

GENERAL

Project Description

This project consists of the replacement of median barrier and lighting upgrade along I-90 from CEI Intake Bridges to E.140<sup>th</sup> Street in the Cities of Bratenahl and Cleveland.

Existing Typical Sections

Existing typical sections have been taken from the records and are believed to represent the existing pavement, but the State of Ohio does not guarantee the accuracy of the same.

For further information regarding the existing typical sections, the Contractor shall refer to the previous construction plans.

These plans may be reviewed at the

Ohio Department Transportation  
District 12 Office  
5500 Transportation Boulevard  
Garfield Heights, Ohio 44125

Construction Noise

Activities and land use adjacent to this project may be affected by construction noise. In order to minimize any adverse construction noise impacts, do not operate power-operated construction-type devices between the hours of 9:00PM and 6:00AM. In addition, do not operate at any time any device in such a manner that the noise created substantially exceeds the noise customarily and necessarily attendant to the reasonable and efficient performance of such equipment.

Work Limits

The work limits shown on these plans are for physical construction only. Provide the installation and operation of all work zone traffic control and work zone traffic control devices required by these plans whether inside or outside these work limits.

Protection of Right-of-Way Landscaping

Prior to beginning work, the Contractor, the Project Engineer, and a representative of the Maintaining Agency will review and record all landscaping items within the right-of-way (both within and outside the construction limits). A record of this review will be kept in the Project Engineer's files. Prior to final acceptance, a final review of landscaping items will be made.

Constrict all activities, equipment storage, and staging to within the construction limits. Unless otherwise identified in the plans or proposal, the construction limits are identified as 30 feet from the edge of pavement.

Submit a written request to the Project Engineer to use any area outside these limits. The document submitted must clearly identify the area and explain the proposed use and restoration of the area. Use of these areas for disposal of waste material and construction debris, excavation of borrow material and placement of portable plants is prohibited. The request must be approved, in writing, before the Contractor has permission to use the area.

Any items damaged beyond the construction limits, as defined above, will be replaced in kind or as approved by the Project Engineer.

Utilities

Listed below are all utilities located within the project construction limits together with their respective owners:

The Illuminating Co. 6896 Miller Road Brecksville, Ohio 44141 Attn: John Zassick Phone: 440-546-8706	City of Cleveland Division of Cleveland Public Power (MELP) 1300 Lakeside Ave. Cleveland, Ohio 44114 Attn: Chris Hirzel Phone: 216-664-3922, Ext. 76115
AT&T 13630 Lorain Ave. – 2 <sup>nd</sup> Floor Cleveland, Ohio 44111 Attn: James Janis Phone: 216-476-6142	City of Cleveland Division of Water 1201 Lakeside Ave. Cleveland, Ohio 44114 Attn: Fred Roberts Phone: 216-664-2444 Ext. 75590
Dominion Energy Ohio 320 Springside Drive Suite 320, Akron, Ohio 44333 Attn: 2 <sup>nd</sup> Floor Relocation Design Phone: 330-664-2409	City of Cleveland Division of Water Pollution Control 12302 Kirby Road Cleveland, Ohio 44108 Attn: Rachid Zoghaib Phone: 216-664-3785
Ohio Department of Transportation 5500 Transportation Blvd. Garfield Heights, Ohio 44125 Phone: 216-581-2100	City of Cleveland Division of Traffic Engineering 601 Lakeside Ave, Room 25 Cleveland, Ohio 44114 Attn: Dmitri Szynal Phone: 216-402-9278
Northeast Ohio Regional Sewer District (NEORS) 3900 Euclid Ave Cleveland, Ohio 44115 Attn: Mary Maciejowski Phone: 216-881-6600, Ext. 6466	ODOT Traffic Monitoring Section 1980 West Broad Street Columbus, Ohio 43223 Attn: Ed Newmeyer (Field Rep) Phone: (614) 204-0914 Attn: Sandra Mapel (Field Operations) Phone: (614) 644-0291
Cuyahoga County Sanitary Engineer 2079 E. 9 <sup>th</sup> Street, 5 <sup>th</sup> Floor Cleveland, Ohio 44113 Attn: Hugh Blocksidge Phone: 216-443-8205	Charter Communications 8179 Dow Circle Strongsville, Ohio 44136 Attn: Gary Naumann Phone: 216-575-8016, Ext. 5033
ODOT Office of Technical Services Traffic Monitoring Section 1980 W. Broad St. Columbus, OH 43223 Attn: Ronda Keller Phone: 614-965-4463	ODOT Office of Traffic Operations 1606 W. Broad St. Columbus, OH 43223 Phone: 614-387-4113 <a href="mailto:cen.its.lab@dot.ohio.gov">cen.its.lab@dot.ohio.gov</a>

The location of the underground utilities shown on the plans are as obtained from the owners as required by Section 153.64 O.R.C.

Clearing and Grubbing

Although there are no trees or stumps specifically marked for removal within the project limits of the project, a Lump Sum quantity is included in the General Summary for Item 201, Clearing and Grubbing. All provisions as set forth in the Specifications under this item are included in the Lump Sum price bid for Item 201, Clearing and Grubbing.

Item 201 – Clearing and Grubbing.....Lump Sum

Contingency Quantities

The Contractor shall not order materials or perform work for items designated by plan note to be used “as directed by the Engineer” unless authorized by the Engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

Equipment and Material Storage

In order to provide for the safety of the traveling public the Contractor's attention is directed to 614.03. In addition, the following provisions shall apply:

- Any removed items shall not be stored on the right of way for more than thirty (30) days.
- The storage of equipment, materials, and vehicles within the highway right of way will be permitted. The number of areas and exact locations shall be approved by the Engineer.
- All disturbed areas shall be returned to their original condition at no expense to the state.

Cooperation Between Contractors

The Contractor shall cooperate and coordinate operations with the Contractors on other projects that may be in force during the life of the contract.

Plan Sheet Stationing

The roadway was not surveyed prior to the preparation of these plans. Stationing was provided to prepare plan sheets and calculate pavement and pavement marking quantities.

Staging Areas

There are no specific areas given in the plans for the Contractor to use as a staging area(s). If the Contractor wants to use an area(s) for staging, regardless if it falls within the project limits or not, the Contractor is to use the Right of Way E-Permitting System located at <https://odhcp.bemcorp.net/Accounts/Account/Account> in order to apply for a permit per Section 107.02 of the C&MS. For specific permitting questions, the Contractor can contact the District Permitting Office, (Melvin Safford) at 216-584-2137, (Andrew Tomko) at 216-584-2195 or at [District12Permits@dot.ohio.gov](mailto:District12Permits@dot.ohio.gov).

If a permit is granted, all conditions of the permit shall be met in addition to the requirements of 104.04 of the C&MS, at no additional cost to the State. If the Project Engineer deems that all the conditions of the permit were not met, then 10% of the Contract bid amount for mobilization shall be withheld until all the conditions of the permit are satisfied.

Item 619 – Field Office, Type B, As Per Plan

In addition to the requirements of C&MS 619, the Contractor shall furnish and set up a Wi-Fi router meeting the requirements of IEEE 802.11ac for the exclusive use of the Department.

All other field office items supplied shall meet the requirements of a Type B Field Office.

Item 619 – Field Office, Type B, As Per Plan ..... 6 Months

Item 623 – Construction Layout Stakes and Surveying, As Per Plan

Per C&MS 623.04 and 623.05, the Contractor shall field-verify the location of all existing monument assemblies, survey corners and survey control prior to beginning any work and after project completion (if applicable). A pre-inspection report is to be submitted prior to commencement of work and post-construction report submitted prior to or in conjunction with the final inspection to the district survey operations manager. Existing monumentation shall be preserved and perpetuated throughout the project.

The department's standardized verification report template can be found at the following location:

<https://www.dot.state.oh.us/divisions/constructionmgt/documents>

All labor, material, equipment, and incidentals needed to complete this work shall be included in the contract bid price for Item 623 - Construction Layout Stakes and Surveying.

Any monument assembly that is immediately visible on the surface of the existing pavement or is uncovered during the planing process shall be adjusted to grade or, if substantial deterioration is determined by the Engineer, reconstructed to grade these adjustments and reconstructions shall be paid for under the pertinent 623 pay items.

Drainage

Review of Drainage Facilities

Prior to the start of work and again before final acceptance, perform an inspection with representatives of the Department, Contractor and locals of all existing drainage facilities that are to remain in service which may be affected by the work. The condition of the existing conduits and their appurtenances is determined from field observations. Records of the inspection are maintained by the Department.

Confirm all existing sewers inspected initially by the above-mentioned parties are maintained and left in a condition comparable to that determined by the original inspection. The Contractor is responsible to correct any change in the condition resulting from their operations as directed and approved by the Engineer.

Payment for all operations described above is included in the contract price for the pertinent 611 conduit items.

Item Special – Miscellaneous Metal

Existing castings may prove to be unsuitable for reuse, as determined by the Engineer. The Contractor is responsible to provide the castings of the required type, size and strength (heavy or light duty) for the structure in question. Furnish materials per 611 with prior approval of the Engineer.

The following estimated quantity has been carried to the General Summary for use as directed by the Engineer.

Item Special, Miscellaneous Metal	1,000 lb
-----------------------------------	----------

Replace existing castings damaged by Contractor negligence, as determined by the Engineer, at the expense of the Contractor.

Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1, As Per Plan  
Item 611 – Inlet, No. 3 for Single Slope Barrier, Type C1, As Per Plan

This item shall consist of furnishing and installing Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1 and Type C1 according to the C&MS and Standard Construction Drawing I-3B & I-3C with the following modifications:

1. This item is intended to replace the concrete barrier on top of the inlet only.
2. The length of the concrete barrier on top of the inlet varies as detailed in the subsummaries to avoid leaving very small sections of unreinforced barrier adjacent to the inlet.

All costs for this item of work, including labor, materials, equipment and incidentals shall be included in the unit bid price for Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1, As Per Plan & Item 611 – Inlet, No. 3 for Single Slope Barrier, Type C1, As Per Plan.

Item 611 – Inlet Reconstructed to Grade, As Per Plan

The Contractor and Field Engineer shall field check all existing inlets located within the limits of the project. Any casting found that exhibits substantial deterioration shall be “Reconstructed to Grade”, as directed by the Engineer. In addition, if it is found that the inlet trough section exhibits substantial deterioration, then replacement of the trough shall be incidental to Item 611 – Inlet Reconstructed to Grade, As Per Plan.

The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item 611 – Inlet Reconstructed to Grade, As Per Plan .....	10 Each
--	---------

**Pavement**

**Profile and Alignment**

Place the proposed pavement to follow the alignment of the existing pavement. Place the proposed asphalt concrete with a uniform thickness as shown on the typical sections.

**Planing Requirements**

The duration of time between planing the asphalt and placing the asphalt overlay shall be kept to a minimum. In no instance shall this time exceed 7 calendar days. The time limit shall begin on the first day of planing and shall continue based on calendar days, minus any weather days, until completion of the asphalt concrete surface course. This is to ensure that the potential degradation of the exposed pavement due to traffic is kept to a minimum. This requirement applies to both mainline and ramps alike.

In the event that the time between exposing the existing pavement and placing the asphalt surface course exceeds 7 calendar days, liquidated damages as per 108.07 of the C&MS shall be assessed.

**Item 254 – Pavement Planing, Asphalt Concrete, As Per Plan**

This item shall be used to remove a consistent width of the asphalt overlay from the inside shoulder at a depth of 1.5" as specified in the plans on IR-90. Care should be taken to avoid destroying or damaging existing rumble strips. Pavement planing limits shall be offset a minimum of 6" from the edge of the existing rumble strips. For estimating purposes, quantities are based on a consistent width of 4' as shown on the typical sections. The width shall be adjusted in the field, as directed by the Engineer, as required to maintain the minimum 6" offset to the existing rumble strips.

**Asphalt Concrete Surface Course Sealing Requirements**

- In addition to the gutter sealing requirements specified in SCD BP-3.1 and C&MS 401.08 (D), after completion of the surface course, the Contractor shall use a certified 702.01 PG binder to seal the following locations:
- All castings including but not limited to monuments, manholes, water valves, catch basins, curb inlets.
  - Butt joints and feather joints including bridge approaches.
  - Forward joint for driveway asphalt and trailing joint when butting to existing asphalt drive.
  - Perimeter of all pavement repairs or other asphalt inlays when pavement repairs/inlays are not overlaid with an asphalt concrete surface course.
  - All cold longitudinal joints between paved shoulders and guardrail asphalt.

The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

Any additional costs associated with the work identified in this note shall be included in the appropriate asphalt concrete surface course item of work.

**Item 442 – Asphalt Concrete Surface Course, 12.5mm, Type A, (448), As Per Plan, PG76-22M**

The coarse virgin aggregate for this item shall be limited to a blend of air-cooled blast furnace slag (ACBFS) or Trap Rock from Ontario and limestone. The Contractor shall use a minimum 60% of ACBFS or Trap Rock from Ontario with limestone comprising the remaining percentage. At least 50% of fine virgin aggregate for this item shall be limited to ACBFS or Trap Rock from Ontario.

Table 442.02-2 applies except No. 4 sieve requirements are 52 to 60 Total Percent Passing. For the No. 4 sieve do not exceed 63 in production.

When ACBFS is used for a fraction of the coarse aggregate, provide a total asphalt binder content greater than or equal to 6.2 percent. If ACBFS makes up 100% of the coarse aggregate, apply the binder content requirements of C&MS 442.

**Item 442 – Asphalt Concrete Surface Course, 12.5mm, Type A, (448), As Per Plan, PG70-22M**

The coarse aggregate for this item shall be limited to a blend of air-cooled blast furnace slag (ACBFS) and limestone. The Contractor shall use a minimum of 50 percent ACBFS with limestone comprising the remaining percentage.

In addition to the joint sealing requirements specified in 401.17, the Contractor shall seal the perimeter of all rumble strip pavement replacement areas. The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

Payment for all labor, materials and equipment required to perform the above work shall be included in the contract price for Item 442 – Asphalt Concrete Surface Course, 12.5MM, Type A (448), As Per Plan, PG70-22M.

**Item 630 – Modification of Barrier Wall Assembly**

Existing Barrier Wall Assemblies detailed in the now-rescinded Traffic SCD TC-21.41, provide a 3-inch-high clearance below the bottom of the steel wall plates for the drainage of water away from the sign support foundation and for ventilation.

Asphalt concrete shall be placed and compacted around the sign support foundation so that no water will be trapped in this area when all project work is completed.

- If the resurfacing of the shoulders reduces the clearance to less than 2 inches the following shall be done:
1. Remove the steel wall plates;
  2. Remove, by sawing, cutting or grinding, enough material from the bottom of the steel wall plates and the center bulkhead to provide a 3-inch clearance from the finished asphalt;
  3. Paint the cut edges and any damaged galvanized areas with two coats of zinc-rich paint; and
  4. Reinstall the steel wall plates in their proper positions, using new bolts, nuts and washers.

Payment will be at the contract unit price for each Item 630 "Modification of Barrier Wall Assembly" including all necessary material, parts, equipment and labor at each foundation.

**Traffic Control**

**Sign Shop Drawings**

The Contractor shall submit a complete set of sign shop drawings to the Project Engineer for approval a minimum of four weeks prior to beginning of fabrication. The Project Engineer shall forward the sign shop drawings to the District Planning and Engineering Department c/o Ben Kruse (216-584-2111) for approval.

**Raised Pavement Markers**

Install raised pavement markers for lane lines at a spacing of eighty feet (80') center-to-center.

**Item 630 – Mainline Reference Marker**

Install mainline reference markers at locations given on the Traffic Control plan sheets and as per Plan Insert Sheet 202020.

The following quantity has been carried to the General Summary to perform the above items of work:

Item 630 – Mainline Reference Marker.....**36 Each**

- Item 630-Sign Support Assembly, Pole Mounted**
- Item 630-Sign Support Assembly, Barrier Mounted**
- Item 630-Sign, Flat Sheet**
- Item 630-Removal of Ground Mounted Sign and Reerection**

These pay items are being provided to remove and reerect miscellaneous flat sheet signs onto new sign support end frames, reerect object markers onto the new concrete barrier and to place new freeway reference markers onto the proposed concrete barrier. The Contractor shall document the existing location of the object markers and reerect them in their original location.

The new freeway reference markers shall be the standard sign design D10-5 (white on blue) and bear the interstate 71 route shield. The approximate locations of the reference markers are shown on sheets 136-149 of this plan. The barrier mounted sign support assemblies shall be fabricated per the details on sheet 126 of this plan.

The following quantities are being carried to the general summary to perform these items of work:

Item 630-Sign Support Assembly, Pole Mounted ..... **2 Each**  
Item 630-Sign Support Assembly, Barrier Mounted ..... **38 Each**  
Item 630-Sign, Flat Sheet ..... **180 Sq.Ft.**  
Item 630-Removal of Ground Mounted Sign and Reerection ..... **16 Each**

**Item 630-Overhead Sign Support, Type TC-15.116, Design 1, As Per Plan**

In addition to C.M.S. 630.06, the sign supports shall have a wet or dry coating applied per Supplemental Specification **916**. The color shall be medium grey (Federal Color No. 16440).

The coating of the supports shall be included in the bid price for Item 630-Overhead Sign Support, Type TC-15.116, Design 1, As Per Plan. This support type shall be itemized as coating three (2) galvanized steel end frames and one (1) galvanized truss per support.

**Item 630-Overhead Sign Support, Type TC-15.116, Design 2, As Per Plan**

In addition to C.M.S. 630.06, the sign supports shall have a wet or dry coating applied per Supplemental Specification **916**. The color shall be medium grey (Federal Color No. 16440).

The coating of the supports shall be included in the bid price for Item 630-Overhead Sign Support, Type TC-15.116, Design 2, As Per Plan. This support type shall be itemized as coating three (2) galvanized steel end frames and one (1) galvanized truss per support.

**ITS**

**Maintaining ITS During Construction**

The Contractor shall maintain all preexisting or newly installed permanent ITS/Traffic devices and infrastructure during construction according to [ODOT Supplemental Specification 809](#).



Lighting

Item 625 – Pull Box Cleaned

This item of work shall consist of cleaning an existing pull box by removing any existing cables not being reconnected, and debris so that the new cables can be installed. Any unused openings shall be closed. Disturbed areas near the pull box shall be cleared of weeds or debris and shall be fully restored. Material removed shall become the property of the Contractor and shall be properly disposed of off the project site.

Payment will be made at the unit price under C&MS Item 625, “Pull Box Cleaned” for each pull box cleaned which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

Item 625 – Conduit Cleaned and Cables Removed

This item shall consist of cleaning an existing conduit by removing existing cables, mud and debris so that new cable can be installed. Incidental to the cleaning is the installation of bushings and/or couplings on the ends of existing conduit as required. Materials removed shall become property of the Contractor for proper disposal off the project site. Disturbed areas shall be properly restored.

Payment will be made at the unit price bid under C&MS Item 625, “Conduit Cleaned and Cables Removed” per foot of conduit cleaned which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

Conduit Expansion and Deflection

Expansion fittings shall be OZ Type AX, Crouse Hinds Type XJG, or equal approved by the Engineer. Each expansion fitting shall provide either 4 or 8 inches total movement as specified by the plan details and shall have an external copper bonding jumper, unless specified otherwise by the plan details.

Deflection couplings shall be OZ Type DX, Crouse Hinds Type XD, or equal approved by the Engineer. Each deflection coupling shall have an external copper bonding jumper, unless specified otherwise by the plan details. Minimum deflection capability: 25°.

Expansion and deflection fittings fully or partially embedded in concrete, soil, or similar material shall be completely wrapped in a neoprene sleeve or sheet of ½-inch minimum thickness.

Secure neoprene wrap with tie-wraps prior to embedment of the fitting.

High Voltage Test Waived

The high voltage test shall not be performed on the circuits constructed by this project, since the test could damage the portion of the completed circuit which has been in service prior to this project.

Item Special-Maintain Existing Lighting

Existing roadways which are to remain open to traffic during construction of this project and which are lighted shall have the lighting maintained as described herein.

Before any work is started in the immediate vicinity of the existing lighting circuits, representatives of ODOT, the Maintaining Agency and the Contractor shall make a visual inspection of the existing roadway lighting circuits to be maintained. During this inspection, a written record of the condition of existing lighting shall be made by ODOT's representative. This written report shall note individual luminaires which are not in working order, individual poles which are not standing, and individual circuits which are not in working order. The completed report shall be

signed by the representatives of ODOT, the Maintaining Agency and the Contractor.

If, as a result of this inspection, it is determined that the condition of the existing system is below that required for the safety of the traveling public, then the Maintaining Agency shall make the repairs necessary to return the system to an acceptable condition. Following these repairs, the system shall again be inspected, and a report shall be made and signed as outlined herein.

When the existing system is in an acceptable condition, it shall be turned over to the Contractor who shall then be required to maintain the existing lighting to the condition outlined in this report with the exception of knockdowns due to traffic accidents.

Replacement of knocked down units shall be done only when the Engineer has determined that the replacement of the knocked down unit is necessary and shall be paid separately on a unit basis.

Betterments shall be covered in items of work pertaining to the construction of permanent improvement.

When the sequence of construction activities requires, or should the Contractor desire, the removal of the existing lighting before the new lighting is operational, the Contractor shall be responsible for providing temporary lighting of this portion of the roadway.

Prior to installing such lighting, the Contractor shall prepare and submit four sets of the temporary lighting plan to the Engineer for review and approval.

This plan shall show locations of poles, lengths of bracket arms, styles of luminaires, mounting heights, wiring methods and other pertinent information. The temporary lighting shall provide an average initial intensity of 1.2 footcandles with an average to minimum uniformity not to exceed 3:1. Mounting height of temporary luminaires shall not be less than 30 feet, and the minimum overhead conductor clearance shall be 20 feet. Temporary overhead construction shall not be less than Grade "B" for strength requirements as defined by the National Electric Safety Code. Wood poles with overhead wiring may be used. However, temporary lighting shall meet Federal and State safety criteria. If breakaway poles are used to meet these criteria, then underground wiring shall be used. Reconditioned or used materials may be furnished for temporary lighting. All materials necessary to complete the temporary lighting shall be furnished and installed by the Contractor. When no longer needed, the temporary lighting installation shall be removed and properly disposed of by the Contractor.

When the project begins and the Contractor has taken over maintenance of the existing facilities, the Contractor is responsible for all required layouts and locations of the existing and proposed electrical circuits and related items within the project limits. The Contractor shall locate and mark all underground electrical circuits (including traffic loops and loop lead-ins) for the duration of the project.

The Maintaining Agency will pay for electrical energy consumed by existing power services and by proposed permanent power services after acceptance of the lighting work. The Contractor will pay for electrical energy, installation, removal and maintenance of any temporary power services.

The lump sum price bid for Item Special "Maintain Existing Lighting" shall include payment for all labor, equipment, materials and incidentals necessary to maintain the existing lighting as specified herein.

The unit price bid for Item Special "Replacement of Existing Lighting Unit" shall be full payment for the replacement of an existing lighting unit which has been knocked down after the aforementioned inspection and shall include all labor, equipment, materials and incidentals necessary to provide a replacement for such unit.

Item 625 – Power Service, As Per Plan

In addition to the requirements of the Specifications, the following is added.

The power supplying agency for this project is:

Power Company	First Energy-The Illuminating Company
Address	6896 Miller Road, Brecksville, Ohio 44141
Phone #	1-800-589-3101
Contact Name	Call for New Service Request

The Engineer shall ensure that each power service electrical energy account is in the name of and that the billing address is to the Maintaining Agency noted in the plans. This shall be done not only for each new power service established by this project but also for each existing power service, since there may be reassignment of the responsibility of an existing service as a result of the work performed by this project.

Payment will be made at the unit bid price for each C&MS Item 625, “Power Service, As Per Plan” which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

Item 625-Luminaire, Low Mast, Solid State (LED), As Per Plan

In addition to supplemental specification 813, use the following luminaire or approved equal as directed by the highway maintenance Traffic Engineer:

Holophane HMLED4 PK2 30K HVOLT HGR AN PR7with a color temperature of 3000K, type V distribution and a minimum 47000 lumen performance.

Payment will be made at the unit bid price of each for Item 625-Luminaire, Low Mast, Solid State (LED), As Per Plan which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.