Project No.: 122882

FAST Call Before You Dig

Underground 1-702-227-2929

1-702-432-5300

Call Overhead

1-702-227-2929

Call Overhead

1-702-432-5300

CH2MHILL

DESIGNED BY: L. MULLIN

CHECKED BY: J. LEBRETT

DATE: _____

CLARK COUNTY

CLARK COUNTY, NEVADA DEPARTMENT OF PUBLIC WORKS

CIRCUS CIRCUS DRIVE FROM INDUSTRIAL RD TO LAS VEGAS BLVD

STORM DRAIN PLAN AND PROFILE

"CC" 25+00 TO "CC" 29+56

CLARK COUNTY

CLARK COUNTY, NEVADA DEPARTMENT OF PUBLIC WORKS

SEE SHEET SD-1

MATCHLINE - STA. 25+00

SEE SHEET SD-1

MATCHLINE - STA. 25+00