

## SECTION 104 - SCOPE OF WORK

## 104.01 Contract.

(A) **Intent of Contract.** The Contractor shall complete the work described and furnish labors, materials, equipment, tools, transportation, and supplies required to complete the work according to the contract.

The following provisions apply to projects with a construction cost estimated at over one million dollars (\$1,000,000.00) except for resurfacing projects.

(B) **Voluntary Partnering.** The Department intends to encourage the foundation of cohesive partnership with the Contractor and its principle subcontractors and suppliers. Each organization will structure this partnership to draw on the strengths and to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance and completion within budget, on schedule, and according to the contract.

This partnership will be bilateral in makeup and participation will be voluntary. Both parties will agree and share equally the costs associated with effectuating this partnering.

The Contractor's management personnel and the Highways Division's Construction and Maintenance Branch (HWY-C) or the District Office will initiate partnering before start of work and before the preconstruction conference. They will initiate a partnering development seminar/team building workshop. The Department's District Construction Engineer and the Contractor's authorized representative will be the coordinators in determining attendees, agenda, location, and duration of the workshop.

Persons attending the seminar/workshop will be the Department's and the Contractor's Project Site Engineers, other key on-site project personnel, senior management level personnel and authorized representatives of subcontractors and suppliers. Other attendees, as applicable to the project, include key personnel from:

- (1) Design Consultants and subconsultants,
- (2) State Division branches such as:
  - (a) Traffic
  - (b) Materials Testing & Research Laboratory
  - (c) Design
  - (d) Planning

- (e) Right-of-Way |
- (3) Other State Departments or Agencies such as: |
  - (a) Health |
  - (b) Land & Natural Resources |
  - (c) Commission on Persons with Disabilities |
- (4) County Departments or Agencies such as: |
  - (a) Public Works |
  - (b) Transportation Services |
  - (c) Wastewater Management |
- (5) Federal Agencies such as: |
  - (a) Federal Highway Administration (FHWA) |
  - (b) Corps of Engineer |
  - (c) Environmental Protection Agency (EPA) |
- (6) Utility Companies such as: |
  - (a) Hawaiian Electric Company (HECO) |
  - (b) Hawaiian Telephone Company (HTCO) |
  - (c) GASCO |
  - (d) Signal Corps |
  - (e) Oceanic Cable TV |

The Contractor's authorized representative and the Department's Construction or Resident Engineer may hold follow-up workshop periodically throughout the duration of the contract. |

Establishment of a partnership charter on a project will not change the legal relationship of the parties to the contract nor relieve either party from the terms of the contract. |

**104.02 Alterations of Plans or Type of Work.** The Department reserves the right to make during the progress of the work, such increase or decrease in the quantity of contract items. Also, the Department reserves the right to alter the details of the work as necessary or desirable. Such increases or decreases and alteration shall not invalidate the contract or release the surety. The Contractor agrees to accept the work as increased, decreased or altered. \*|

Alterations of plans or nature of the work shall not involve work \*  
beyond the limits of the original proposed work except as may be necessary to \*  
complete the project according to the contract. \*

The Contractor shall do the altered work as part of the contract unless \*  
the altered work significantly changes the scope of work to be done. Also, \*  
the Department will pay the altered work at the same contract prices as for \*  
other parts of the work. \*

For purposes of this subsection, an altered work shall be an ordered \*  
change involving:

(1) Work that is different in kind, nature or cost from items called for \*  
in the original contract; or

(2) More than twenty-five (25) percent increase or decrease in the \*  
quantity of a major contract item. |

The Engineer will make an allowance on such agreed basis before the work \*  
starts if the altered work is significant. The Engineer will make an \*  
equitable adjustment in the contract price if there is no agreement. \*

The Contractor shall not apply the provisions of this subsection to \*  
overruns and underruns on minor contract items. |

The Contractor shall not make claims for loss of anticipated profits \*  
because of alteration or variation between the approximate quantities and the \*  
actual quantities. \*

The Department will make payment according to Subsection 109.03 - \*  
Compensation for Altered Quantities if the altered work is significant. The \*  
Department will make such time adjustment according to Subsection 108.07 - \*  
Determination and Extension of Contract Time if the altered work requires \*  
additional time to complete the project. \*

**(A) Alterations in Quantities or Scope of Work for Major Contract Items** \*  
**with Unit Prices.** The Engineer will make adjustment in the unit price \*  
only if the total quantity of that increased or decreased major contract \*  
item is more than twenty-five (25) percent of the original contract \*  
amount of that item. The total quantity includes quantity of previous \*  
orders. \*

The Engineer may base such adjustment on the increased or decreased \*  
actual cost to the Contractor per unit of said item. The Engineer has \*  
the option of making adjustment on a force account basis according to \*  
Subsection 109.04 - Extra and Force Account Work and the following: \*

(1) For increased quantities, the Engineer will apply such \*  
adjustments to the increased quantities over twenty-five (25) \*  
percent of the original contract amount of that item. \*

(2) For decreased quantities, the Engineer will apply such \*  
 adjustments to the decreased quantities over twenty-five (25) \*  
 percent of the original contract amount of that item. \*

**(B) Alterations in Quantities or Scope of Work for Major Contract Items** \*  
**with Lump Sum Items.** If the Contractor makes the ordered alterations \*  
 involving the quantity of lump sum items or portion of the lump sum work, \*  
 the Engineer will make adjustment in payment only in work influenced by \*  
 the alterations. \*

The Engineer will base the adjustment in lump sum price on a \*  
 theoretical unit price when the increase or decrease does not exceed ten \*  
 (10) percent of the original quantity. The Engineer will resolve the \*  
 theoretical unit price by dividing the original contract lump sum price \*  
 by the original quantity. The adjustment in the original lump sum price \*  
 shall be the product of the theoretical unit price and the quantity \*  
 involved not exceeding ten (10) percent of the original quantity for the \*  
 item of work. |

When the increase exceeds ten (10) percent of the original quantity, \*  
 the Contractor and the Engineer will mutually agree on the adjustment in \*  
 payment for the quantity over ten (10) percent. If failure to agree, the \*  
 Engineer will pay such increased work for on a force account basis \*  
 according to Subsection 109.04 - Extra and Force Account Work. \*

When the decrease exceeds ten (10) percent of the original quantity, \*  
 the adjustment in the original lump sum original lump sum price shall be: \*

(1) the lesser of |

(a) the amount of the reduction in quantity multiplied by the \*  
 theoretical unit price, or |

(b) adding |

1. the amount of the reduction in quantity up to ten (10) \*  
 percent multiplied by the theoretical unit price, and |

2. the amount of the reduction in quantity over ten (10) \*  
 percent as computed as if the work done involved was on a \*  
 force account basis according to Subsection 109.04 - \*  
 Extra and Force Account Work, or \*

(2) as mutually agreed to by the Contractor and the Engineer.

The Engineer will resolve the adjustment in lump sum price as if the \*  
 increase or decrease was to be paid for on a force account basis \*  
 according to Subsection 109.04 - Extra and Force Account Work, or as \*  
 mutually agreed to by the Contractor and the Engineer when the lump sum \*  
 item of work contains no quantity. \*

The following provision shall apply only to State and Federal-Aid projects:

(C) Differing Site Conditions. If the Contractor finds the following: \*

(1) Subsurface or latent physical conditions that differ materially from that shown on the contract \*

(2) other physical conditions that \*

(a) are unusual in nature and differ materially from that ordinarily met in the type of project under contract or

(b) were not discoverable by the Contractor before commencement of the project or that portions of the project work and

(c) are not generally recognized in the construction industry as inherent in the type of work specified in the project contract,

the Contractor shall immediately notify the Engineer verbally of the above discovery. Within twenty-four (24) hours, the Contractor shall inform the Engineer in writing of the above discovery. The affected work will stop immediately until the Engineer informs the Contractor to commence in writing. \*

The Engineer will investigate, document and evaluate the site conditions found in the affected project area to decide if such conditions are materially different from the contract and to justify an adjustment to the project contract. After making a determination, the Engineer shall promptly notify the Contractor of its decision. If warranting an adjustment, the Engineer and the Contractor shall mutually agree on such adjustment. The Engineer will pay for such work on a force account basis according to Subsection 109.04 - Extra and Force Account Work if there is no agreement. Loss of anticipated profits on deleted work will not be compensable. \*

If the Contractor fails to notify the Engineer as provided above, or commences or continues project work in or affecting that portion of the project area before receiving written authorization from the Engineer, the Department may refuse or deny contract adjustments for that portion of the project work. \*

**104.03 Extra Work.** The Engineer will classify new and unforeseen work as extra work when such work contains no contract unit prices. The Engineer will classify only the remaining portion of the work as extra work if portions of the new and unforeseen work contains various contract unit prices. Also, extra work includes work specifically designated as extra work in the contract. \*

The Contractor shall do such extra work and furnish labor, materials and equipment upon receipt of a contract change order or other written order of the Engineer. Without a contract change order from the Engineer, there will be no payment to the Contractor for such extra work. \*

The Engineer will make payment for extra work required to be done on a mutually agreed unit price or lump sum price. Otherwise, the Engineer will make payment for extra work required to be done by the force account method according to Subsection 109.04 - Extra and Force Account Work. The Department will resolve extension of contract time according to Subsection 108.07 - Determination and Extension of Contract Time. \*

**104.04 Maintenance of Traffic.** The Contractor shall keep the road open to traffic during the progress of the work. |

Obstructions to a roadway attributable to construction, maintenance, or engineering survey on or near public streets and highways are a major hazard to motorists, pedestrians and workers at the work site. The Contractor shall take such safety and precautionary measures as may be required according to Chapter 286, H.R.S., the Hawaii Administrative Rules, Title 19, Subtitle 5, Chapters 127, 128 and 129, and the most current editions or revisions of the MUTCD. |

Where so provided on the plans, the Contractor may bypass traffic over an acceptable detour route. The Contractor shall keep the portion of the project used by public traffic in conditions to ease traffic. Also, the Contractor shall provide and maintain temporary crossings with trails, roads, streets, businesses, parking lots, garages, residences, and farms. \*

If elimination of abutting owners' access occurs, the Contractor shall not close the existing access until the replacement access facilities are usable. The Contractor may obtain written permission from the abutting owners setting the conditions for closing the existing access. The Contractor shall submit a copy of this agreement with the abutting owners to the Engineer for acceptance before such work begins. \*

The Contractor shall provide a smooth and even surface for public traffic use when working on an existing facility kept open to traffic. The Contractor shall conduct such work on only portion of the roadway. The Contractor shall alternate construction from one side to the other while routing traffic over the opposite side. The Contractor shall place sufficient fill at culvert and bridge locations to permit traffic to cross. The Contractor shall conduct culvert installation on only portions of the roadway to permit safe passage of traffic. \*

During subgrade and paving operations, the Contractor may use the shoulders for public traffic. If using part-width paving methods, the Contractor may use the side of the roadbed opposite the one under construction for public traffic. The Contractor shall keep a passageway wide enough to make at least two (2) lanes of traffic open when sufficient width is available. Shaping or maintenance of shoulders are incidental to the various contract items. The Department will not make compensation. \*

The Contractor shall not store material or equipment where the material or equipment will interfere with public traffic. The Contractor shall remove equipment and other obstructions to permit free and safe passage of public traffic when each day's work ends or if suspension of construction operations occurs. \*

Traffic incidental to other construction projects that abuts the principal routes of travel are part of the public traffic and shall be as required by contract. |

The Contractor shall furnish a pilot car, driver and flagger, or portable telephone system and flagger to quicken the passage of public traffic through the work under one-way controls at locations. The Contractor shall govern the movement of its equipment from one portion of the work to another by such one-way controls where routing traffic through construction under one-way controls occurs. |

The Contractor shall equip each flagger with a highly visible, retroreflective "Stop/Slow" sign paddle conforming to the MUTCD. The Contractor shall use orange clothing such as a vest, shirt, or jacket to increase the visibility of the flagger. For nighttime conditions, the Contractor shall reflectorize similar outside garments with either orange, white (including silver-covered reflective coating or elements that reflect white light), yellow, fluorescent red-orange, or fluorescent yellow-orange reflectorized material. |

The Contractor shall furnish the sign paddles and other accessories for the flaggers. The Contractor shall keep them clean and in good repair. The flagger personnel and duties shall conform to the MUTCD and the "Rules and Regulations Governing the Use of Traffic Control Devices at Work Sites on or Adjacent to Public Streets and Highways". |

The Contractor shall bear expenses of maintaining traffic over the section of road undergoing improvement or repair. Also the Contractor shall bear expenses of constructing, maintaining, removing, and furnishing approaches, crossings, intersections, and flaggers and their equipment, without direct compensation. Exceptions are as follows: \*

**(A) Special Detours.** The Department will cover payment for cost of constructing, maintaining and removing such detour(s) when the proposal contains an item for "Construction and Maintenance of Detours". Also, the Department will include payment for the construction and removal of temporary bridges and accessory features. The Department will furnish right-of-way for temporary highways or bridges called for under this paragraph. \*

**(B) Maintenance of Traffic During Suspension of Work.** The Contractor shall provide safe passage for public traffic through the work site according to Subsection 108.06 - Temporary Suspension of Work. \*

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(C) **Special Maintenance Ordered by the Engineer.** The Engineer will pay \*|  
the Contractor on the basis of unit prices or under Subsection 104.03 - \*|  
Extra Work if the Engineer orders the special maintenance. The Engineer \*|  
will be the sole judge of work to be classified as special maintenance.

The Contractor shall furnish, erect and maintain lights, barricades, \*|  
signs and other traffic control devices. Also, the Contractor shall take \*|  
precautions for the protection of the work and safety of the public according \*|  
to Subsection 107.14 - Barricades and Warning Signs. \*

The Contractor shall submit for review and acceptance the traffic |  
maintenance plans and schedules including plans and schedules for detours, |  
lane closures, and lane switches before implementation. The Contractor shall |  
refer to Section 107 and 645 for details. |

**104.05 Construction and Maintenance of Detours.** The Contractor shall |  
construct and maintain detours for public traffic when provided for in the |  
contract. The Department will pay the Contractor for constructing, maintaining |  
and removing the detours, detour bridges, protective facilities and other |  
measures when provided for in the contract. |

The Contractor shall provide passageway for public traffic through the \*|  
worksite according to Subsections 104.04 - Maintenance of Traffic and 107.13 - \*|  
Public Convenience and Safety when routing the public traffic through the \*|  
worksite. This is not detour construction or maintenance. \*

If the contract does not provide a pay item for constructing, maintaining \*|  
and removing detours and if its intention is to use the detour to ease \*|  
construction operation or for hauling materials and equipment, the Department \*|  
will not pay for constructing, maintaining and removing detours. The Engineer \*|  
will have authority to regulate its hauling over such detour if such hauling \*|  
interferes with the free and safe passage of public traffic.

The Contractor shall submit its detour for review and acceptance by the |  
Engineer in-writing. The Engineer will not make payment for the Contractor's |  
detour design and reviewing request submittals. |

**104.06 Rights in and Use of Materials Found on the Work.** With the acceptance |  
of the Engineer, the Contractor may use on the project such stone, gravel, |  
sand, or other material determined suitable by the Engineer. The Engineer \*|  
will pay the Contractor for the excavation of that material at the \*|  
corresponding contract unit price. Also, the Engineer will pay the Contractor \*|  
for using the excavated material under that particular contract item. The \*|  
Contractor shall replace with other acceptable material that portion of the \*|  
excavation material removed and used. The Engineer will not charge the \*|  
Contractor for the materials used. The Contractor may excavate or remove \*|  
material from within the highway location and outside the grading limits only \*|  
if the Engineer gives written authorization. \*

The Contractor may use temporarily the material from existing old \*|  
structure in the erection of the new structure. \*



**104.07 Quarries and Pits on State Land for State and Federal Projects Only.** If suitable material are available on lands owned by the State, the Contractor may remove and use the suitable material without damaging the environment. The Contractor shall arrange in writing with the appropriate agency to remove and use such material. The Contractor shall designate the location, the purpose for the material, the approximate quantity involved, and the payment of royalties if any. The Contractor shall not remove such material until the Department receives and accepts the copy of the written arrangement.

**104.08 Falsework Lighting.** The Contractor shall install falsework lighting wherever vehicular or pedestrian traffic crosses through or under structure falsework.

The Contractor shall illuminate the portal faces of the falsework and the roadway pavement and pedestrian walkways under falsework from dusk to dawn. The Contractor shall provide illumination of the pavement or pedestrian walkways through or under falsework twenty-four (24) hours per day when required by the Engineer. The Contractor shall start the lights by automatic photoelectric controls or manual switches. If the Contractor uses manual switches, the lights shall be on from at least half (1/2) hour before sunset to half (1/2) hour after sunrise.

The lampholders for falsework illumination shall be fully adjustable. The lampholders for falsework illumination shall have a built-in junction box with wiring chamber for direct conduit attachment. The Contractor shall equip the lampholder with high temperature glazed porcelain medium base socket. The lampholder shall be UL approved for outdoor use. The Contractor shall provide a wire guard to protect the lamp.

For pavement and portal face illumination, lamps shall be one hundred and fifty (150) watts minimum. For pedestrian passageway illumination, lamps shall be one hundred (100) watts minimum. Also, lamps shall be medium base incandescent type PAR bulbs.

The Contractor shall illuminate falsework portal faces on the side facing traffic. The Contractor shall mount the flood lamps over each vertical support next to the travelway and over the center of each lane. The Contractor shall locate each lamp approximately sixteen (16) feet above the pavement and approximately six (6) feet in front of the portal face.

Roadway pavement illumination between the entrance and exit portals shall be by a continuous row of floodlights. The Contractor shall install at intervals of not more than fifteen (15) feet on centers to illuminate the pavement beneath the structure falsework. The end floodlights shall be not farther than seven (7) feet inside the face of the portal.

The Contractor shall provide a minimum of one (1) row of lights for one (1) lane passageway. The Contractor shall provide a minimum of two (2) rows of lights for two (2) to four (4) lane passageway. The Contractor shall provide a minimum of one (1) additional row of lights for each additional lane of traffic passageway over four (4) lanes.

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The Contractor shall illuminate pedestrian walkways through or under falsework with floodlights centered over the passageway at intervals of not more than fifteen (15) feet. The end floodlights shall be not farther than seven (7) feet inside the face of the portal. The Contractor shall mount the floodlights approximately ten (10) feet above the walkway. \*|

The Contractor shall aim and adjust floodlights so that there will be no glare to motorists. \*|

Lighting circuits shall include no less than two (2) branch circuits. Floodlights between the portals shall have a minimum of one (1) circuit. Portal floodlights shall have a minimum of one (1) circuit. Each branch circuit shall have its own protective device. Lighting conductors within the falsework limits shall be in conduits. \*|

The Contractor shall install falsework lighting in operating condition before permitting traffic to pass under the falsework. \*|

The Contractor shall be responsible for obtaining a power source and for providing, maintaining and operating the falsework lighting. In areas where utility company power service is not available, the Contractor shall provide generators to operate the lights. \*|

Materials and equipment for falsework lighting shall be the property of the Contractor. The Contractor shall remove materials and equipment for falsework lighting from the work site upon completion of the project or when the falsework is no longer needed. \*|

The Department will not pay falsework lighting separately. Consider the costs incurred in furnishing, installing, maintaining, operating and removing the falsework lighting incidental to the various contract items. The Department will not allow additional compensation. \*|