### Design / Build

**Unit**: LS/LS  
**Accuracy**: Lump Sum  
**Plan Quantity?**: No

#### Notes

**Details**: This item is to be used for Districts letting Design-Build projects. This item is to be used only when identified by the District as a "Design-Build" project. Include Initial Contingency Amount under 999-25 (2999-25) item.

#### Related Items

**Forms**
- **Design**: SHTabQuantLS  
- **Construction**: Refer to Comp Book

**Documentation**
- **Design**: Contractor is responsible for design. The computation book, if required, will show lump sum tasks (lump sum constructed project pay items), as listed in the proposal.
- **Construction**: Any adjusted final quantities for the lump sum payment will require appropriate documentation and Supplemental Agreements. The "as-built" final plans must show any additions/deletions that occurred on the project.

#### References
- **PPM Chapter**
- **Other**

#### Standards
- **Specifications**

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**: 11

#### Status

**Struct.**  
**50- A-**

A= Operation  
1 (Resurfacing)  
2 (Roadway Construction)  
3 (Roadway Reconstruction)  
4 (Bridge Construction)  
5 (Buildings)  
6 (Traffic Operations)

#### Notes

---

### Mobilization

**Unit**: LS/LS  
**Accuracy**: Lump Sum  
**Plan Quantity?**: Yes

#### Notes

**Details**: Consists of work and operations necessary to begin work on a project. Includes moving in equipment and personnel, establishing temporary offices, safety equipment and sanitary facilities. May include surveying, bond and insurance expenses. In some cases, may consist of security services and/or expenses associated with night work.  
For contracts with more than one project, the pay item for Mobilization will be shown on each project's Summary of Pay Items. An exception to this is when the contract contains a Joint Project Agreement (JPA): the Mobilization will not be shown on the Summary of Pay Items for the JPA; the cost of Mobilization will be included in the prime project.

#### Related Items

**Forms**
- **Design**: SHTabQuantLS  
- **Construction**: COMP 700-050-05
**102- 1- MAINTENANCE OF TRAFFIC**

**Unit:** LS/DA  
**Accuracy:** Lump Sum (Day)  
**Plan Quantity?:** yes

**Details:** Includes all items required to safely maintain traffic throughout a transportation work zone with minimal inconvenience to the public and fit into one of the following categories: 1) cannot reasonably be quantified; 2) cannot be addressed under current pay items; 3) are incidental to the operations necessary to safely maintain traffic throughout a work zone. Code the second unit of measure (number of days) from the construction day estimate. For contracts with more than one project, the pay item for Maintenance of Traffic will be shown on each project's Summary of Pay Items. An exception to this is when the contract contains a Joint Project Agreement (JPA): the Maintenance of Traffic will not be shown on the Summary of Pay Items for the JPA; the cost of Maintenance of Traffic will be included in the prime project.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuantLS</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Documentation**

| Design  | Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.  
**Construction** | Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances. |

**References**

<table>
<thead>
<tr>
<th>PPM Chapter</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standards</td>
<td>Specifications</td>
</tr>
</tbody>
</table>

**Prep & Doc Manual Chapter(s):** 7, 13

**Status**

| Struct. | 102- 1- MAINTENANCE OF TRAFFIC LS/DA |

**Notes:**

Include all items required to safely maintain traffic throughout a transportation work zone with minimal inconvenience to the public and fit into one of the following categories: 1) cannot reasonably be quantified; 2) cannot be addressed under current pay items; 3) are incidental to the operations necessary to safely maintain traffic throughout a work zone. Code the second unit of measure (number of days) from the construction day estimate. For contracts with more than one project, the pay item for Maintenance of Traffic will be shown on each project's Summary of Pay Items. An exception to this is when the contract contains a Joint Project Agreement (JPA): the Maintenance of Traffic will not be shown on the Summary of Pay Items for the JPA; the cost of Maintenance of Traffic will be included in the prime project.
Notes

102- 2- AA  SPECIAL DETOUR

Unit  LS/LS  Accuracy  Lump Sum  PlanQuantity?  yes

Notes
Details
Consists of work and materials necessary to construct a diversion (Temp Roadway). May also include temporary bridge (Acrow panel, or similar.) The quantities for major items necessary for the Special Detour shall be shown in the plans but paid for under Special Detour. Items that will be used in the Special Detour that will remain as part of the final product will be paid for under the appropriate pay item (i.e., earthwork). Show the limits of each Special Detour in the plans. Traffic control devices, warning devices, barriers, signing and pavement markings will be paid for separately.

Related Items
Required  Recommended
Forms  Design  SHTabQuantLS  COMP 700-050-05
Construction  Refer to Comp Book

Documentation
Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction  Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s)  7, 13

Status
Struct.  102- 2- AA  SPECIAL DETOUR  LS/LS

AA = Detour Number
1 (First Detour Of Several)
2 (Second Detour Of Several)
3 (Third Detour Of Several)
4 (Fourth Detour Of Several)
N (Nth Detour Of Several)
N = 1 Thru 56

Notes

102- 3-  COMMERCIAL MATERIAL FOR DRIVEWAY MAINTENANCE

Unit  CY; M3  Accuracy  Cubic Yard; Cubic Meter  PlanQuantity?  no

Notes
Details
Consists of furnishing and placing suitable material which may be necessary for providing safe access to businesses and residences affected by the construction. If authorized, portions of this material may be salvaged and reused at other driveways along the length of the project. Use 250 cubic yards per mile (200 cubic meters per kilometer) on rural projects and 500 cubic yards per mile (400 cubic meters per kilometer) on urban projects. Use 250 cubic yards (200 cubic meters) as a minimum. The final quantity shall be determined by truck measurement, loose volume.
For final quantity, measure the width, height, and length inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% of the result to account for the hoist box and bed fillets.

```
Related Items
Forms
Required               Recommended
Design     SHTabQuant       COMP 700-050-04
Construction  700-050-54

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 102- 3 - COMMERCIAL MATERIAL FOR DRIVEWAY MAINTENANCE CY

Notes

102- 11- SERVICE PATROL

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>Hour</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>MH</td>
<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

Details
Used when it is determined during design that an active service patrol will be needed to keep traffic flowing. The Traffic Control Plan (TCP) or Technical Special Provisions should explain when and where the service patrol will be needed, as well as what type of services will be provided, and what type of service vehicle will be needed. Time shall be based on an 8 hour day.

Related Items
Forms
Required               Recommended
Design     SHTabQuant       COMP 700-050-03
Construction  700-050-51

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction
All field records are required for this item. Final payment is based on field book/records.

References
PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 102- 11- SERVICE PATROL MH

Notes
Details and Structure: Chapters 11 to 20
102-14- TRAFFIC CONTROL OFFICER

Unit: MH  Accuracy: Hour  PlanQuantity: no

Notes: Refer to 999-102 for Speed/Law Enforcement

Details: Provide uniformed traffic control officers, including marked law enforcement vehicles, to assist in controlling and directing traffic in the work zone ONLY when the following types of work is necessary on projects:
- Traffic control in a signalized intersection when signals are not in use,
- When standard index no. 619 (moving operations) are used on Interstate at nighttime and required by the plans,
- When pacing/rolling blockade specification is used (Tech Spec Recommended).

The Department will include pay item 102-14 for officers directing traffic as defined above. For Speed and Law Enforcement officers, see pay item 999-102

Related Items:
- Required: 999-102-xxa
- Recommended: 999-102-xxa

Forms:
- Design: SHTabQuant  COMP 700-050-03
- Construction: 700-050-50

Documentation:
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: All field records are required for this item. Final payment is based on field book/records.

References:
- PPM Chapter
- Other
- Standards: Index No. 619
- Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

Status

Struct. 102-14- TRAFFIC CONTROL OFFICER  MH

Notes: Refer to 999-102 for Speed/Law Enforcement

102-60- WORK ZONE SIGN

Unit: ED  Accuracy: Each Day  PlanQuantity: no

Notes: Used for the purpose of informing motorists of the work zone and work zone related (i.e. temporary regulatory or temporary route) conditions that will be encountered. Tabulate the number of individual sign panels (20 square feet or less)/(1.9 square meters or less) as recorded per day for each phase of the project. When multiple signs are located together on a single or multiple posts, each sign panel will be paid for individually. Non-standard sign panels (greater than 20 square feet)/(greater than 1.9 square meters) will be detailed in the plans and paid for under Maintenance of Traffic, Lump sum.

Related Items:
- Required
- Recommended

Forms:
- Design: SHTabQuant  COMP 700-050-03
- Construction: 700-050-51

Documentation:
- Design: Locate in plans. Summarize quantities by location on tabulation of

Details and Structure: Chapters 11 to 20
### 102- 60- WORK ZONE SIGN

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: no

**Notes**

Used for the purpose of assisting the motorists find the appropriate business driveway entrance while the roadway is under construction. The quantity is based on one business sign for each business whose driveway entrance could be affected. When several businesses share a common driveway, one sign per common driveway should be estimated.

**Related Items**

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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**Documentation**

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<tr>
<td>Construction</td>
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**References**

| PPM Chapter |  |
| Other       |  |

<table>
<thead>
<tr>
<th>Standards</th>
<th>Index No. 600</th>
</tr>
</thead>
</table>

| Specifications | Prep & Doc Manual Chapter(s) | 7, 13 |

---

### 102- 61- BUSINESS SIGN

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: no

**Notes**

Used for the purpose of assisting the motorists find the appropriate business driveway entrance while the roadway is under construction. The quantity is based on one business sign for each business whose driveway entrance could be affected. When several businesses share a common driveway, one sign per common driveway should be estimated.

**Related Items**

<table>
<thead>
<tr>
<th>Forms</th>
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**Documentation**

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<tbody>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</tbody>
</table>

**References**

| PPM Chapter |  |
| Other       |  |

<table>
<thead>
<tr>
<th>Standards</th>
<th>Index No. 600</th>
</tr>
</thead>
</table>

| Specifications | Prep & Doc Manual Chapter(s) | 6, 7, 13 |

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### 102- 71- AB TEMPORARY BARRIER WALL

**Unit**: LF; M1  
**Accuracy**: Linear Foot; 10th of a Meter  
**PlanQuantity?**: no

**Notes**

Included for the protection of the traveling public and workers. May be moved from one location to another on the project. Estimate length of wall needed for each phase, and
then choose the maximum length anticipated for any one phase to be paid for as Temporary Barrier. Phasing in plans must indicate adequate quantity of barrier prior to calling for relocating of barrier. Add the estimated lengths for the remaining phases together and pay for under Barrier Wall (Temporary) Relocate. When this item is used, include lights or glare screen.

QPL - Temporary barrier wall shall conform to the requirements of the pre-approved alternatives listed on the Department's Qualified Products List (QPL), unless otherwise called for in the plans.

NOTE: For bridge applications, ONLY Type K permitted.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>102- 79 or 102- 94-xab</td>
<td>102- 81-1, and/or 102- 89-xxa</td>
</tr>
</tbody>
</table>

| Forms          | Design               | SHTabQuant       |
|               | Construction         | COMP 700-050-03  |

| Documentation  | Design               | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|               | Construction         | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

| References     | PPM Chapter          |
|               | 6, 7, 13             |

| Status         | 102- 71- AB           |
|               | TEMPORARY BARRIER WALL |
|               | LF                    |

A = Operation
1 (Furnish & Install)
2 (Relocate)
B = Material
1 (Concrete)
2 (Waterfilled)
3 (Low Profile Concrete)
4 (Type K) bridge applications

| Notes          | Effective 1/04 letting: B= 3, 4 |

102- 73- TEMPORARY GUARDRAIL

| Unit          | LF; M1 |
|              | Accuracy | PlanQuantity? | no |
|              | Linear Foot; 10th of a Meter |

| Notes Details | Related Items | Required | Recommended |
|              | Forms         | Design   | SHTabQuant       |
|              |               | Construction | COMP 700-050-03  |

| Documentation | Design               | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|               | Construction         | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |
### TEMPORARY GUARDRAIL

**Unit:** LF<br>**Accuracy:** Each Day<br>**PlanQuantity?** no

**Notes:** Included for the protection of workers and the public from hazards within the traffic control zone. The designer is not to add plan notes specifying one type of barricade (Type I, II, DI, VP, or Drum). Note: DI = Direction Indicator Barricade, which is shown on Index 600. Estimate for each Traffic Control Plan phase based on the type of operation and duration anticipated as follows: Quantity = (Length of Setup / Barricade Spacing) X Phase Duration.

**Related Items**<br>**Forms**<br>**Required**<br>Design: SHTabQuant<br>Construction: 700-050-03, 700-050-51

**Documentation**<br>**Design**<br>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.<br>**Construction**<br>Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### TEMPORARY BARRICADE

**Unit:** ED<br>**Accuracy:** Each Day<br>**PlanQuantity?** no

**Notes:** Included for the protection of the design team and public from hazards within the traffic control zone. The designer is not to add plan notes specifying one type of barricade (Type I, II, DI, VP, or Drum). Note: DI = Direction Indicator Barricade, which is shown on Index 600. Estimate for each Traffic Control Plan phase based on the type of operation and duration anticipated as follows: Quantity = (Length of Setup / Barricade Spacing) X Phase Duration.

**Related Items**<br>**Forms**<br>**Required**<br>Design: SHTabQuant<br>Construction: 700-050-03, 700-050-51

**Documentation**<br>**Design**<br>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.<br>**Construction**<br>Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### ADVANCE WARNING ARROW PANEL

**Unit:** ED<br>**Accuracy:** Each Day<br>**PlanQuantity?** no

**Notes:** Included for the purpose of providing advanced warning of a lane closure. (Not intended for lane shifts.) Estimate the number needed for each Traffic Control Plan phase times the phase duration. Note: per specifications, there is a 5 day minimum per each.
Related Items

Forms
Design
SHTabQuant

Recommended

Construction
700-050-51

Required

Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

Documentation

References

PPM Chapter

Other

Specifications
Index No. 600

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 102-76-

Notes

102-77-

HIGH INTENSITY FLASHING LIGHT, TEMPORARY, TYPE B

Unit ED

Accuracy Each Day

PlanQuantity? no

Notes

Details

Included as a safety device, to draw attention to the warning sign. The lights shall be mounted on the first advanced warning sign where only one sign is used, and on the first and second advanced warning signs where two or more signs are used. This applies to all approaches to any work zone. When this item is used, item 102-60 (2102-60) must be used.

Related Items

Forms
Required

Recommended

Design
SHTabQuant

Construction
700-050-51

Construction
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Specifications
Index No. 600

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 102-77-

Notes

102-78-

TEMPORARY REFLECTIVE PAVEMENT MARKER

Details and Structure: Chapters 11 to 20
### Class A, B, D, or E RPMs used to supplement pavement markings, as shown in Index 600.

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

- Class A, B, D, or E RPMs used to supplement pavement markings, as shown in Index 600.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
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</tbody>
</table>

**Forms**

<table>
<thead>
<tr>
<th>Design</th>
<th>Refer to Comp Book</th>
</tr>
</thead>
</table>

**Documentation**

<table>
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<th>Design</th>
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<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</tbody>
</table>

**References**

- PPM Chapter
- Index No. 600, 17352
- Standards
- Specifications
- Prep & Doc Manual Chapter(s) 7, 13

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### LIGHT- BARRIER WALL MOUNT, TEMPORARY, TYPE C STEADY BURN

<table>
<thead>
<tr>
<th>Unit</th>
<th>ED</th>
<th>Accuracy</th>
<th>Each Day</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

- These lights are placed on Barrier Wall (Temp), excluding low profile. The standard spacing will be:
  - 50’ on centers for transitions, 100’ on centers for curves, 200’ on centers tangents (15 meters on centers for transitions, 30 meters on centers for curves, 60 meters on centers for tangent);
  - Curves that are flat enough to maintain a normal 2% cross slope shall have spacing equal to that of a tangent.
  - QPL - Temporary barrier wall mount lights shall conform to the requirements of the pre-approved alternatives for temporary concrete or water filled barrier wall listed on the Department’s Qualified Products List (QPL).

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
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</tbody>
</table>

**Forms**

<table>
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<tr>
<th>Design</th>
<th>700-050-51</th>
</tr>
</thead>
</table>

**Documentation**

<table>
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<tr>
<th>Design</th>
<th>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>

**References**

- PPM Chapter
- Other
- Standards
- Specifications
- Prep & Doc Manual Chapter(s) 700-050-51

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Details and Structure: Chapters 11 to 20
80- 81-  2 CRASH CUSHION -GATING, TEMPORARY

| Unit | LO | Accuracy | Location | PlanQuantity? | no |

Notes
Formerly known as "Impact Attenuator Modules"
Roadway Design permission needed before "sand barrels" may be used; requires special design
QPL- Temporary Gating Crash Cushions shall conform to the requirements of the pre-approved alternatives listed on the Department's Qualified Products List (QPL), unless otherwise called for in the plans.

Related Items
| Required | Recommended |
| Design | SHTabQuant | COMP 700-050-03 |
| Construction | Refer to Comp Book |

References
PPM Chapter
Other Standards
Index 417, see detail
Specifications
Prep & Doc Manual Chapter(s)

Status Inactive Structure

80- 81-  2 CRASH CUSHION -GATING, TEMPORARY

Notes Contact Cheryl Adams prior to use. Replaces 80- 81-1, modules- EA

80- 89-  A CRASH CUSHION, TEMPORARY

| Unit | LO | Accuracy | Location | PlanQuantity? | no |

Notes
Formerly known as "Impact Attenuators"
Payment will be made based on each location of the crash cushion/attenuator.
Redirective cushions selected by contractor, subject to Design Standards. Restricted options to be detailed in plans and documented in project file.
QPL- Temporary Redirective Crash Cushions shall conform to the requirements of the pre-approved alternatives listed on the Department's Qualified Products List (QPL), unless otherwise called for in the plans.

Related Items
| Required | Recommended |
| Design | SHTabQuant | COMP 700-050-03 |
**Construction**

Refer to Comp Book

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Standards

See detail; Index No. 413, 415, 434, 432, 433, 435, 438, 439, 440, 441, 481, 493, 495, 497, 498

**Specifications**

Prep & Doc Manual Chapter(s) 7, 13

---

**Status**

**Struct.** 102- 89- A

CRASH CUSHION, TEMPORARY

LO

A = Type

7 (Redirective Option)

---

**Notes**

**102- 90-**

BRIDGE OPERATOR

<table>
<thead>
<tr>
<th>Unit</th>
<th>DA</th>
<th>Accuracy</th>
<th>Day</th>
<th>Plan</th>
<th>Quantity?</th>
</tr>
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<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Future use will require Specification Development

**Details**

This item covers the cost of furnishing a bridge tender during construction.

**Related Items**

Required

Recommended

**Forms**

Design

SHTabQuant

COMP 700-050-03

Construction

700-050-51

**Documentation**

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

---

**Status**

**Struct.** 102- 90-

BRIDGE OPERATOR

DA

---

**Notes**

**102- 94-**

GLARE SCREEN

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
<th>Accuracy</th>
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<th>Quantity?</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Linear Foot; 10th of a Meter</td>
<td></td>
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**Details and Structure:** Chapters 11 to 20
See barrier wall detail for measurement. To be used with Temporary Barrier Wall (Concrete)

**Related Items**

<table>
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<tbody>
<tr>
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**Forms**

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<tbody>
<tr>
<td>Construction</td>
<td>700-050-51</td>
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</table>

**Documentation**

| Design   | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

- 7, 13

**Status**

**Struct.**

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<thead>
<tr>
<th>102- 94- AB</th>
<th>GLARE SCREEN</th>
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<tr>
<td>A = Operation Blank (Furnish and Install)</td>
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<tr>
<td>1 (Relocate)</td>
<td></td>
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<tr>
<td>B = Wall Material</td>
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**Notes**

**102- 98- A**

<table>
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<tr>
<th>BARRICADE TYPE III (TO REMAIN)</th>
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<tr>
<td>Unit</td>
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<td>Accuracy</td>
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<td>PlanQuantity?</td>
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**Forms**

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**Documentation**

| Design   | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

- 7, 13

**Status**

**Struct.**

<table>
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<tr>
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<tbody>
<tr>
<td>Unit</td>
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</table>

**Notes**

**Details and Structure:** Chapters 11 to 20
### Notes

**A** = Size
2 (6 Feet)

### CHANGEABLE VARIABLE MESSAGE SIGN- TEMPORARY

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED</td>
<td>Each Day</td>
<td>no</td>
</tr>
</tbody>
</table>

#### Notes

Should be considered for use in complex, high-density work zones. Messages must be simple, with a minimum number of words and lines, and should require no more than two displays of no more than two lines each. The Traffic Control Plan (TCP) shall include the location and messages to be displayed. Estimate the number needed for each traffic control plan phase, times the phase duration. Note: Per the specifications, signs will have a 5 day minimum, per each. Not to be used when standard signs are available. Refer to the Plans Preparation Manual for proper usage.

#### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
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#### Documentation

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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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#### References

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<tbody>
<tr>
<td>7, 13</td>
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### TEMPORARY TRAFFIC CONTROL SIGNAL

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>ED</td>
<td>Each Day</td>
<td>no</td>
</tr>
</tbody>
</table>

#### Notes

Estimate based on the number of completed installations (each signalized location) in operation on the project.

#### Related Items

<table>
<thead>
<tr>
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<th>Recommended</th>
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<tbody>
<tr>
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#### Documentation

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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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## References

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<th>Specifications</th>
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<tbody>
<tr>
<td>Index No. 606</td>
<td></td>
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</tbody>
</table>

### Status

**Struct.** 102-104- A

**TEMPORARY TRAFFIC CONTROL SIGNAL**

A = Type
- 1 (Portable)
- 2 (Fixed)

### Notes

**102-106- A**

**BARRIER WALL CONCRETE (QUICK CHANGE MOVABLE)**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1; EA</td>
<td>Linear Foot; 10th of a Meter; Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Forms**

- **Required**: SHTabQuant
- **Recommended**: COMP 700-050-03

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

<table>
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<th>PPM Chapter</th>
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<tr>
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<td>Index No. 606</td>
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</table>

**Prep & Doc Manual Chapter(s)** 7, 13

### Status

**Inactive Structure**

**Struct.** 102-106- A

**BARRIER WALL CONCRETE (QUICK CHANGE MOVABLE)**

A = Operation
- 1 (Furnish & Install) LF
- 2 (Lateral Relocation) EA
- 3 (Phase Relocation) LF

### Notes

**102-107-**

**TEMPORARY TRAFFIC DETECTION, INTERSECTION**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA</td>
<td>Day</td>
<td>no</td>
</tr>
</tbody>
</table>

**Details and Structure**: Chapters 11 to 20
Details
Identify intersections where required. Estimate number of intersections times number of contract days. Do not include "new" intersections. Payment will be for number of days Temp Traffic Detection Technology is used and authorized by Engineer.

Related Items
<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
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<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
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</tbody>
</table>

Documentation
| Design          | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction    | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

References
PPM Chapter
Other
Standards
Specifications

Status
Struct. 102-107- TEMPORARY TRAFFIC DETECTION, INTERSECTION DA

Notes

102-150- 1 PORTABLE REGULATORY SIGN

<table>
<thead>
<tr>
<th>Unit</th>
<th>ED</th>
<th>Accuracy</th>
<th>Each Day</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

Details
This device is part of the Motorist Awareness System (MAS). Design should work with Construction to determine the estimated days for each component of the motorist awareness system to be included in the contract. Consideration should be given that it may not be cost effective to use the MAS system on projects where it would be used for 20 days or less.
Portable Regulatory Sign (PRS): The purpose of this device is to highlight the regulatory speed for the work zone. A PRS is a trailer that has the regulatory sign mounted with flashing lights on each side of the sign. The lights are used to draw the driver's attention to the regulatory speed.

Related Items
<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
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<tr>
<td></td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>700-050-51</td>
</tr>
</tbody>
</table>

Documentation
| Design          | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction    | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

References
PPM Chapter
Other
Standards
Specifications

Status
Prep & Doc Manual Chapter(s) 6, 7, 13

Details and Structure: Chapters 11 to 20
### 102-150- 1 PORTABLE REGULATORY SIGN

**Notes**

<table>
<thead>
<tr>
<th>Unit</th>
<th>ED</th>
</tr>
</thead>
</table>

**Details**

This device is part of the Motorist Awareness System. Refer to item 102-150- 1 for additional detail information.

Radar Speed Display Unit (RSDU): The purpose of this device is to display the motorist's work zone speed. A radar speed display unit is a portable trailer that displays the speed of approaching motorists on a LED display panel. The radar mounted on the unit detects the speed. A regulatory sign with the posted speed is mounted above the LED display panel. The unit is fitted with a device which counts the number of vehicles passing the Radar Speed Display Unit. The counter device is capable of: digital readout of the total number of vehicles passing the radar speed display unit, and digital readout of the number of vehicles exceeding the speed limit shown on the radar speed display unit. The device can be set that only speeds greater than the work zone speed are displayed.

**Related Items**

<table>
<thead>
<tr>
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<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
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<tr>
<td>Construction</td>
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</table>

**Documentation**

| Design   | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

PPM Chapter

Other

Index No. 670.

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

---

### 102-150- 2 RADAR SPEED DISPLAY UNIT

**Notes**

<table>
<thead>
<tr>
<th>Unit</th>
<th>ED</th>
</tr>
</thead>
</table>

**Details**

Use of removable work zone pavement markings shall be as defined by 102-10 of the specifications.

FOR ITEM 102-911- 3 (2102-911- 3): Used for Stop bars, turn arrows, etc.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>700-050-03</td>
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</tbody>
</table>

---

### 102-911- A PAVEMENT MARKING REMOVABLE- WHITE/BLACK

**Notes**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1; SF; M2</th>
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</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter; Square Foot; Square Meter</td>
</tr>
</tbody>
</table>

**Details**

Use of removable work zone pavement markings shall be as defined by 102-10 of the specifications.
Standards Index No. 600 Specifications

Struct. 102-911- A PAVEMENT MARKING REMOVABLE- WHITE/BLACK LF; SF

A = Type
1 (Skip) LF
2 (Solid) LF
3 (Other) SF

Notes

Status

Struct. 102-911- A PAVEMENT MARKING REMOVABLE- WHITE/BLACK LF; SF

A = Type
1 (Skip) LF
2 (Solid) LF
3 (Other) SF

Notes

Details

Use of removable work zone pavement markings shall be as defined by 102-10 of the specifications.

Related Items Required Recommended

Forms Design SHTabQuant COMP 700-050-03

Documentation Design Refer to Comp Book

Construction Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References PPM Chapter
Other

Standards Index No. 600 Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 102-911- A PAVEMENT MARKING REMOVABLE- WHITE/BLACK LF; SF

A = Type
1 (Skip) LF
2 (Solid) LF
3 (Other) SF

Notes

Related Items Required Recommended

Forms Design SHTabQuant COMP 700-050-03

Documentation Design Refer to Comp Book

Construction Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References PPM Chapter
Other

Standards Index No. 600 Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status
103-  1-

**TEMPORARY WORK STRUCTURE**

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**Notes**

**Details**

Coordinate with the State Structures Design Office on the use of this item. The plans shall include drawings depicting the construction methods assumed in the preparation of the plans. The designer shall determine if a temporary structure (temporary bridges, platforms, etc.) is needed to furnish the contractor with access to the site to enable the bridge to be built. When a temporary structure is required, the anticipated structure type will be shown in the plans. Temporary Structures will be paid separately only if they are required for access or to comply with permit restrictions. If access is available by including, but not limited to, barges, mats, or existing ground, no temporary structure is required.

State Structures Office must request unblock pay item structure.

**Related Items**

<table>
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<tbody>
<tr>
<td>Design</td>
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</table>

**Forms**

Design: Refer to Comp Book

**Documentation**

Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

**Struct.** 103-  1- TEMPORARY WORK STRUCTURE LS/LS

**Notes**

104-  1-

**ARTIFICIAL COVERINGS FOR EROSION CONTROL**

<table>
<thead>
<tr>
<th>Unit</th>
<th>SY; M2</th>
<th>Accuracy</th>
<th>Square Yard; Square Meter</th>
<th>PlanQuantity?</th>
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</table>

**Notes**

**Details**

This item may be used for two purposes. Estimate and/or calculate according to the following information. The total quantity is the sum used for the two purposes below. The quantity and purpose of each should be noted in a pay item footnote.

FOR PAUSES IN CONSTRUCTION: Used for pauses in construction due to inclement weather or other circumstances. For this purpose, artificial coverings may be composed of natural or synthetic fiber mats, plastic sheeting or netting. Estimate 1% of the total permanent grassing area, where the total grassing area is defined as the sum of the seeding + seeding and mulching + sodding areas. Coverings used for this purpose are typically removed when construction resumes.

FOR EROSION CONTROL: Used for erosion control that facilitates plant growth, while
permanent grass is established. Biodegradable erosion control blankets are installed over a seeded area and may be used on fill slopes and in ditches, and left in place to biodegrade. Show in plans (plan view or tabulation of quantities) the locations where erosion control blankets are to be used. Calculate the quantity in square yards (square meters).

### Related Items

<table>
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<th>Required</th>
<th>Recommended</th>
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### Documentation

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<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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### Notes

**Struct. 104-1-**

**ARTIFICIAL COVERINGS FOR EROSION CONTROL**

### Status

**Prep & Doc Manual Chapter(s)**

6, 7, 13

### References

**PPM Chapter**

Design

Construction

### Other

**104-4-**

**MOWING**

<table>
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<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>AC; HA</td>
<td>10th of an Acre; 10th of a Hectare</td>
<td>no</td>
<td>This item is included for routine maintenance of existing, permanent, and temporary grassing until the project is completed. Coordinate the use of this item with Sections 570 and 580. DO NOT use this item when payment for mowing is to be made under Section 570. Estimated Design Quantity: Use total grassed area, plus any other undisturbed areas within the project limits that need to be mowed during the life of the contract. Obtain the mowing cycle from the local Maintenance Office; multiply the area by the number of mowing cycles to be performed during the life of the contract. Convert units to acres (hectares), as necessary. Detail calculations in the comp book.</td>
</tr>
</tbody>
</table>

### Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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### Documentation

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<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
<td></td>
</tr>
</tbody>
</table>
104-5- SANDBAGGING

| Unit | CY; M3 | Accuracy | Cubic Yard; Cubic Meter | PlanQuantity? no |

Details
Included for the purpose of controlling erosion and siltation. Use 12"x24"x6" bags (0.3 x 0.6 x 0.15 meter bags). Refer to index for applications and estimated quantity.

Related Items

<table>
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<tr>
<th>Required</th>
<th>Recommended</th>
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<td>Design</td>
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Documentation

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|--------|
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

References

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<th>PPM Chapter</th>
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<tbody>
<tr>
<td>Other</td>
</tr>
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</table>

Standards
Index No. 100, 102, 201
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Status

| Struct. 104-5- | MOwING | AC |

Notes

104-6- TEMPORARY SLOPE DRAIN

| Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? no |

Details
Base estimate as described by Roadway Standard Index No. 100, locations and lengths are required.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended 104-5, 575-5 (2104-5, 2575-5)</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

Documentation

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|--------|
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

References

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Prep & Doc Manual Chapter(s) 6, 7, 13

Notes

Details and Structure: Chapters 11 to 20
### Standards
Index No. 100

### Specifications

### Prep & Doc Manual Chapter(s)  
7, 13

---

#### Status

**Struct.**  
104- 6-  
TEMPORARY SLOPE DRAIN  
LF

---

#### Notes

**104- 7- SEDIMENT BASIN**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

**Details**

Use when separate items for temporary erosion control features are included in the contract. Includes cost for riprap, fencing, baffles, piping, and earthwork, as indicated on Index. Refer to index for estimated quantity.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
<th>104- 9- (2104- 9-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

**Forms**

Refer to Comp Book

**Documentation**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Standards  
Index No. 101, 241

Specifications

Prep & Doc Manual Chapter(s)  
7, 13

---

#### Status

**Struct.**  
104- 7-  
SEDIMENT BASIN  
EA

---

#### Notes

**104- 9- SEDIMENT BASIN CLEANOUT**

<table>
<thead>
<tr>
<th>Unit</th>
<th>CO; EA</th>
<th>Accuracy</th>
<th>Per Clean Out; Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

**Details**

Estimate one cleanout per sediment basin, Item 104- 7 (2104- 7), on project.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
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**Forms**

Refer to Comp Book

**Documentation**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Record final quantity on the tabulation sheet (plans) or computation form (comp book).
104-10-2 SYNTHETIC BALE

**Unit**: LF; M1  
**Accuracy**: Linear Foot; 10th of a Meter  
**PlanQuantity?**: no

**Notes**
- Effective January 2007; replaces 104-10-1 Baled Hay or Straw.
- NOTE: UNIT OF MEASURE CHANGED TO LINEAR FOOT
- Consists of synthetic bales to protect against downstream accumulations of silt. Dams shall be constructed in accordance with the details shown in the plans or Design Standards. Standard lengths for common inlets will be shown on the Design Standards. Note that synthetic bales may be cleaned or replaced as necessary. Do not estimate for replacement cycles; payment includes maintenance of the erosion control device (cleaning and/or replacement), until permanent erosion control measures are in place. All bales must be listed on the QPL, according to specification.

**Related Items**

<table>
<thead>
<tr>
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<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
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**Documentation**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications
- Prep & Doc Manual Chapter(s)

**Status**

<table>
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<tr>
<th>Struct.</th>
<th>SYNTHETIC BALE</th>
<th>LF</th>
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</thead>
</table>

**Notes**

---

104-11- A FLOATING TURBIDITY BARRIER

**Unit**: LF; M1  
**Accuracy**: Linear Foot; 10th of a Meter  
**PlanQuantity?**: no

**Notes**

---

Details and Structure: Chapters 11 to 20
To be included in areas where dredging, filling or other construction activities may cause turbidity in water. Refer to Design Standard Index 103. Used when turbidity standards may be exceeded, as shown in the plans and permit.

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>Construction</td>
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</table>

**References**

- **PPM Chapter**
- **Other**
- **Index No. 103**

**Specifications**

- **Prep & Doc Manual Chapter(s)**: 6, 7, 13

### Status

**Struct.** 104-11- A FLOATING TURBIDITY BARRIER LF

A = Blank (Standard)

1 (Special) Plan Detail and/or Tech Spec Required

**Notes**

To be included in areas where dredging, filling or other construction activities may cause turbidity in water. Refer to Design Standard Index 103. Used when turbidity standards may be exceeded, as shown in the plans and permit.

<table>
<thead>
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<th>Details</th>
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**References**

- **PPM Chapter**
- **Other**
- **Index No. 103**

**Specifications**

- **Prep & Doc Manual Chapter(s)**: 6, 7, 13

### Status

**Struct.** 104-12- A STAKED TURBIDITY BARRIER LF

**Notes**

To be included in areas where dredging, filling or other construction activities may cause turbidity in water. Refer to Design Standard Index 103. Used when turbidity standards may be exceeded, as shown in the plans and permit.

<table>
<thead>
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<th>Details</th>
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<th>Recommended</th>
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<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</table>

**References**

- **PPM Chapter**
- **Other**
- **Index No. 103**

**Specifications**

- **Prep & Doc Manual Chapter(s)**: 6, 7, 13

### Status

**Struct.** 104-12- A STAKED TURBIDITY BARRIER LF

**Notes**

To be included in areas where dredging, filling or other construction activities may cause turbidity in water. Refer to Design Standard Index 103. Used when turbidity standards may be exceeded, as shown in the plans and permit.

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**References**

- **PPM Chapter**
- **Other**
- **Index No. 103**

**Specifications**

- **Prep & Doc Manual Chapter(s)**: 6, 7, 13

### Status

**Struct.** 104-12- A STAKED TURBIDITY BARRIER LF

**Notes**

To be included in areas where dredging, filling or other construction activities may cause turbidity in water. Refer to Design Standard Index 103. Used when turbidity standards may be exceeded, as shown in the plans and permit.

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<tr>
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<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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**References**

- **PPM Chapter**
- **Other**
- **Index No. 103**

**Specifications**

- **Prep & Doc Manual Chapter(s)**: 6, 7, 13

### Status

**Struct.** 104-12- A STAKED TURBIDITY BARRIER LF

**Notes**

To be included in areas where dredging, filling or other construction activities may cause turbidity in water. Refer to Design Standard Index 103. Used when turbidity standards may be exceeded, as shown in the plans and permit.
A = Blank (Standard)
1 (Special) Plan Detail and/or Tech Spec Required

Notes

### 104-13- A STAKED SILT FENCE

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

Used for erosion control in areas where construction activities may cause silt runoff. Type III Silt Fence, as detailed in Index No. 102, should be used in most locations. Type IV fence has greater strength and height and should be used where a large sediment load is anticipated (steep fill slopes, long fill slopes, or a combination of both likely to produce a large sediment load) Each type of silt fence will have an estimated service life of 12 months. The quantity will be developed by estimating the time (in months) the fence will be in place at each location and dividing by 12 (rounding up to the nearest whole) to determine the number of replacements. The total length of fence at each location is determined by multiplying the length of fence at each location by the number of replacements.

**Related Items**

**Required**

- Design: SHTabQuant
- Construction: Refer to Comp Book

**Recommended**

- Design: COMP 700-050-03
- Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards: Index No. 102, 106

**Prep & Doc Manual Chapter(s)**: 7, 13

**Status**

104-13- A STAKED SILT FENCE LF

A = Type
1 (Type III)
2 (Type IV)

Notes

### 104-15- SOIL TRACKING PREVENTION DEVICE

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

Should be constructed at points of egress from unstabilized areas of the project to minimize offsite tracking of sediment. To minimize tracking from the roadway portion of the project, use one device per mile (one device per 2 kilometers) with a minimum of two per project. Include an additional device for each stormwater pond or mitigation site that is not adjacent to the roadway right-of-way. RRR projects should be handled on a case-by-case basis.
Payment includes excavation, grading, pipe, filter fabric, aggregate, etc., as indicated in Design Standard 106. Separate payment is made for hay bales and silt fence.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>104-10-1, 104-13-xxa</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

### Forms

**Design**

SHTabQuant

**Construction**

Refer to Comp Book

### Documentation

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

**PPM Chapter**

**Other**

Index No. 106

### Standards

Index No. 106

### Specifications

**SOIL TRACKING PREVENTION DEVICE**

**EA**

### Notes

Include for the purpose of controlling siltation at curb and gutter inlets as shown in the Design Standards. Bags are to be 12"x12"x4" (0.3 m x 0.3 m x 0.1 m). Estimate 20 bags for each curb inlet.

### Status

**Struct.** 104-15- 

SOIL TRACKING PREVENTION DEVICE EA

### 104-16-

**ROCK BAG**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Include for the purpose of controlling siltation at curb and gutter inlets as shown in the Design Standards. Bags are to be 12"x12"x4" (0.3 m x 0.3 m x 0.1 m). Estimate 20 bags for each curb inlet.

### Related Items

**Required**

104-10-1, 104-13-xxa

**Recommended**

COMP 700-050-03

### Forms

**Design**

SHTabQuant

**Construction**

Refer to Comp Book

### Documentation

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

**PPM Chapter**

**Other**

Index No. 102

### Standards

Index No. 102

### Specifications

**ROCK BAG**

**EA**

### Notes

Refer to Comp Book

### Status

**Struct.** 104-16- 

ROCK BAG EA

### 104-17-

**SAND FENCE**

Details and Structure: Chapters 11 to 20
Temporary fence for sand locations, used for erosion control purposes. Tech Specs and/or plan details to include: fence size, slat size, post and fence materials, construction, installation, maintenance, removal, measurement, and payment. Spec to include option to allow fence to remain in place, at the discretion of the Engineer.

The designer should contact the District Construction Office to determine if this item should be used on a project. Consists of providing, furnishing and maintaining an Engineer's field office for exclusive use by the Department. Type B Fencing shall be used as detailed on Roadway and Traffic Design Standards, Index No. 452 for enclosing the field office. Payment for the fence shall be included in the bid price of the field office. The field office shall be a building or mobile trailer erected at locations selected by the engineer. The field office shall be paid for at the contract unit price per day, per the specifications, "Provide a Field Office for Department use beginning 10 working days before contract time begins, and remain for 30 days after final acceptance, unless the Department request removal earlier. Payment will be made for each day the field office is available for use by Department personnel."

The designer should contact the District Construction Office to determine if this item should be used on a project. Consists of providing, furnishing and maintaining an Engineer's field office for exclusive use by the Department. Type B Fencing shall be used as detailed on Roadway and Traffic Design Standards, Index No. 452 for enclosing the field office. Payment for the fence shall be included in the bid price of the field office. The field office shall be a building or mobile trailer erected at locations selected by the engineer. The field office shall be paid for at the contract unit price per day, per the specifications, "Provide a Field Office for Department use beginning 10 working days before contract time begins, and remain for 30 days after final acceptance, unless the Department request removal earlier. Payment will be made for each day the field office is available for use by Department personnel."
## CLEARING AND GRUBBING

### Unit

- LS/AC; LS/HA

### Accuracy

- Lump Sum (1/100th of an Acre); Lump Sum (1/100th of a Hectare)

### PlanQuantity?

- yes

### Notes

**Details**

Consists of complete removal and disposal of all vegetation, debris, drainage structures, flexible pavement, buildings or any other obstructions in all areas where excavation is to be done, or where embankments or structures will be constructed. This includes roadway area, ditch area, borrow and material pits, and areas where culverts or pipe lines will be constructed. Code the number of acres (hectares). Locate or define the scope of work involved on the contract plans. (Removal of concrete pavement, non-asphalt, to be paid under 110- 4- (2110- 4-))

### Related Items

**Required**

- Design: SBEHWK; SBEarthwork
- Construction: Refer to Comp Book

**Recommended**

- Design: COMP 700-050-05
- Construction: Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.
- Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

### References

- PPM Chapter
- Other
- Standards
- Specifications

### Status

- Prep & Doc Manual Chapter(s) 7, 13
110- 2- 1 CLEARING AND GRUBBING (FOR PUSH BUTTON CONTRACTS)

Unit: AC; HA
Accuracy: 10th of an Acre; 10th of a Hectare

FOR PUSH BUTTON CONTRACTS ONLY
Consists of complete removal and disposal of all vegetation, debris, drainage structures, flexible pavement, buildings or any other obstructions identified in the plans or specifications. Locate or define the scope of work involved. (Removal of concrete pavement, non-asphalt, to be paid under 110- 4- (2110- 4-))

Notes
Details

Related Items
Forms
Design
SBEHWK; SBEarthwork
COMP 700-050-01

Construction
Refer to Comp Book

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 110- 2- 1 CLEARING AND GRUBBING (FOR PUSH BUTTON CONTRACTS)

Notes

110- 3- REMOVAL OF EXISTING STRUCTURES

Unit: LS/SF; LS/M2
Accuracy: Lump Sum (Square Foot); Lump Sum (Square Meter)

Notes
Details
To be used for the removal of existing bridge structures and box culverts. Includes all work of removal (complete and/or partial), and disposal of the designated structures. Code the number of square feet (square meters), out-to-out of coping from begin bridge to end bridge.

Add pay item note in plans that address bridges to be completely removed and bridges to be partially removed. Tabulate bridges by bridge number and deck area to be removed. Quantities to be based on out-to-out of coping from begin bridge to end bridge or from coping line to saw cut line from begin bridge to end bridge as applicable. Do not include rip-rap, fill slope area in removal quantity. Cover items to be removed in pay item note.

Insert existing bridge plans into plan set. Show existing piling on Foundation Layout Sheet that requires complete removal (conflict with proposed foundations, or conflicts with future channel dredging per permit requirements, etc.).

Related Items
Forms
Design
SHTabQuantLS
COMP 700-050-05
### 110-3- REMOVAL OF EXISTING STRUCTURES LS/SF

**Documentation**
- **Construction**
  - Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.
- **Construction**
  - Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Notes**
- **Status**
  - Locate or define the scope of work involved on the plans.
  - Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **Prep & Doc Manual Chapter(s)** 6, 13

---

### 110-4- REMOVAL OF EXISTING CONCRETE PAVEMENT SY

**Unit** SY; M2  
**Accuracy** Square Yard; Square Meter  
**PlanQuantity?** no

**Notes**
- Consists of removing and disposing of existing concrete pavement, concrete sidewalks, slope pavement, ditch pavement and curb and gutter, where required because of construction operations. Specifically excludes retaining walls and drainage structures. NOTE: Do not include flexible pavement removal under this item.

**Related Items**
- **Required**
  - SHTabQuant
- **Recommended**
  - COMP 700-050-01

**Forms**
- **Design**
  - Refer to Comp Book
- **Construction**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **Prep & Doc Manual Chapter(s)** 7, 13

---

### 110-5- PLUGGING WATER WELL- ARTESIAN

**Unit** PW; EA  
**Accuracy** Per Well; Each  
**PlanQuantity?** no

---

Details and Structure: Chapters 11 to 20
### Details
Artesian is defined in specifications as "an artificial hole in the ground from which water supplies may be obtained and which penetrates any water bearing rock, the water in which is raised to the surface by natural flow..."

<table>
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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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#### Status
**Struct.** 110- 5- PLUGGING WATER WELL- ARTESIAN PW

### Notes

<table>
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<tr>
<td><strong>Accuracy</strong></td>
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<tr>
<td><strong>PlanQuantity?</strong></td>
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**Details**
Non-Artesian is defined in the specifications as "a well in which the source of water is an unconfined aquifer. The water... does not rise above the source bed."

<table>
<thead>
<tr>
<th>Related Items</th>
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#### Status
**Struct.** 110- 6- PLUGGING WATER WELL- NON-ARTESIAN PW

### Notes

<table>
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### Topic No. 600-000-002

**Basis of Estimates**

**2007 Edition**

**August 27, 2007**

<table>
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<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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#### Notes

**Details**

Used for replacement of residential or business mailboxes that must be removed during construction operations. Refer to Index 532 for details.

#### Related Items

<table>
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<td>Refer to Comp Book</td>
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</table>

#### Forms

<table>
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<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td></td>
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<tr>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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#### Documentation

<table>
<thead>
<tr>
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<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
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#### References

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<thead>
<tr>
<th>PPM Chapter</th>
<th>Design</th>
<th>Construction</th>
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<tr>
<td>Index No. 532</td>
<td></td>
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</table>

#### Prep & Doc Manual Chapter(s)

| 7, 13 |

---

#### Status

**Struct.**

110- 7- A MAILBOX - FURNISH AND INSTALL EA

A = Description

1 (Single)

#### Notes

**Details**

The specification must describe the item in detail, including its acceptance criteria, method of measurement, and for lump sum items, any secondary units of measure. This item should only be used when the designer is reasonably sure of the number of days which will be required for the task. The daily unit cost for the cranes and barges typically used in this item is relatively high and can quickly lead to large overrun costs if the number of days cannot be accurately estimated. Item 110-3 (2110-3) is a more appropriate item to use when an accurate estimate of days required cannot be made.

#### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
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<tr>
<td>Construction</td>
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#### Documentation

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#### Prep & Doc Manual Chapter(s)

| 7, 13 |

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**Details and Structure: Chapters 11 to 20**
Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 110- 8- A UNDERWATER DEBRIS REMOVAL DA; TN

A = Method of Measurement
blank (Day) DA
1 (Weight) TN

Notes

110- 12- A HYDRODEMOLITION

Unit SY; M2; SF
Accuracy Square Yard; Square Meter; Square Foot
PlanQuantity? no

Notes
Details
Related Items
Forms
Design SHTabQuant
Construction Refer to Comp Book

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 110- 12- A HYDRODEMOLITION SY; SF

A = Description/Unit of Measure
1 (Removal Of Deck Surface) SY
2 (Removal Of Concrete Curb) SF

Notes

110- 71- 1 BRIDGE FENDER SYSTEM, REMOVAL & DISPOSAL- REHAB PROJECTS ONLY

Unit LF; M1
Accuracy Linear Foot; 10th of a Meter
PlanQuantity? no

Notes
Details
For use on Fender System Rehab projects only.
For projects with bridge and fender system replacement, payment for removal and disposal of existing fender system is included under Removal Of Existing Structures, item 110-3.
Plan Details and/or Tech Spec must address proper disposal of timber, as well as measurement and payment of rehab work. Refer to Section 110 of Specifications.
110- 71-  1  BRIDGE FENDER SYSTEM, REMOVAL & DISPOSAL -  LF  REHAB PROJECTS ONLY

110- 73-  REMOVE EXISTING BULKHEAD

Unit  LF; M1  Accuracy  Linear Foot; 10th of a Meter  PlanQuantity?  no

110- 82-  STRUCTURAL TIMBER- REMOVAL & DISPOSAL

Details and Structure: Chapters 11 to 20
### Topic No. 600-000-002

#### Basis of Estimates

**2007 Edition**  
**August 27, 2007**

<table>
<thead>
<tr>
<th>Unit</th>
<th>MB; M3</th>
<th>Accuracy</th>
<th>10th of a Thou Board Measure; 10th of a Cubic Meter</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

### Notes

#### Details

one board foot = one foot square by one inch thick; convert to thousand board foot for pay item.

#### Related Items

**Forms**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
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**Documentation**

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<tbody>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</tbody>
</table>

#### References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

### Status

**Struct.** 110-82-  
STRUCTURAL TIMBER- REMOVAL & DISPOSAL MB

---

### 110-84-

#### TRANSPORT EXISTING MATERIAL FOR REEF ESTABLISHMENT

<table>
<thead>
<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
<th>Lump Sum</th>
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</table>

#### Notes

#### Details

#### Related Items

**Forms**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
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<td>SHTabQuantLS</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-05</td>
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<tr>
<td></td>
<td>Refer to Comp Book</td>
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**Documentation**

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<th>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

#### References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

### Status

**Struct.** 110-84-  
TRANSPORT EXISTING MATERIAL FOR REEF LS/LS

---

Details and Structure: Chapters 11 to 20
## DELIVERY OF SALVAGEABLE MATERIAL TO FDOT

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS/LS</td>
<td>Lump Sum</td>
<td>yes</td>
<td></td>
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</tbody>
</table>

**Details**
Designer must coordinate with Maintenance office prior to using this item. Plan note as to delivery location of salvageable material must be included.

### Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
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### Documentation

<table>
<thead>
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<th>Construction</th>
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<tbody>
<tr>
<td>Use a quantity of 1. No form required. Locate or define the scope of work involved on the plans.</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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</tbody>
</table>

### References

- **PPM Chapter**
- **Design**
- **Construction**
- **Other**
- **Standards**
- **Specifications**
- Plan Detail and/or Tech Spec Required
- **Prep & Doc Manual Chapter(s)** 7, 13

### Status

**Struct.** 110- 86-

---

## REGULAR EXCAVATION

<table>
<thead>
<tr>
<th>Unit</th>
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<th>Notes</th>
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<tbody>
<tr>
<td>CY; M3</td>
<td>Cubic Yard; Cubic Meter</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>

**Details**
Refer to Plans Preparation Manual, Volume 1, Chapter 3 for guidance on Earthwork Items. This item should be used on projects with cross sections to pay for the quantity of excavation on the project.

### Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>Design</td>
<td>SBEHWK; SBEarthwork</td>
<td>COMP 700-050-04</td>
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### Documentation

<table>
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<th>Design</th>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

### References

- **PPM Chapter**
- **Design**
- **Construction**
- **Other**
- **Standards**
- **Specifications**
- **Prep & Doc Manual Chapter(s)**

---

**Details and Structure: Chapters 11 to 20**

---

**Page 36 of 428**
## Specifications

**Prep & Doc Manual Chapter(s)** 6, 13

---

### Status

**Struct.** 120-1- **REGULAR EXCAVATION** CY

---

### Notes

**Details**

Refer to Plans Preparation Manual, Volume 1, Chapter 3 for guidance on Earthwork Items.

TRUCK MEASURE: This item should only be used on projects with limited or no cross sections. The method to determine the quantity of borrow excavation is as follows: 

\[\text{Borrow Excavation (Truck Measure)} = [\text{Fill} + (\text{Fill X Fill Adjustment})] \times \text{Truck Adjustment} = \text{Borrow Excavation (Truck Measure)}\]

For final quantity, measure the width, height, and length inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% of the result to account for the hoist box and bed fillets.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
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<tr>
<td>Construction</td>
<td>COMP 700-050-04</td>
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### Forms

<table>
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<tr>
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<tbody>
<tr>
<td>Construction</td>
<td>COMP 700-050-54</td>
</tr>
</tbody>
</table>

### Documentation

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

PPM Chapter Chapter 3

Other

Standards Index No. 500, 505

Specifications

**Prep & Doc Manual Chapter(s)** 6, 8, 13

---

### Status

**Struct.** 120-2- A **BORROW EXCAVATION** CY

A = Measure Type 2 (Truck Measure)

---

### Notes

**Details**

Consists of excavation on portions of lateral ditches beyond the limits of the roadway ROW. Includes inlet and outlet ditches, ditches parallel to the roadway, and may include channel excavation if Item 120-5 (2120-5) is not used.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
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</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-04</td>
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</tbody>
</table>

---

### Status

**Struct.** 120-3- **LATERAL DITCH EXCAVATION**

---

### Notes

**Details**

Consists of excavation on portions of lateral ditches beyond the limits of the roadway ROW. Includes inlet and outlet ditches, ditches parallel to the roadway, and may include channel excavation if Item 120-5 (2120-5) is not used.

### Related Items

<table>
<thead>
<tr>
<th>Design</th>
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</tr>
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<tbody>
<tr>
<td>Construction</td>
<td>COMP 700-050-04</td>
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</tbody>
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---

Details and Structure: Chapters 11 to 20
### 120-3- LATERAL DITCH EXCAVATION CY

**Notes**

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

- Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Related Items**

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<td>120-2 or 120-6 (2120-2 or 2120-6)</td>
</tr>
</tbody>
</table>

**Details**

Refer to Plans Preparation Manual, Volume 1, Chapter 3 for guidance on Earthwork Items. Consists of excavation and disposal of muck, clay, rock or other material that is unsuitable in its original position, and that is excavated below the finished grade line template. Also includes all suitable material necessary to be removed in order to excavate the unsuitable material. The areas used to calculate subsoil excavation must also be used in calculating the fill areas, if material is to be replaced.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tr>
<td>SHTabQuant COMP 700-050-04</td>
<td>120-2 or 120-6 (2120-2 or 2120-6)</td>
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**Details**

Refer to Plans Preparation Manual, Volume 1, Chapter 3 for guidance on Earthwork Items. Consists of excavation and disposal of muck, clay, rock or other material that is unsuitable in its original position, and that is excavated below the finished grade line template. Also includes all suitable material necessary to be removed in order to excavate the unsuitable material. The areas used to calculate subsoil excavation must also be used in calculating the fill areas, if material is to be replaced.

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<td>120-2 or 120-6 (2120-2 or 2120-6)</td>
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**Details**

Refer to Plans Preparation Manual, Volume 1, Chapter 3 for guidance on Earthwork Items. Consists of excavation and disposal of muck, clay, rock or other material that is unsuitable in its original position, and that is excavated below the finished grade line template. Also includes all suitable material necessary to be removed in order to excavate the unsuitable material. The areas used to calculate subsoil excavation must also be used in calculating the fill areas, if material is to be replaced.

**Related Items**

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<td>120-2 or 120-6 (2120-2 or 2120-6)</td>
</tr>
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</table>

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### 120-4- SUBSOIL EXCAVATION CY

**Notes**

- Refer to Plans Preparation Manual, Volume 1, Chapter 3 for guidance on Earthwork Items. Consists of excavation and disposal of muck, clay, rock or other material that is unsuitable in its original position, and that is excavated below the finished grade line template. Also includes all suitable material necessary to be removed in order to excavate the unsuitable material. The areas used to calculate subsoil excavation must also be used in calculating the fill areas, if material is to be replaced.

**Related Items**

<table>
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### 120-5- CHANNEL EXCAVATION

**Details and Structure: Chapters 11 to 20**
### CHANNEL EXCAVATION

**Unit**: CY; M3  
**Accuracy**: Cubic Yard; Cubic Meter  
**PlanQuantity?**: no

**Details**: Consists of excavation and disposal of all material from the limits of the channel, within the lines and grades indicated in the plans and permit.

**Related Items**

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<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
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</table>

**Documentation**

**Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Prep & Doc Manual Chapter(s)**: 9, 13

**Status**

**Struct.**: 120-5-  
**CHANNEL EXCAVATION**  
** CY**

### EMBANKMENT

**Unit**: CY; M3  
**Accuracy**: Cubic Yard; Cubic Meter  
**PlanQuantity?**: yes

**Details**: Refer to Plans Preparation Manual, Volume 1, Chapter 3 for guidance on Earthwork Items. This item should be used on projects with cross sections to pay for the quantity of embankment on the project.

**Related Items**

<table>
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<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Documentation**

**Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Prep & Doc Manual Chapter(s)**: 9, 13

**Status**

**Struct.**: 120-6-  
** EMBANKMENT**  
** CY**
### 120- 71- REGULAR EXCAVATION (3R PROJECTS ONLY)

<table>
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<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
<th>Lump Sum</th>
<th>PlanQuantity?</th>
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</thead>
</table>

**Notes**
Refer to Plans Preparation Manual, Volume 1, Chapter 3 for guidance on Earthwork Items. To be used only on resurfacing or minor widening and resurfacing projects which conform to the guidelines in the Plans Preparation Manual. The designer will calculate quantities based on information obtained from the field and the proposed typical section. The designer will continue to show the Summary of Earthwork in the plans. The summary should show all quantities and adjustments.

Effective 7/2000 letting: This item should be used on projects with limited or no cross sections, to pay for the quantity of excavation on the project. Item 120- 2- 2 (2120- 2- 2) should be considered.

**Related Items**

<table>
<thead>
<tr>
<th></th>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
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<td>Design</td>
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<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td>Documentation</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

**References**
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s) 7, 13

**Status**

**Struct.** 120- 71- REGULAR EXCAVATION (3R PROJECTS ONLY) LS/LS

### 120- 72- GRAVEL FILL

<table>
<thead>
<tr>
<th>Unit</th>
<th>CY; M3</th>
<th>Accuracy</th>
<th>Cubic Yard; Cubic Meter</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**
Calculations will be made by the average end area method for all material placed within the limits and according to the detail shown in the plans.

Plan details and/or Tech Spec required for material requirements; compensation specification available.

**Related Items**

<table>
<thead>
<tr>
<th></th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>700-050-54</td>
</tr>
<tr>
<td>Documentation</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Measure inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% to account for the hoist box and bed fillets.</td>
</tr>
</tbody>
</table>

Details and Structure: Chapters 11 to 20
Record all field records on site source record form and transfer final quantity to computation book.

### References
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Plan Details and/or Tech Spec required.**

**Prep & Doc Manual Chapter(s)**: 6, 7, 13

### Status
**Struct.** 120-72- GRAVEL FILL CY

### Notes

#### 120-73- LIGHTWEIGHT AGGREGATE FILL

<table>
<thead>
<tr>
<th>Unit</th>
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</tr>
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<tbody>
<tr>
<td><strong>Accuracy</strong></td>
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<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**
Calculations will be made by the average end area method for all material placed within the limits and according to the detail shown in the plans.

**Related Items**

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-04</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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</table>

<table>
<thead>
<tr>
<th>Documentation</th>
<th>Design</th>
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<tbody>
<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td></td>
</tr>
</tbody>
</table>

| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**: 9, 13

### Status
**Struct.** 120-73- LIGHTWEIGHT AGGREGATE FILL CY

### Notes

#### 120-74- SURCHARGE EMBANKMENT

<table>
<thead>
<tr>
<th>Unit</th>
<th>CY; M3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accuracy</strong></td>
<td>Cubic Yard; Cubic Meter</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**
The work of constructing surcharge fills, as shown in the plans and any extensions thereof, directed by the engineer, shall be included in the price and payment for surcharge embankment. The quantity shall be measured as provided in 120-12.2, with the exception that the original ground line used in computations shall be the finished grading template.  

---

**Details and Structure: Chapters 11 to 20**
for the permanent construction. The measurement shall include only surcharge material actually placed above the original ground line (as defined above) and within the lines and grades for surcharge construction, as indicated in the plans or directed by the engineer. No allowance will be made for subsidence of material below the original ground line, as defined above. The price and payment for surcharge embankment shall be full compensation for all work required to construct and remove surcharge fills, including furnishing from areas provided by the contractor and borrow excavation required. Surcharge embankment requires a Technical Specification.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-04</td>
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<table>
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<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
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<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</tr>
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</table>

### References

PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

**Statu**

Struct. 120-74- SURCHARGE EMBANKMENT

### Notes

**121-70- FLOWABLE FILL**

<table>
<thead>
<tr>
<th>Unit</th>
<th>CY; M3</th>
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</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Cubic Yard; Cubic Meter</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

### Details

Applications for flowable fill include: beddings, encasements, closure for tanks, pipes, and general backfill for trenches.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
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</tr>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-04</td>
</tr>
</tbody>
</table>

### Documentation

| Design         | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction   | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

### References

PPM Chapter
Other
Standards
Specifications

PPM Chapter
Other
Index No. 307

Prep & Doc Manual Chapter(s) 7, 13

### Status

Prep & Doc Manual Chapter(s) 7, 13
### 125-1- EXCAVATION FOR STRUCTURES

**Unit**: CY; M3  
**Accuracy**: Cubic Yard; Cubic Meter  
**Plan Quantity?**: no

**Details**
Includes excavation for bridge foundations, box culverts, pipe culverts, retaining walls, headwalls for pipe culverts and drains, manholes, and similar structures. Direct Payment: refer to Method of Measurement in specifications. No Direct Payment: work is included in the price for concrete or other related items.

**Related Items**
- **Required**: SHTabQuant  
- **Recommended**: COMP 700-050-04

**Documentation**
- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter  
- Other  
- Standards  
- Specifications  
- Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

---

### 125-3- SELECT BEDDING MATERIAL

**Unit**: CY; M3  
**Accuracy**: Cubic Yard; Cubic Meter  
**Plan Quantity?**: no

**Details**
No payment for this material will be made when available from excavation of pipe culvert or from other material from grading operations at a location not sufficiently remote to require loading on trucks.

**Related Items**
- **Required**: SHTabQuant  
- **Recommended**: COMP 700-050-04

**Documentation**
- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
- **Construction**: Measure inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% to account for the hoist box and bed fillets. Record all field records on site source record form and transfer final quantity to computation book.

**References**
- PPM Chapter  
- Other

---
|----------------------|--------------------|--------------|----------------|

### Standards
- Specifications

**Prep & Doc Manual Chapter(s)**: 6, 7, 13

### Status
- **Struct.**: 125-3

### Notes

#### 141-70-
**SETTLEMENT PLATE ASSEMBLY**

<table>
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<tr>
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<th>Accuracy</th>
<th>Assembly; Each</th>
<th>Plan Quantity?</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**
- Used with surcharge embankment item

**Related Items**
- **Forms**
  - **Required**
    - Design: SHTabQuant
    - Construction: Refer to Comp Book
  - **Recommended**
    - Design: COMP 700-050-03

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
  - Index No. 540
- **Specifications**
  - Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**: 6, 7, 13

### Status
- **Struct.**: 141-70

### Notes

#### 142-70-
**SAND FILL**

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<th>Plan Quantity?</th>
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</tr>
</tbody>
</table>

**Notes**

**Related Items**
- **Forms**
  - **Required**
    - Design: SHTabQuant
    - Construction: COMP 700-050-04
  - **Recommended**
    - Design: 700-050-54

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Measure inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% to account for the hoist box and bed fillets. Record all field records on site source record form and transfer final quantity to computation book.

**Details**

**Prep & Doc Manual Chapter(s)**: 6, 7, 13

---

Details and Structure: Chapters 11 to 20

Page 44 of 428
### DIGITAL INCLINOMETER CASING

**Unit**: LF; M1  
**Accuracy**: Linear Foot; 10th of a Meter  
**Plan Quantity?**: no

**Notes**: Future use will require Specification Development

#### Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
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<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
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</tbody>
</table>

#### Documentation

**Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### PORE-PRESSURE TRANSDUCER (PIEZOMETER)

**Unit**: EA  
**Accuracy**: Each  
**Plan Quantity?**: no

**Notes**: Future use will require Specification Development

#### Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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<tr>
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<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

Details and Structure: Chapters 11 to 20
**144- 71-**  
**PORE-PRESSURE TRANSDUCER (PIEZOMETER) EA**

**Notes**  
Future use will require Specification Development

**144- 72-**  
**TUBING FOR PIEZOMETER**

**Unit** LF; M1  
**Accuracy** Linear Foot; 10th of a Meter  
**PlanQuantity?** no

**Details**  
Future use will require Specification Development

**Related Items**

**Forms**
- **Required** SHTabQuant
- **Recommended** COMP 700-050-03

**Documentation**
- **Design** Refer to Comp Book
- **Construction** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s)** 6, 7, 13

---

**144- 72-**  
**TUBING FOR PIEZOMETER**

**Unit** LF; M1  
**Accuracy** Linear Foot; 10th of a Meter  
**PlanQuantity?** no

**Details**  
Future use will require Specification Development

**Related Items**

**Forms**
- **Required** SHTabQuant
- **Recommended** COMP 700-050-03

**Documentation**
- **Design** Refer to Comp Book
- **Construction** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s)** 7, 13

---

**144- 73-**  
**DIGITAL INCLINOMETER**

**Unit** EA  
**Accuracy** Each  
**PlanQuantity?** no

**Details**  
Future use will require Specification Development

**Related Items**

**Forms**
- **Required**
- **Recommended**

**Documentation**
- **Design**
- **Construction**

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s)**

---

Details and Structure: Chapters 11 to 20
**Related Items**

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<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td>Documentation</td>
<td></td>
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<tr>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
<tr>
<td>References</td>
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<td>Other</td>
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</tr>
<tr>
<td>Standards</td>
<td></td>
</tr>
<tr>
<td>Specifications</td>
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**Notes**

Futue use will require Specification Development

---

**144- 74-**

**PORE-PRESSURE TRANSDUCER- CONTROL/READOUT UNIT**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
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**Notes**

Futue use will require Specification Development

**Details**

- **Related Items**
  - **Required**
    - Forms
      - Design: SHTabQuant
      - Construction: Refer to Comp Book
  - Documentation
    - Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
    - Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).
  - References
    - PPM Chapter
    - Other
    - Standards
    - Specifications

**Status**

**Struct.** 144- 74- DIGITAL INCLINOMETER EA

**Notes**

Futue use will require Specification Development

---

**145- 1-**

**GEOSYNTHETIC REINFORCED SOIL SLOPES**

<table>
<thead>
<tr>
<th>Unit</th>
<th>SF; M2</th>
<th>Accuracy</th>
<th>Square Foot; 10th of a</th>
<th>PlanQuantity?</th>
<th>yes</th>
</tr>
</thead>
</table>

**Details and Structure: Chapters 11 to 20**
Refer to Plans Prep Manual, Volume 1, Chapter 31, to establish design guidelines, parameters, and limitations for these systems. Payment will be based on Plan Quantity, regardless of the length or number of layers of geosynthetic, including any reinforcement required below ground line. Does not include the cost of backfill material or placement of backfill.

Plan measurement will be based on the projected height of the slope face, from top of slope to the ground line at the toe of slope. Refer to the specifications.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
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<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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<td>Documentation</td>
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<tr>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.</td>
</tr>
<tr>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

**References**

- PPM Chapter
- Other
- Standards
- Specifications
- Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

- Struct. 145- 1- GEOSYNTHETIC REINFORCED SOIL SLOPES SF

**Notes**

Refer to Plans Prep Manual, Volume 1, Chapter 31, to establish design guidelines, parameters, and limitations for these systems. Payment will be based on Plan Quantity, regardless of the length or number of layers of geosynthetic, including any reinforcement required below ground line. Does not include the cost of backfill material or placement of backfill.

Plan measurement will be based on the area of embankment to be reinforced. Refer to specifications.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>Forms</td>
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</tr>
<tr>
<td>Construction</td>
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<tr>
<td>Design</td>
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<tr>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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</tbody>
</table>
### 145-71- A  REINFORCEMENT GRID

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
<th>Notes</th>
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<tbody>
<tr>
<td>SY; M2</td>
<td>Square Yard; Square Meter</td>
<td>no</td>
<td>Futue use will require Specification Development</td>
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#### Details
Geosynthetic Reinforced Roadway Base for Construction Expedient

#### Related Items
- **Forms**
  - **Required**: Design: SHTabQuant
  - **Recommended**: COMP 700-050-01
- **Construction**
  - **Design**: Refer to Comp Book
  - **Construction**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References
- **PPM Chapter**
- **Other**
- **Standards**: Index No. 501
- **Specifications**
- **Prep & Doc Manual Chapter(s)**: 6, 7, 13

---

### 160-3- COMMERCIAL STABILIZING MATERIAL

<table>
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<tr>
<th>Unit</th>
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<th>Notes</th>
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<tbody>
<tr>
<td>CY; M3</td>
<td>Cubic Yard; Cubic Meter</td>
<td>no</td>
<td>Contact the District Soils Engineer for basis of estimate on each project. Show basis.</td>
</tr>
</tbody>
</table>

#### Notes
Future use will require Specification Development

#### Details
Contact the District Soils Engineer for basis of estimate on each project. Show basis.

#### Related Items
- **Required**:  
- **Recommended**:  

---

Details and Structure: Chapters 11 to 20
Standards
Specifications

Struct. 160-3-

COMMERCIAL STABILIZING MATERIAL CY

Notes

160-4-

STABILIZATION, TYPE "B"

Unit SY; M2
Accuracy Square Yard; Square Meter
PlanQuantity? yes

Notes
Details
Consists of stabilizing designated portions of the roadbed to provide a firm and unyielding subgrade. Stabilizing material can be obtained from existing base material, or from commercial and local materials.

Related Items
Forms
Design SHTabQuant
Construction 700-050-54

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction
Measure inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% to account for the hoist box and bed fillets. Record all field records on site source record form and transfer final quantity to computation book.

References
PPM Chapter
Other

Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 160-4-

STABILIZATION, TYPE "B" SY

Notes

160-6-

STABILIZED SUBBASE

Details and Structure: Chapters 11 to 20
|----------------------|-------------------|--------------|----------------|

### Unit
- **SY; M2**

### Accuracy
- **Square Yard; Square Meter**

### Plan Quantity?
- **No**

### Related Items
#### Required
- **Design**: SHTabQuant
- **Construction**: Refer to Comp Book

#### Recommended
- **Design**: COMP 700-050-01
- **Construction**: Refer to Comp Book

### Standards
- **Index No. 105**

### Specifications
- **Struct. 160-6- STABILIZED SUBBASE SY**

### Notes
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### Status
- **Struct. 160-6-**

---

### Unit
- **SY; M2**

### Accuracy
- **Square Yard; Square Meter**

### Plan Quantity?
- **No**

### Related Items
#### Required
- **Design**: SHTabQuant
- **Construction**: Refer to Comp Book

#### Recommended
- **Design**: COMP 700-050-01
- **Construction**: Refer to Comp Book

### Standards
- **Index No. 105**

### Specifications
- **Struct. 162-1-AB PREPARED SOIL LAYER SY**

### Notes
- Not to be used for Section 580: Landscape Operations. Refer to 580 specifications.
- To be used for areas to be seeded, seeded and mulched, or planted. (Included for sodded areas when called for in the plans.) Refer to 162 specifications.

### Status
- **Struct. 162-1-AB**

---

**Details and Structure:** Chapters 11 to 20
### 173- 71- DRILLING HOLES FOR PRESSURE GROUTING

<table>
<thead>
<tr>
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<th>EA</th>
<th>Accuracy</th>
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<th>Recommended</th>
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</thead>
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**Notes**

**Details**

**Related Items**

- **Forms**
  - Design: SHTabQuant
  - Construction: COMP 700-050-03

**Documentation**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)** 6, 7, 13

---

### 173- 76- GROUT PIPE INSTALLATION

<table>
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<th>Unit</th>
<th>LF; M1</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
<th>Required</th>
<th>Recommended</th>
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</thead>
</table>

**Notes**

**Details**

**Related Items**

- **Forms**
  - Design: SHTabQuant
  - Construction: COMP 700-050-03

**Documentation**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).
173-77- A PRESSURE GROUTING- SUBSURFACE

Unit CY; M3 Accuracy 10th of a Cubic Yard; 10th of a Cubic Meter Plan Quantity?

Notes
Contact the State Structures Design Office prior to using this item. This item to be used for subsurface applications only. May be used for sinkhole repair. Tech Specs should indicate that this item includes all work and materials for grout injection; drilling holes and grout pipe may be paid separately under related 173 items. Clearly define material properties in specifications. For concrete structures, refer to Structures items 400 to 460.

Related Items
Required Recommended 173-71-, 173-76-

Forms
Design SHTabQuant COMP 700-050-04/07

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter Other

Standards Specifications

Plan Detail and/or Tech Spec Required Prep & Doc Manual Chapter(s)
### Topic No. 600-000-002

#### Basis of Estimates

**2007 Edition**

**August 27, 2007**

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<th>PlanQuantity?</th>
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**Notes**

**Details**

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<th>Recommended</th>
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<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.</td>
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<tr>
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<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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**References**

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s) 6, 13

**Status**

**Struct.** 175-1- RESEAT CONCRETE PAVEMENT SY

---

### Related Items

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**Notes**

**Details**

Refer to specification(s).

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<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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**References**

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

**Struct.** 180-70- STABILIZED SUBBASE SY

---

**Notes**

Details and Structure: Chapters 11 to 20

Page 54 of 428
### 180-72- STABILIZED SUBBASE, 6"

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**Notes**

**Details**

**Related Items**

**Forms**
- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

- **Construction**
  - Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**
- PPM Chapter
  - Other
  - Standards
  - Specifications

**Prep & Doc Manual Chapter(s)**
- 6, 7, 13

**Notes**

---

### 210-1- AA REWORKING LIMEROCK BASE

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**Notes**

**Details**

**Related Items**

**Forms**
- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

- **Construction**
  - Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**
- PPM Chapter
  - Other
  - Standards
  - Specifications

**Prep & Doc Manual Chapter(s)**
- 6, 7, 13

---

Details and Structure: Chapters 11 to 20
### Status
Inactive Structure

### Struct.
210-1-AA

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<td>REWORKING LIMEROCK BASE SY</td>
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</table>

AA = Thickness

1 (6")
2 (8" D-CSE)
3 (10" D-CSE)
4 (Var. Thickness)
5 (5")
6 (12" D-CSE)
7 (9" D-CSE)
8 (4")
9 (3")
11 (14" T-CSE)
12 (16" T-CSE)
13 (11" D-CSE)
14 (Var. Thickness 4 1/2" Avg.)
15 (Var. Thickness 12 1/2" Avg.)
16 (7")
17 (13" D-CSE)
18 (14" D-CSE)
19 (Var. Thickness 7 1/2" Avg.)
20 (Var. Thickness 9" Avg.)
21 (4 1/2")
22 (9 1/2")

### Notes

**210-2- LIMEROCK, NEW MATERIAL**

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<tr>
<td>PlanQuantity?</td>
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**Details**

**Related Items**

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<td>Construction</td>
<td>COMP 700-050-04</td>
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<table>
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<tbody>
<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td>Measure inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% to account for the hoist box and bed fillets. Record all field records on site source record form and transfer final quantity to computation book.</td>
</tr>
</tbody>
</table>

**References**

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

Inactive Structure

**Struct.**
210-2

**LIMEROCK, NEW MATERIAL**

<table>
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**Details and Structure:** Chapters 11 to 20
### 220- 1- AA SHAPE & COMPACT BASE

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<th>Unit</th>
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<th>PlanQuantity?</th>
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#### Notes

**Details**

**Related Items**

**Forms**
- **Required**: SHTabQuant
- **Recommended**: COMP 700-050-01

**Construction**
- Refer to Comp Book

**Documentation**
- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.  

- **Construction**: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

#### References

**PPM Chapter**
- Design
- Construction

**Other Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)** 6, 7, 13

---

**Status**

**Struct.** 220- 1- AA SHAPE & COMPACT BASE SY

#### Notes

- Code Same As 220- 70-AAA

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### 220- 70- AA SHAPE & COMPACT EXISTING BASE

<table>
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<th>PlanQuantity?</th>
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</tr>
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</table>

#### Notes

**Details**

Refer to specifications for correct usage; consider optional base pay item when possible. Verify with construction prior to use of this item.

**Related Items**

**Forms**
- **Required**: SHTabQuant
- **Recommended**: COMP 700-050-01

**Construction**
- Refer to Comp Book

**Documentation**
- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.  

- **Construction**: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

#### References

**PPM Chapter**
- Design
- Construction

**Other Standards**

**Specifications**

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s)  6, 7, 13

Status

Struct.  220- 70- AA SHAPE & COMPACT EXISTING BASE SY

AA = Thickness
1 (6")
2 (8" D-CSE)
3 (10" D-CSE)
4 (Var. Thickness)
5 (5")
6 (12" D-CSE)
7 (9" D-CSE)
8 (4")
9 (3")
11 (14" T-CSE)
12 (16" T-CSE)
13 (11" D-CSE)
14 (Var. Thickness 4 1/2" Avg.)
15 (Var. Thickness 12 1/2" Avg.)
16 (7")
17 (13" D-CSE)
18 (14" D-CSE)
19 (Var. Thickness 7 1/2" Avg.)
20 (Var. Thickness 9" Avg.)
21 (4 1/2")
22 (9 1/2")

Notes
D-CSE = Double Course
T-CSE = Triple Course

230- 2- LIMEROCK MATERIAL

Unit CY; M3
Accuracy Cubic Yard; Cubic Meter
PlanQuantity? no

Notes
Details Refer to specifications for correct usage; consider optional base pay item when possible.

Related Items
Forms Required Recommended
Design SHTabQuant COMP 700-050-04
Construction 700-050-54

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s)  6, 13

Status Inactive Structure

Struct.  230- 2- LIMEROCK MATERIAL CY

Details and Structure: Chapters 11 to 20
### OPTIONAL BASE

**285-7AA-**

| Unit       | SY; M2          | Accuracy       | Square Yard; Square Meter | PlanQuantity? | yes |

**Notes**

Consists of base construction of one of the optional materials shown in the plan typical sections. The plans will include typical sections specifying only the base group on new construction and complete reconstruction projects, permitting the maximum number of general use options that the contractor can utilize. Note that there are still limitations given in the notes. Also, the designer can still specify base materials, if this is appropriate for the project. The Optional Base item is also used when specifying only one option, such as ABC III. The quantity must include a 4” (0.1 m) overhang, as shown on the typical section for rural projects.

**NOTE:** The cost of prime or tack coats used between layers of the base are included in the cost of the Optional Base.

**Required**

**Design**

SHTabQuant

**Recommended**

COMP 700-050-01

**Forms**

**Design**

Refer to Comp Book

**Construction**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Related Items**

**PPM Chapter**

**Other**

Index No. 514

**Specifications**

**Prep & Doc Manual Chapter(s)** 6, 9, 13

**Struct.**

285-7AA-

**SY**

**Notes**

**AA = Is 01 Thru 15 which indicates Base Group, as shown on Index 514**

### TURNOUT CONSTRUCTION

**286- 1-**

| Unit       | SY; M2          | Accuracy       | Square Yard; Square Meter | PlanQuantity? | yes |

**Notes**

Consists of constructing new turnouts or extending existing turnouts on resurfacing and widening/resurfacing projects. Consists of excavation and construction of base course, and specifically excludes placing of AC surface course.

**Required**

**Design**

SBTURN; SBTurnouts

**Recommended**

COMP 700-050-01

**Related Items**

**Forms**

**Design**

SBTURN; SBTurnouts

**References**

PPM Chapter

**Other**

Index No. 514

**Specifications**

**Prep & Doc Manual Chapter(s)** 6, 9, 13

**Status**

285-7AA-

**SY**
**Construction**

Refer to Comp Book

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter

Other

Standards Index No. 516

Specifications

Prep & Doc Manual Chapter(s) 6, 9, 13

**Notes**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Related Items**

**Required**

**Recommended**

**Forms**

Design SBTURN; SBTurnouts COMP 700-050-06

Construction 700-050-56

**Documentation**

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Standards Index No. 516

Specifications

Prep & Doc Manual Chapter(s) 6, 9, 13

**Notes**

Consists of constructing new turnouts or extending existing turnouts on resurfacing and widening/resurfacing projects. Consists of excavation and construction of asphalt base course, and specifically excludes placing of AC surface course.

**Details**

CONSISTS OF CONSTRUCTING NEW TURNOUTS OR EXTENDING EXISTING TURNOUTS ON RESURFACING AND WIDENING/RESURFACING PROJECTS. CONSISTS OF EXCAVATION AND CONSTRUCTION OF ASPHALT BASE COURSE, AND SPECIFICALLY EXCLUDES PLACING OF AC SURFACE COURSE.
### Details

#### Related Items

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#### Status

Inactive Structure

#### Struct.

| 287-1- | ASPHALT TREATED PERMEABLE BASE | CY |

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### Notes

#### Details

#### Related Items

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#### Status

Inactive Structure

#### Struct.

| 288-001- | CEMENT TREATED PERMEABLE BASE | CY |

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### Notes

#### Details

#### Related Items

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#### Status

Inactive Structure

#### Struct.

| 327-70- AA | MILLING EXISTING ASPHALT PAVEMENT | |

---

**Details and Structure:** Chapters 11 to 20
Consists of removing existing AC pavement to improve the rideability of the finished pavement, to lower the finished grade adjacent to existing curb prior to resurfacing, or to completely remove existing pavement. Includes transporting the milled material to the asphalt plant site, and stockpiling the material. Also includes removal of existing Reflective Pavement Markers. Show basis of calculation, include exceptions.

**Related Items**

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**Forms**

- Design: SHTabQuant
- Construction: COMP 700-050-01

**Documentation**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
- Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Prep & Doc Manual Chapter(s)** 6, 7, 13

**Struct.** 327-70- AA  MILLING EXISTING ASPHALT PAVEMENT  SY

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**Notes**

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
- Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.
### 334- 1- AA  SUPERPAVE ASPHALTIC CONCRETE

| Unit    | TN; MT | Accuracy | 10th of a Ton; 10th of a Metric Ton | PlanQuantity? | no |

**Notes**

**Details**

Consists of using SUPERPAVE asphalt mixture design and analysis test equipment and procedures, Gyratory Compactor to better simulate actual pavement loadings (five different traffic levels available) to provide for a better rut-resistant mix design. Use 110 lb per square yard per 1 inch (24 kg/m² per 10 mm) lift. Note: Other rates and PG 76-22 Binder may be used only when recommended by District Materials Engineer.

**Related Items**

**Forms**

- Required: SHTabQuant
- Recommended: COMP 700-050-06

**Documentation**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Approved automated asphalt plant tickets shall be used and submitted as Department records; in case of a malfunction of the automated system, the data shall be hand written on blank plant tickets. Transfer quantity to computation book.

**References**

- PPM Chapter
- Other
- Standards
- Specifications
- Prep & Doc Manual Chapter(s): 13

**Status**

| Struct.  | 334- 1- AA  SUPERPAVE ASPHALTIC CONCRETE | TN |

- AA = Traffic
  - 11 (A)
  - 12 (B)
  - 13 (C)
  - 14 (D)
  - 15 (E)

  - 21 (Traffic A, PG 76-22)
  - 22 (Traffic B, PG 76-22)
  - 23 (Traffic C, PG 76-22)
  - 24 (Traffic D, PG 76-22)
  - 25 (Traffic E, PG 76-22)

**Notes**

### 337- 7- AA  ASPHALTIC CONCRETE FRICTION COURSE

| Unit    | TN; MT | Accuracy | 10th of a Ton; 10th of a Metric Ton | PlanQuantity? | no |

**Notes**

Changes effective July 2007: block/open items based on January 2007 cover letter. Note: No changes made to FC-5 items.

**Details**

The maximum spread rate used for estimating quantities are as follows:

- a=5~ FC-5(Rubber): 80 lb/yd² (44 kg/m²); recommended thickness 3/4 in (20mm)
- a=7~ FC-9.5 (Rubber): 110 lb/yd² (72 kg/m²); recommended thickness 1 in (30mm)
a=6~ FC-12.5 (Rubber): 165 lb/yd2 (96 kg/m2); recommended thickness 1 1/2 in (40mm)
a=21~ FC-9.5 (PG 76-22): 110 lb/yd2 (72 kg/m2); recommended thickness 1 in (30mm)
a=20~ FC-12.5 (PG 76-22): 165 lb/yd2 (96 kg/m2); recommended thickness 1 1/2 in (40mm)
a=22~ FC-5 (PG 76-22): 80 lb/yd2 (44 kg/m2); recommended thickness 3/4 in (20mm)

The actual spread rate will be based on the contractor's mix design per specifications. Designers must specify on the Typical Section, the traffic Level for structural Friction Courses FC-9.5 and FC-12.5. Refer to Pavement Design Manual for additional information.

### Related Items

<table>
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<th>Required</th>
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<tbody>
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### Documentation

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<tbody>
<tr>
<td>Construction</td>
<td>Approved automated asphalt plant tickets shall be used and submitted as Department records; in case of a malfunction of the automated system, the data shall be hand written on blank plant tickets. Transfer quantity to computation book.</td>
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### References

<table>
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### Prep & Doc Manual Chapter(s)

11, 13

### Status

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<th>TN</th>
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<td>5 (FC-5, Rubber)</td>
<td>22 (FC-5, PG 76-22)</td>
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<td>30 (Traffic B, FC-9.5, Rubber)</td>
<td>31 (Traffic B, FC-12.5, Rubber)</td>
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<td>32 (Traffic C, FC-9.5, Rubber)</td>
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<td>35 (Traffic D, FC-12.5, Rubber)</td>
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<td>40 (Traffic B, FC-9.5, PG 76-22)</td>
<td>41 (Traffic B, FC-12.5, PG 76-22)</td>
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<td>45 (Traffic D, FC-12.5, PG 76-22)</td>
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### Notes

Valid through 6-30-2007:

| AA= Type |
| 6 (FC-12.5, Rubber) |
| 7 (FC-9.5, Rubber) |
| 20 (FC-12.5, PG 76 22) |
| 21 (FC-9.5, PG 76-22) |

### 339- 1-

MISCELLANEOUS ASPHALT PAVEMENT

Details and Structure: Chapters 11 to 20
Consists of construction of asphalt pavement in areas which will not be subjected to vehicular traffic, such as pavement under guardrail, bicycle paths, median pavement, sidewalks, etc. The pay quantity will be based on the average spread rate or dimensions for the project, limited to a maximum of 105% of the plan quantity. For calculation, use a weight of 100 lb/sq-in (22kg/m² per 10mm) thickness.

Required Standards: Index No. 400 for guardrail applications

Related Items:
Forms
- Design: SHTabQuant
- Construction: 700-050-56

Documentation
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Approved automated asphalt plant tickets shall be used and submitted as Department records; in case of a malfunction of the automated system, the data shall be hand written on blank plant tickets. Transfer quantity to computation book.

References
- PPM Chapter
- Other
  - Standards: Index No. 400 for guardrail applications
  - Specifications

Status
Struct. 339-1- MISCELLANEOUS ASPHALT PAVEMENT TN

Notes

HOLD for Future Development; refer to 906-340- item for use with developmental specification

Contact the State Materials Office for assistance with this office.

Related Items:
Forms
- Design: SHTabQuant
- Construction: Refer to Comp Book

Documentation
- Design
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
- PPM Chapter
- Other
  - Standards
  - Specifications

Prep & Doc Manual Chapter(s) Contact Final Estimates

Notes


### 341- 70- ASPHALT RUBBER MEMBRANE INTERLAYER

**Unit** | SY; M2  
**Accuracy** | Square Yard; Square Meter  
**PlanQuantity?** | no  

**Notes**

Consists of a separate application of asphalt rubber binder covered with a single application of aggregate. Jobs let through 6/04: When this item is used, item 2300-1-19 must be used. Jobs let 7/04 and later: Payment for bituminous material (rubber binder) is incidental to this item.

**Related Items**

<table>
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</thead>
<tbody>
<tr>
<td>Forms</td>
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**Documentation**

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|        | Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

PPM Chapter | Other |
Specifications |
Prep & Doc Manual Chapter(s) | 6, 7, 13 |

**Status**

**Struct.** 341- 70-  
**ASPHALT RUBBER MEMBRANE INTERLAYER**  
**SY**

---

### 350- 1- AA CEMENT CONCRETE PAVEMENT PLAIN

**Unit** | SY; M2  
**Accuracy** | Square Yard; Square Meter  
**PlanQuantity?** | yes  

**Notes**

Consists of placement of plain Portland Cement Concrete pavement and also of construction of pavement joints. For colored concrete, see 523 items.

**Related Items**

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**Documentation**

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor. |
|        | Construction Final pay quantity will be PLAN QUANTITY with proper consideration for |

---

Details and Structure: Chapters 11 to 20
Specification tolerances.

### References

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<th>Prep &amp; Doc Manual Chapter(s)</th>
<th>6, 7, 13</th>
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### Status

**Struct.** 350- 1- AA

**CEMENT CONCRETE PAVEMENT PLAIN**

SY

AA =
- 1 (6")
- 2 (7")
- 3 (8")
- 4 (9")
- 5 (10")
- 6 (3")
- 7 (2")
- 8 (7 1/2")
- 9 (Var. 7 1/2" Avg.)
- 10 (12")
- 11 (13")
- 12 (11")
- 13 (11 1/2")
- 14 (14")
- 15 (13 1/2")
- 16 (10 1/2")
- 17 (8 1/2")
- 18 (15")
- 19 (12 1/2")
- 20 (Var. 9 1/2" Avg.)
- 21 (Var. 11" Avg.)
- 22 (Var. 11 1/2" Avg.)
- 23 (14 1/2")
- 24 (var 10 1/2" ave)

### Notes

- **350- 2- AA**

**CEMENT CONCRETE PAVEMENT, REINFORCED**

| Unit | SY; M2 | Accuracy | Square Yard; Square Meter | PlanQuantity? | yes |
|------|--------|----------|---------------------------|---------------|

### Notes

<table>
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<tr>
<th>Details</th>
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</tr>
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### Related Items

<table>
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<th>Recommended</th>
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| Documentation | Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor. |
|---------------|--------|------------------------------------------------|--------------------------------------------------------------------|
**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter

**Other**

Index No. 305, 560

**Specifications**

Prep & Doc Manual Chapter(s) 6, 7, 13

---

**Status**

**Struct.** 350- 2- AA  CEMENT CONCRETE PAVEMENT, REINFORCED SY

AA =
1 (6")
2 (7")
3 (8")
4 (9")
5 (10")
6 (3")
7 (2")
9 (Var. 7 1/2" Avg.)
10 (12")
11 (13")
12 (11")

---

**Notes**

**350- 72-** CLEANSING & RESEALING JOINTS IN CONCRETE PAVEMENT

<table>
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<th>Accuracy</th>
<th>Linear Foot; 10th of a Meter</th>
<th>PlanQuantity?</th>
<th>no</th>
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**Notes**

Longitudinal and transverse joints must be summarized. This item to be used on existing concrete pavement only.
DO NOT Use on bridge structures; refer to item 400-12.

**Related Items**

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<tr>
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<tbody>
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**Documentation**

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**References**

PPM Chapter

**Other**

Index No. 305

**Specifications**

Prep & Doc Manual Chapter(s) 6, 7, 13
**Notes**

<table>
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<tr>
<th>350-78-</th>
<th>CLEANING AND SEALING RANDOM CRACKS IN CONCRETE PAVEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>LF; M1</td>
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</tbody>
</table>

**Notes**

**Details**
Longitudinal and transverse joints must be summarized. This item to be used on existing concrete pavement only.
DO NOT Use on bridge structures; refer to Section 400 items.

**Related Items**

<table>
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<tr>
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<th>Recommended</th>
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<tbody>
<tr>
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<td><strong>Design</strong></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
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| **Documentation** | **Design** | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| **Construction** | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**
PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

**Struct.** 350-78- CLEANING AND SEALING RANDOM CRACKS IN CONCRETE PAVEMENT LF

---

**Notes**

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<th>352-70-</th>
<th>GRINDING CONCRETE PAVEMENT</th>
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<tr>
<td><strong>Unit</strong></td>
<td>SY; M2</td>
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</tbody>
</table>

**Notes**

**Details**
This item to be used on existing concrete pavement only. Grinding of new concrete pavement included in the bid price for Cement Concrete Pavement.
DO NOT Use on bridge structures; refer to Section 400 items.

**Related Items**

<table>
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<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td><strong>Forms</strong></td>
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<td><strong>Construction</strong></td>
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| **Documentation** | **Design** | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| **Construction** | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 352-70-

Notes

352-70-
GRINDING CONCRETE PAVEMENT SY

Specifications

Unit CY; M3
Accuracy 10th of a Cubic Yard; 10th of a Cubic Meter
PlanQuantity? no

Related Items
Required Recommended
Forms Design SHTabQuant COMP 700-050-04
Construction Refer to Comp Book

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards Index No. 305, 308
Specifications Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 352-70-

Notes

352-70-
CONCRETE PAVEMENT SLAB REPLACEMENT CY

Specifications

Unit LF; M1
Accuracy Linear Foot; 10th of a Meter
PlanQuantity? yes

Related Items
Required Recommended
Forms Design SHTabQuant COMP 700-050-03
Construction Refer to Comp Book

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
Construction Final pay quantity will be PLAN QUANTITY with proper consideration for
Specification tolerances.

References
PPM Chapter
Other
Standards Index No. 306
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 370- 1- BRIDGE APPROACH EXPANSION JOINT LF

Notes

400- 1-AAA CLASS I CONCRETE
Unit CY; M3
Accuracy 10th of a Cubic Yard; 10th of a Cubic Meter
PlanQuantity? yes/no

Notes

Details
No separate payment made for deck scuppers, poured expansion joints, deck control joints, preformed anchor bolt holes, plain neoprene bearing pads. These items are included in the cost of the concrete.
Reinforcement steel may be incidental to the cost of the concrete; refer to Section 400 of the specifications. Reinforcement is incidental for concrete jackets on steel piles, steel in barriers, traffic separators, and parapets.
Include quantity block in plans by component (except for misc. concrete). Mass concrete should be broken out in the quantity block separately. See SDG’s 3.9. When component is phased, break down quantity by phase.
Concrete quantity is PLAN QUANTITY (except for misc. concrete). See Section 400-22.2.2 of the Specifications.
Estimate 5 CY (5 M3) minimum for misc. concrete.
Class III: When it is not practical to dewater land pier footings, show seal concrete in the plans. For water piers, both waterline and mudline footings require seal concrete to be shown in the plans. See SDG’s 3.7.
Superstructure Light-Weight Concrete requires plan notes and/or a TSP for unit weight, aggregate requirements, etc.
Low Shrink Deck Concrete requires a TSP.
Counterweight Concrete may require plan notes and/or a TSP for unit weight, aggregate requirements, etc.
Concrete for bascule bridge pier should be paid for under Substructure or Mass-Substructure pay items. See SDG’s 3.9.
Clearly delineate limits of microsilica concrete in the plans. Clearly delineate limits of calcium nitrite in the plans. CIP concrete requiring calcium nitrite should be paid for using the normal concrete pay item. See SDG’s 1.4.2.

ORIGINAL MEASUREMENT:
ALL, Except MISC: Detailed calculations are required in the computation book, calculate carefully to reflect actual scope of work. PLAN QUANTITY will be basis of payment to the Contractor.
MISC: Detailed calculations are required in computation book.
FINAL:
ALL, Except MISC: No calculations required unless item is to be adjusted. Final pay quantity will be PLAN QUANTITY with proper considerations for Specification tolerances.
MISC: Final measurements should be recorded in field book showing detailed
calculations. (Refer to subarticle 400-20.2.2 in the specifications.) Transfer final quantity to proper form in computation book.

<table>
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<tr>
<th>Related Items</th>
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<tbody>
<tr>
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<td>Construction</td>
<td>Refer to Comp Book</td>
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| Documentation | Design            | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|               | Construction      | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

<table>
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<td>CIP Retaining Wall: Index 5100</td>
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<td>ENDWALLS: Index No. 245, 250, 251, 252, 253, 255, 261, 264, 266, 282, 295</td>
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<td>RET WALLS: Index Nos. 5000 series</td>
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| Specifications | 346, 400 |

| Prep & Doc Manual Chapter(s) | 6, 7, 13 |

### Status

**Struct.** 400- 1-AAA CLASS I CONCRETE CY

AAA =
1 (Culverts)
2 (Endwalls)
4 (Superstructure)
5 (Substructure)
6 (Counterweight)
8 (Bulkhead)
10 (Approach Slabs) Class II Only
11 (Retaining Walls)
12 (Trench Slabs)
15 (Miscellaneous)
20 (Seal)
22 (Superstructure Closure Joint)
25 (Mass- Substructure)
39 (Precast Segmental Superstructure) CLASS IV/V ONLY
40 (Precast Segmental Substructure) CLASS IV/V ONLY
104 (Superstructure Light-Weight)
105 (Superstructure Special)
106 (Microsilica Substructure) CLASS V ONLY
107 (Microsilica Substructure-Mass) CLASS V ONLY
239 (Low Shrink Deck) Material Only, CLASS IV ONLY

### Notes

400- 2-AAA CLASS II CONCRETE

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Details and Structure: Chapters 11 to 20
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| Specifications | 346, 400 |

### References

**PPM Chapter**
- Mass Concrete SDG’s 3.9, Class and Admixtures SDG’s 1.4.2, Cofferdams and Seals SDG’s 3.7.

**Other**
- APPROACH SLABS: Index No. 900
- CULVERTS: Index No. 290
- ENDWALLS: Index No. 245, 250, 251, 252, 253, 255, 261, 264, 266, 282, 295
- MISC: Index No. 270, 280, 286, 287, 520
- RET WALLS: Index Nos. 5000 series

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<td>6 (Counterweight)</td>
<td>8 (Bulkhead)</td>
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<td>11 (Retaining Walls)</td>
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<td>12 (Trench Slabs)</td>
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<td>20 (Seal)</td>
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<td>239 (Low Shrink Deck) Material Only, CLASS IV ONLY</td>
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### Notes

**400- 3-AAA | CLASS III CONCRETE**

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</table>

Details and Structure: Chapters 11 to 20
### Notes

- Refer to Class I Concrete, 400-1-AAA for details.

#### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design</strong></td>
<td>SHTabQuant</td>
</tr>
</tbody>
</table>

#### Forms

- **Design** Refer to Comp Book

#### Documentation

- **Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### Reference

- **PPM Chapter**
- **Other** Mass Concrete SDG’s 3.9, Class and Admixtures SDG’s 1.4.2, Cofferdams and Seals SDG’s 3.7.
- **Standards**
  - APPROACH SLABS: Index No. 900
  - CULVERTS: Index No. 290
  - ENDWALLS: Index No. 245, 250, 251, 252, 253, 255, 261, 264, 266, 282, 295
  - MISC: Index No. 270, 280, 286, 287, 520
  - RET WALLS: Index Nos. 5000 series

#### Specifications

- 346, 400

### Pre & Doc Manual Chapter(s)

#### Status

**Struct.** 400-3-AAA

CLASS III CONCRETE CY

AAA =
1 (Culverts)
2 (Endwalls)
4 (Superstructure)
5 (Substructure)
6 (Counterweight)
8 (Bulkhead)
10 (Approach Slabs) Class II Only
11 (Retaining Walls)
12 (Trench Slabs)
15 (Miscellaneous)
20 (Seal)
22 (Superstructure Closure Joint)
25 (Mass-Substructure)
39 (Precast Segmental Superstructure) CLASS IV/V ONLY
40 (Precast Segmental Substructure) CLASS IV/V ONLY
104 (Superstructure Light-Weight)
105 (Superstructure Special)
106 (Microsilica Substructure) CLASS V ONLY
107 (Microsilica Substructure-Mass) CLASS V ONLY
239 (Low Shrink Deck) Material Only, CLASS IV ONLY

### Notes

#### 400-4-AAA

CLASS IV CONCRETE

- **Unit** CY; M3
- **Accuracy** 10th of a Cubic Yard; 10th of a Cubic Meter
- **PlanQuantity** yes/no

Details and Structure: Chapters 11 to 20
Notes
Details
Refer to Class I Concrete, 400-1-AAA for details

Related Items
Required
Recommended
415-1-A

Forms
Design
SHTabQuant
COMP 700-050-04/07

Construction
Refer to Comp Book

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

Specifications
346, 400

PPM Chapter
Other
Mass Concrete SDG’s 3.9, Class and Admixtures SDG’s 1.4.2, Cofferdams and Seals SDG’s 3.7.

Prep & Doc Manual Chapter(s)

Status
Struct. 400-4-AAA
CLASS IV CONCRETE

AAA =
1 (Culverts)
2 (Endwalls)
4 (Superstructure)
5 (Substructure)
6 (Counterweight)
8 (Bulkhead)
10 (Approach Slabs) Class II Only
11 (Retaining Walls)
12 (Trench Slabs)
15 (Miscellaneous)
20 (Seal)
22 (Superstructure Closure Joint)
25 (Mass-Substructure)
39 (Precast Segmental Superstructure) CLASS IV/V ONLY
40 (Precast Segmental Substructure) CLASS IV/V ONLY
104 (Superstructure Light-Weight)
105 (Superstructure Special)
106 (Microsilica Substructure) CLASS V ONLY
107 (Microsilica Substructure-Mass) CLASS V ONLY
239 (Low Shrink Deck) Material Only, CLASS IV ONLY

Notes

400-6-
PRECAST ANCHOR BEAMS

Unit EA
Accuracy Each
PlanQuantity? no
Intended for Precast Tie Back anchors for use in anchored wall systems. Include in anchored wall quantity block in plans.

**Details**

**Related Items**

**Forms**  
Required: SHTabQuant  
Recommended: COMP 700-050-03

**Documentation**  
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**  
PPM Chapter  
Other Standards Specifications

**Prep & Doc Manual Chapter(s)**  
6, 7, 13

**Status**  
Struct. 400-6-  
PRECAST ANCHOR BEAMS

**Notes**

**Details**

400-7-  
BRIDGE DECK GROOVING- DECK THICKNESS LESS THAN 8.5"

**Unit**  
SY; M2  
**Accuracy**  
Square Yard; Square Meter  
**Plan Quantity?**  
yes

**Notes**

Item intended for cases where deck profilograph and planing is not required by specification. When rigid approach slab is utilized, include approach slab area only. Quantity based on area bound by bridge gutter lines, begin/end of bridge or begin/end approach slab (if not covered by asphalt wearing surface).

**Related Items**

**Forms**  
Required: SHTabQuant  
Recommended: COMP 700-050-01

**Documentation**  
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**  
PPM Chapter  
Other Standards Specifications

**Prep & Doc Manual Chapter(s)**  
7, 13

**Status**  
Struct. 400-7-  
BRIDGE DECK GROOVING- DECK THICKNESS LESS THAN 8.5"

---

**Details and Structure:** Chapters 11 to 20  
**Page 76 of 428**
**Notes**

<table>
<thead>
<tr>
<th>400- 8-AAA</th>
<th>CLASS V CONCRETE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>CY; M3</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>10th of a Cubic Yard; 10th of a Cubic Meter</td>
</tr>
<tr>
<td><strong>Plan Quantity?</strong></td>
<td>yes/no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

Refer to Class I Concrete, 400-1-AAA for details.

**Related Items**

- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book

- **Recommended**
  - Design: COMP 700-050-04/07
  - Construction: Refer to Comp Book

**Forms**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Documentation**

- **Design**
  - Mass Concrete SDG’s 3.9, Class and Admixtures SDG’s 1.4.2, Cofferdams and Seals SDG’s 3.7.

**References**

- **PPM Chapter**
- **Other**

**Standards**

- **Specifications**
  - Plan Detail and/or Tech Spec Required

**Struct.**

<table>
<thead>
<tr>
<th>400- 8-AAA</th>
<th>CLASS V CONCRETE</th>
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</table>

AAA =
1 (Culverts)
2 (Endwalls)
4 (Superstructure)
5 (Substructure)
6 (Counterweight)
8 (Bulkhead)
10 (Approach Slabs) Class II Only
11 (Retaining Walls)
12 (Trench Slabs)
15 (Miscellaneous)
20 (Seal)
22 (Superstructure Closure Joint)
25 (Mass-Substructure)
39 (Precast Segmental Superstructure) CLASS IV/V ONLY
40 (Precast Segmental Substructure) CLASS IV/V ONLY
104 (Superstructure Light-Weight)
105 (Superstructure Special)
106 (Microsilica Substructure) CLASS V ONLY
107 (Microsilica Substructure-Mass) CLASS V ONLY
239 (Low Shrink Deck) Material Only, CLASS IV ONLY

**Notes**

| 400- 9- | BRIDGE DECK GROOVING AND PLANING- DECK THICKNESS 8.5” or GREATER |

**Details and Structure:** Chapters 11 to 20
Topic No. 600-000-002
Basis of Estimates

Unit | SY; M2 | Accuracy | Square Yard; Square Meter | PlanQuantity? | yes

**Notes**

**Details**

Item intended for cases where deck profilograph, and planing is required by specification. When rigid approach slab is utilized, include approach slab area. Quantity based on area bound by bridge gutter lines, begin/end of bridge or begin/end approach slab (if not covered by asphalt wearing surface).

**Related Items**

**Forms**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
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</table>

**Documentation**

Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter
Other
SDG’s 4.2
Specifications

Prep & Doc Manual Chapter(s) 7, 13

**Status**

Struct. 400-9- BRIDGE DECK GROOVING AND PLANING- DECK THICKNESS 8.5” or GREATER

---

**400-20- GRINDING BRIDGE DECK- REHABILITATION ONLY**

Unit | SY; M2 | Accuracy | Square Yard; Square Meter | PlanQuantity? | no

**Notes**

**Details**

For use on bridge rehabilitation projects only.

**Related Items**

**Forms**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
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</tbody>
</table>

**Documentation**

Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter
Other
Specifications

Prep & Doc Manual Chapter(s)

**Status**

Details and Structure: Chapters 11 to 20
### Struct. 400-20- GRINDING BRIDGE DECK- REHABILITATION ONLY  SY

#### Notes

### 400-32- CONCRETE FOR JOINT REPAIR

- **Unit**: CY; M3  
- **Accuracy**: 10th of a Cubic Yard; 10th of a Cubic Meter  
- **Plan Quantity?**: yes

**Notes**

**Details**

Intended for rehabilitation or widening projects to repair or replace concrete deck at expansion joints. Include in Quantity Block in Plans.

**Related Items**

- **Forms**
  - **Required**: Design  
  - **Recommended**: COMP 700-050-04

- **Construction**: Refer to Comp Book

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

- **Construction**: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

- **PPM Chapter**

- **Other**: SDG’s 6.4

**Standards**

**Specifications**

Plan Detail and/or Tech Spec Required  
*Prep & Doc Manual Chapter(s) 6, 7, 13*

---

### Status

**Struct. 400-32- CONCRETE FOR JOINT REPAIR**  
**CY**

---

### Notes

### 400-60- A CATHODIC PROTECTION- ELECTRICAL WORK

- **Unit**: LS/LS  
- **Accuracy**: Lump Sum  
- **Plan Quantity?**

**Notes**

**Details**

This item is under development by the State Materials Lab. Contact the Materials Lab prior to using this item.

**NOTE**: 3 pay items- power, conduit, and equipment, as described below, are needed for a complete electrical system. Use with either 400-142, 455-81, or 457-71.

**AC or DC POWER SOURCE ASSEMBLY**: Includes all work and materials for providing power to the Cathodic Protection System. For AC assemblies, this includes all costs associated with connection between system and external power source. For DC assemblies, includes solar panels, batteries, incidentals, and wiring necessary to provide power.

**CONDUIT**: Includes all conduit from power source assembly to end location(s), junction boxes, wiring, and all incidentals. Measure as the length of conduit from the power system, along the bridge, and down each pier to be protected.

**EQUIPMENT & INSTRUMENTATION**: Lump sum item to include all remaining items necessary for a complete system. Detail major equipment, by location, in the plans or Tech Specs.
Related Items

**Required**

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>A= Components</td>
<td>400-142, 455-81, or 457-71.</td>
</tr>
</tbody>
</table>

**Recommended**

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
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<tbody>
<tr>
<td>A= Components</td>
<td>SHTabQuantLS</td>
</tr>
</tbody>
</table>

Forms

**Design**

- SHTabQuantLS
- COMP 700-050-05

**Construction**

- Refer to Comp Book

Documentation

**Design**

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

**PPM Chapter**

**Other**

**Standards**

**Specifications**

- Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

Status

**Struct.**

400- 60- A  CATHODIC PROTECTION- ELECTRICAL WORK  LS/LS

- A= Components (Select only 1 power source assembly; use with BOTH A=3 and 4)
- 1 (AC Power Source Assembly) LS
- 2 (DC Power Source Assmwbly) LS
- 3 (Conduit, Wiring, and Accessories) LS/LF
- 4 (Equipment & Instrumentation) LS

Notes

400- 72-  PRECAST BULKHEAD PANELS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF; M2</td>
<td>Square Foot; 10th of a Square Meter</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

Intended for precast panels used as part of a soldier pile wall system. Pay Item note recommended; coordinate with specifications. Add pay item note similar to concrete sheet piles (Spec. 455-9.4 and 455-12.7) to include cost of trenching, preformed holes in cost of precast panels. Include in Soldier Wall Quantity Block in Plans. May require specification modifications as follows: 455-5.15.2 and 455-5.15.3 Placement Tolerances (+/-1") and Batter Tolerances (1/8 in/ft)

**Related Items**

**Required**

<table>
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<tr>
<td>SHTabQuant</td>
<td>455-34- AA</td>
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**Recommended**

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<tr>
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<th>Code</th>
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<tbody>
<tr>
<td>COMP 700-050-01</td>
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</table>

**Forms**

**Design**

- SHTabQuant
- COMP 700-050-01

**Construction**

- Refer to Comp Book

**Documentation**

**Design**

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

- Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

**PPM Chapter**

**Other**

SDG’s 3.12.9 and Figure 3-13.
### 400-91- DEWATERING FOR SPREAD FOOTINGS

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: yes

**Details**
Required on all spread footing projects where dewatering is anticipated due to high water table. Include in Footing Quantity Block in Plans. Usually used with Pay Items 400-4-25, 400-2-25, 415-1-4. Include Pay Item 125-1 only when additional excavation is required below bottom of footing elevation.

**Related Items**

<table>
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<tr>
<th>Forms</th>
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<th>Recommended</th>
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<tbody>
<tr>
<td>Design</td>
<td>SBDRST</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
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</tbody>
</table>

**Documentation**

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor. |
| Construction | Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances. |

**References**

- PPM Chapter  
- Other

---

### 400-95- A COFFERDAM

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: yes

**Details**
Intended to construct/dewater cofferdams. Cofferdams may be required to construct or demolish mudline footings located in the waterway. This pay item is not to be utilized when full containment structures are required due to special environmental turbidity requirements, or when a pier footing is located at the shoreline making dewatering difficult. Do not use for waterline or slightly submerged footings.

**Related Items**

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>
COFFERDAM

A = 1 (Bascule Pier)  
2 (Control House)  
3 (Special)

400- 97-  
COATING CONCRETE SURFACES

Unit  LS/SF; LS/M2  
Accuracy  Lump Sum (Square Foot); Lump Sum (Square Meter)  
Plan Quantity?  yes

Notes

Details

Intended on rehabilitation projects to apply coating systems onto existing concrete surfaces such as epoxy or bituminous protection coatings. Cost usually covers the labor. Material costs covered under separate pay item. Show location. Pay item note recommended. Do not use with Item 400-143.

Related Items

Required  400-134  
Recommended  400-143

Forms

Design  SHTabQuantLS  
Construction  COMP 700-050-05

Documentation

Design  Refer to Comp Book  
Construction  Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.

References

PPM Chapter  
Other  
Standards  
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)  6, 13
### 400-113- PRECAST BENT CAPS (END)

**Unit:** LF; M1  
**Accuracy:** Linear Foot; 10th of a Meter  
**Plan Quantity?** yes

**Notes**

Intended for prefabricated end bent caps (furnish and install). Include in End Bent Quantity Block in Plans. Address cost of connection to piles and flowable fill (or similar) required to fill under finished cap. Tech Spec or Plan note may be necessary to address connection to piles.

**Related Items**

- **Forms**
  - **Design:** SHTabQuant  
  - **Construction:** Refer to Comp Book

- **Documentation**
  - **Design:** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
  - **Construction:** Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

---

### 400-114- PRECAST BENT CAPS (INT)

**Unit:** LF; M1  
**Accuracy:** Linear Foot; 10th of a Meter  
**Plan Quantity?** yes

**Notes**

Intended for prefabricated bent caps (furnish and install). Include in Bent Cap Quantity Block in Plans. TSP or plan notes may be necessary to address connection to piles.

**Related Items**

- **Forms**
  - **Design:** SHTabQuant  
  - **Construction:** Refer to Comp Book

- **Documentation**
  - **Design:** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
  - **Construction:** Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.
### 400-114- PRECAST BENT CAPS (INT)

| Unit       | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | no |

**Notes**

- **Details**
  
  Intended for grouting the keyways of precast deck panels for both new and rehabilitation projects. On rehabilitation projects, include pay item notes to address payment of the various work items involved.
  
  TSP may be required on rehabilitation projects to address removal of existing asphalt overlay, removal and preparation of existing keyways, grouting of keyways, post-tensioning and new overlay requirements.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

**Documentation**

| Design   | Refer to Comp Book |
| Construction | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Plan Detail and/or Tech Spec Required**

- Prep & Doc Manual Chapter(s) 6, 13

---

### 400-128- GROUTING PRECAST DECK PANELS (NON-SHRINK GROUT)

| Unit       | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | no |

**Notes**

- **Details**
  
  Intended for grouting the keyways of precast deck panels for both new and rehabilitation projects. On rehabilitation projects, include pay item notes to address payment of the various work items involved.
  
  TSP may be required on rehabilitation projects to address removal of existing asphalt overlay, removal and preparation of existing keyways, grouting of keyways, post-tensioning and new overlay requirements.

**Related Items**

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<th>Recommended</th>
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<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

**Documentation**

| Design   | Refer to Comp Book |
| Construction | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Plan Detail and/or Tech Spec Required**

- Prep & Doc Manual Chapter(s) 6, 13

---

### 400-134- EPOXY MATERIAL- STRUCTURES REHAB

| Unit       | GA; LI | Accuracy | Gallon; Liter | PlanQuantity? | no |

**Notes**

- **Details**
  
  Intended for grouting the keyways of precast deck panels for both new and rehabilitation projects. On rehabilitation projects, include pay item notes to address payment of the various work items involved.
  
  TSP may be required on rehabilitation projects to address removal of existing asphalt overlay, removal and preparation of existing keyways, grouting of keyways, post-tensioning and new overlay requirements.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
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<td>Design</td>
<td>SHTabQuant</td>
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<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
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</table>

**Documentation**

| Design   | Refer to Comp Book |
| Construction | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Plan Detail and/or Tech Spec Required**

- Prep & Doc Manual Chapter(s) 6, 13

---

Details and Structure: Chapters 11 to 20
Intended on rehabilitation projects for epoxy material to coat existing concrete surfaces. Cost of labor usually paid for under 400-97 or 400-135. Show location in plans. Pay item note recommended.

**Related Items**

- **Required**: 400-97, 400-135
- **Recommended**: 400-134

**Forms**

- **Design**: SHTabQuant
- **Construction**: 700-050-56

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Status**

| Struct. | 400-134- | EPOXY MATERIAL- STRUCTURES REHAB GA |

**Notes**

**400-135- CRACKS, INJECT AND SEAL**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

**Details**

Intended for Rehabilitation Projects to Epoxy Inject and Seal Cracks in Existing Concrete Components. Item intended to Cover Labor. Item 400-134 Intended to cover material. Show locations w/ quantity block in plans.

**Related Items**

- **Required**: 400-134
- **Recommended**: 400-135

**Forms**

- **Design**: SHTabQuant
- **Construction**: Refer to Comp Book

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

| Prep & Doc Manual Chapter(s) | 6, 7, 13 |

**Status**

| Struct. | 400-135- | CRACKS, INJECT AND SEAL LF |

**Notes**
400-136-  EPOXY CONCRETE OVERLAY

**Unit:** SY; M2  
**Accuracy:** Square Yard; Square Meter  
**Plan Quantity?:** yes

**Notes**

**Details:**
Used for rehabilitation of existing bridges. Item includes all costs for shotblasting deck, cleaning deck surface, testing cohesion, furnishing & installing epoxy overlay wearing surface. Contact State Structures Office for assistance.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-01</td>
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</tbody>
</table>

**Forms**

**Documentation**

<table>
<thead>
<tr>
<th>Design</th>
<th>Construction</th>
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</table>
| Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor. | Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter
Other

**Standards**

Index No. 20500, 20501

**Prep & Doc Manual Chapter(s)**

**Status**

**Struct.** 400-136- EPOXY CONCRETE OVERLAY SY

---

400-140-  NEOPRENE PAD REPLACEMENT

**Unit:** EA  
**Accuracy:** Each  
**Plan Quantity?:** no

**Notes**

**Details**
Intended for rehabilitation and widening projects to replace existing damaged pads. Show locations w/ quantity block in plans. Include pay item note to include cost of neoprene pads, jacking bridge, disposal of old pads, and all other labor and materials required to replace existing bearing incidental to cost of this item. For Composite pads, refer to pay item 400-417.

**Related Items**

<table>
<thead>
<tr>
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<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
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**Forms**

**Documentation**

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<th>Construction</th>
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</thead>
</table>
| Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. | Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter
Other SDG's 6.5

**Standards**

Index No. 20500, 20501

---
### Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**  6, 7, 13

---

#### Status

**Struct.**  400-140-  A  NEOPRENE PAD REPLACEMENT  EA

<table>
<thead>
<tr>
<th>A =</th>
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<tbody>
<tr>
<td>1 (Bent / Pier)</td>
</tr>
<tr>
<td>2 (Abutment)</td>
</tr>
<tr>
<td>3 (Box Pier)</td>
</tr>
<tr>
<td>4 (Trestle Pier)</td>
</tr>
<tr>
<td>5 (V - Pier)</td>
</tr>
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</table>

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#### Notes

**400-142-  A  CATHODIC PROTECTION SYSTEM**

<table>
<thead>
<tr>
<th><strong>Unit</strong></th>
<th>SF; M2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accuracy</strong></td>
<td>Square Foot; 10th of a Square Meter</td>
</tr>
<tr>
<td><strong>Plan Quantity?</strong></td>
<td>no</td>
</tr>
</tbody>
</table>

---

#### Details

This item is under development by the Materials Lab. Contact State Materials Office, Corrosion Lab for assistance in use of this item. Intended for rehabilitation projects when cathodic for structural components is utilized. Show locations in plans w/ quantity block. Use Item 400-60 for Electrical Work associated with this item. See 455-81 (pile) or 457-71 (pile jacket) for related items.

---

#### Related Items

- **Required**  400-60- A
- **Recommended**

#### Forms

- **Design**  SHTabQuant
- **Construction**  Refer to Comp Book

#### Documentation

- **Design**  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

---

#### References

**PPM Chapter**

**Other**

**Standards**

**Specifications**

---

#### Status

**Struct.**  400-142-  A  CATHODIC PROTECTION SYSTEM  SF

<table>
<thead>
<tr>
<th>A =</th>
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</thead>
<tbody>
<tr>
<td>1 (Raychem) valid through 6/30/06</td>
</tr>
<tr>
<td>2 (Eltech) valid through 6/30/06</td>
</tr>
<tr>
<td>3 (Zinc Aluminum Spray)</td>
</tr>
<tr>
<td>4 (Zinc Aluminum Sheets)</td>
</tr>
<tr>
<td>6 (Titanium Sheets) valid through 6/30/06</td>
</tr>
<tr>
<td>7 (Titanium Mesh) effective 7/1/06</td>
</tr>
<tr>
<td>8 (Titanium Bars) effective 7/1/06</td>
</tr>
</tbody>
</table>

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**Details and Structure:** Chapters 11 to 20
### 400-143- CLEANING AND COATING CONCRETE SURFACES, CLASS 5

<table>
<thead>
<tr>
<th>Unit</th>
<th>SF; M²</th>
<th>Accuracy</th>
<th>Square Foot; 10th of a Square Meter</th>
<th>PlanQuantity?</th>
<th>yes</th>
</tr>
</thead>
</table>

**Notes**

**Details**

This item is used on bridge widening jobs for applying a class 5 finish coating to existing concrete surfaces or where existing bridges/walls within the limits of a project require a class 5 finish coating.

Show locations in plans w/ quantity block.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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</table>

**Documentation**

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<th>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

**References**

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s)  6, 7, 13

**Status**

Struct.  400-143- CLEANING AND COATING CONCRETE SURFACES, CLASS 5

---

### 400-145- A CLEANING CONCRETE SURFACE

<table>
<thead>
<tr>
<th>Unit</th>
<th>LS/SF; LS/M²</th>
<th>Accuracy</th>
<th>Lump Sum (Square Foot); Lump Sum (Square Meter)</th>
<th>PlanQuantity?</th>
<th>yes</th>
</tr>
</thead>
</table>

**Notes**

**Details**

Intended for cleaning existing class 5 finish coating of existing bridge. Show locations in plans w/ quantity block. Include pay item note in plans.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuantLS</td>
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<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
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</table>

**Documentation**

<table>
<thead>
<tr>
<th>Design</th>
<th>Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

---

Details and Structure: Chapters 11 to 20
Stand. 400-145- A CLEANING CONCRETE SURFACE LS/SF

A = location
Blank (Above Water)
1 (Underwater)

Notes

400-147- COMPOSITE NEOPRENE PADS

Unit CF; M3 Accuracy 10th of a Cubic Foot; 100th of a Cubic Meter
PlanQuantity? no

Details
Intended for composite (steel reinforced) neoprene bearing pads for bridges. Include cost of plain neoprene bearing pads in cost of concrete superstructure component. Add pay item note for this case. Show locations in plans w/ quantity block. For replacement of neoprene pads, refer to pay item 400-140.

Related Items
Required Recommended
Design SHTabQuant COMP 700-050-04
Construction 700-050-56

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other SDG’s 6.5
Standards Index No. 20500, 20501
Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 400-147- COMPOSITE NEOPRENE PADS CF

Notes

400-153- NON SHRINK GROUT- MISCELLANEOUS

Unit CF; M3 Accuracy 10th of a Cubic Foot; 100th of a Cubic Meter
PlanQuantity? no

Details
For rehabilitation/widening projects only. Use 10.0 CF (0.03 M3) as a minimum quantity.
Show locations in plans w/ quantity block. Include pay item note in plans.

**Related Items**

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-04</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
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<tr>
<td><strong>Documentation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
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<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
<td></td>
</tr>
<tr>
<td><strong>References</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPM Chapter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td></td>
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<tr>
<td>Standards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specifications</td>
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<td></td>
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</tbody>
</table>

**Plan Detail and/or Tech Spec Required**

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

Struct. 400-153- NON SHRINK GROUT- MISCELLANEOUS CF

**Notes**

**401- 70- A**

<table>
<thead>
<tr>
<th>Unit</th>
<th>CF; M3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accuracy</strong></td>
<td>10th of a Cubic Foot; 100th of a Cubic Meter</td>
</tr>
<tr>
<td><strong>Plan Quantity?</strong></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Used on rehabilitation projects to cover costs of patching existing concrete spalls. Show locations in plans w/ quantity block. Include pay item note in plans. Cost includes cost of preparation, labor and material of concrete patch. Use 10.0 CF (1.00 M3) as a minimum quantity.

**Related Items**

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-04</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
<tr>
<td><strong>Documentation</strong></td>
<td></td>
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<tr>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
<td></td>
</tr>
<tr>
<td><strong>References</strong></td>
<td></td>
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<td>PPM Chapter</td>
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<tr>
<td>Other</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Specifications</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Plan Detail and/or Tech Spec Required**

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

Struct. 401- 70- A RESTORE SPALLED AREAS CF

A =
1 (Epoxy)
2 (Latex Modified Mortar - Styrene-Butadiene)
3 (Latex Modified Mortar - Acrylic)
4 (Portland Cement Grout)
5 (Contractors Option)
6 (Thermosetting Polymer Concrete)
Blank (Gunite)

**Notes**

<table>
<thead>
<tr>
<th>405-70- A</th>
<th>LATEX MODIFIED PORTLAND CEMENT CONCRETE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>CF; M3</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>10th of a Cubic Foot; 100th of a Cubic Meter</td>
</tr>
<tr>
<td><strong>Plan Quantity?</strong></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Intended for thin deck overlays. Show locations in plans w/ quantity block. Include pay item note in plans. Cost includes cost of preparation, labor and material of latex modified concrete overlay. Use 10.0 CF (1.00 M3) as a minimum quantity.

**Details**

**Related Items**

**Forms**
- **Design**
  - Required: SHTabQuant
  - Recommended: COMP 700-050-04
- **Construction**
  - Refer to Comp Book

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

Struct. 405-70- A LATEX MODIFIED PORTLAND CEMENT CONCRETE CF

A =
1 (Type I Cement)
2 (Type III Cement)

**Notes**

<table>
<thead>
<tr>
<th>407-1-AB</th>
<th>PRECAST THREE SIDED CULVERT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>LF; M1</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td><strong>Plan Quantity?</strong></td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**

Per specifications, 3 sided box culverts are not an equivalent substitution for Precase Concrete Box Culverts. Refer to PPM for selection and design criteria.

**Related Items**

**Forms**
- **Design**
  - Required: SBDRST
  - Recommended: COMP 700-050-03

Details and Structure: Chapters 11 to 20
### Standards

<table>
<thead>
<tr>
<th>Vol 1, Chapter 33</th>
</tr>
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</table>

### Specifications

<table>
<thead>
<tr>
<th>Vol 1, Chapter 33</th>
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</table>

### Prepartion & Design

<table>
<thead>
<tr>
<th>Location</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol 1, Chapter 33</td>
<td>290</td>
</tr>
</tbody>
</table>

### Notes

**Details**

Valid through June 2007; use concrete & steel items.

Intended for 4-sided precast box culverts. Show schematically in the plans. Pay for headwall concrete wing walls under separate pay items. When a CIP 4-sided box culvert, Standard Index 290 is called for in the plans, Item 410-70-AAB should not be used. Show locations in plans w/ quantity block. Include pay item note in clarify payment of culvert, head wall and wing walls.

### Related Items

**Unit**

<table>
<thead>
<tr>
<th>Item</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>410-70-AAB</td>
<td>LF; M1</td>
<td>400-4-1, 400-2-1, 415-1-1</td>
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</table>

**Forms**

<table>
<thead>
<tr>
<th>Design</th>
<th>SHTabQuant</th>
<th>COMP 700-050-03</th>
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<tbody>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

<table>
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<th>Location</th>
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<td>Vol 1, Chapter 33</td>
<td>290</td>
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### References

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<tr>
<th>Location</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vol 1, Chapter 33</td>
<td>290</td>
</tr>
</tbody>
</table>

**Prepartion & Design**

```plaintext
410-70-AAB

PRECAST CONCRETE BOX CULVERT

Unit: LF; M1  Accuracy: Linear Foot; 10th of a Meter  PlanQuantity?: no
```

Valid through June 2007; use concrete & steel items.

Intended for 4-sided precast box culverts. Show schematically in the plans. Pay for headwall concrete wing walls under separate pay items. When a CIP 4-sided box culvert, Standard Index 290 is called for in the plans, Item 410-70-AAB should not be used. Show locations in plans w/ quantity block. Include pay item note in clarify payment of culvert, head wall and wing walls.

**Related Items**

<table>
<thead>
<tr>
<th>Item</th>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>410-70-AAB</td>
<td>LF; M1</td>
<td>400-4-1, 400-2-1, 415-1-1</td>
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**Forms**

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<th>COMP 700-050-03</th>
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<tbody>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

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<th>Location</th>
<th>Standard</th>
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<td>Vol 1, Chapter 33</td>
<td>290</td>
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**References**

<table>
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<th>Standard</th>
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</thead>
<tbody>
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<td>Vol 1, Chapter 33</td>
<td>290</td>
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### Status

Block Pending
## Notes

**413-149-** PENETRANT SEALER

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
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</thead>
<tbody>
<tr>
<td>GA; LI</td>
<td>Gallon; Liter</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

NO SEPARATE PAYMENT FOR NEW, PRECAST ITEMS. Pay Item for Rehabilitation jobs only. Intended to cover material cost of penetrant sealer. Pay Item 413-154 to cover labor costs. Show locations in plans w/ quantity block.

**Related Items**

- **Required**: 413-154
- **Recommended**: 413-154

**Forms**

- **Design**: SHTabQuant
- **Construction**: 700-050-56

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).
- **Construction**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other

**Prep & Doc Manual Chapter(s)**

SHTabQuant COMP 700-050-06

**Status**

Struct. **413-149-** PENETRANT SEALER

**Notes**

**413-151-** METHACRYLATE MONOMER

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA; LI</td>
<td>Gallon; Liter</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

Effective 1-1-06; replaces Section 400 items

For use on rehabilitation projects to seal existing deck cracks. Contact State Materials (Gainesville Corrosion) Lab for assistance with Specs. Intended to cover material cost of methacrylate monomer. Pay Item 413-154 to cover labor costs. Show locations in plans w/ quantity block.

**Related Items**

- **Required**: 413-154
- **Recommended**: 413-154

**Forms**

- **Design**: SHTabQuant
- **Construction**: 700-050-56

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).
413-154- CLEANING AND SEALING CONCRETE SURFACES- PENETRANT SEALER OR METHACRYLATES

Unit SF; M2 Accuracy Square Foot; 10th of a Square Meter PlanQuantity?

Notes
REFER TO SECTION 400 for other coatings. Intended to cover labor cost of penetrant sealer or Methacrylates. Pay Item 413-149 or 413-151 to cover material costs. Show locations in plans w/ quantity block.

Related Items
Required 413-149 or 413-151 Recommended

Forms
Design SHTabQuant
Construction Refer to Comp Book

Documentation
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s)

Status
Struct. 413-151- METHACRYLATE MONOMER GA

Notes

415- 1- A REINFORCING STEEL

Unit LB; KG Accuracy Pound; Kilogram PlanQuantity? yes

Notes
Show locations in plans w/ quantity block by component (when component is constructed in phases break down quantity by phase). Include complete bar lists in plans. Item No. 415- 1- 9 (2415- 1- 9) to be used with Item No. 400- 2- 10 (2400- 2- 10).

Related Items
Required 415-1-9 Recommended

Forms
Design SHTabQuant

Details
SHTabQuant

Prep & Doc Manual Chapter(s)

Status
Struct. 413-154- CLEANING AND SEALING CONCRETE SURFACES- PENETRANT SEALER OR METHACRYLATES

Notes

Details and Structure: Chapters 11 to 20
Standards

ENDWALLS: 295
MISC: Index 280 for guard at pipe end

Specifications

Struct. 415-1- A REINFORCING STEEL LB

A =
1 (Roadway)
3 (Retaining Wall)
4 (Superstructure)
5 (Substructure)
6 (Miscellaneous)
8 (Bulkhead)
9 (Approach Slabs)

Notes

Coordinate the use of Stainless Steel with the State Structures Office.
Intended for stainless steel or stainless steel clad reinforcing. Show locations in plans w/ quantity block. Include bar lists.

Relationships

Refer to Comp Book

Documentation

7, 13

Details and Structure: Chapters 11 to 20

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13
Struct.  415- 2- A  REINFORCING STEEL- STAINLESS  LB

A =
1 (Roadway)
3 (Retaining Wall)
4 (Superstructure)
5 (Substructure)
6 (Miscellaneous)
7 (Sound Barrier Wall)
8 (Bulkhead)
9 (Approach Slabs)

Notes

425- 1-AAB  INLETS

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>Plan Quantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

Notes

Details

"Partial" is used when an existing structure is to be modified.
"Modified" is used when the standard structure on new construction is modified.
Modification of the Standard Index Drawing by adding weirs, notches, skimmers, and/or a change to dimensions and reinforcement, are to be detailed in the plans.
"Special" is not limited to any particular inlet type. If a designer has a need for something other than an inlet covered by the standard indexes, it is regarded as special (as in special design). Special Designs require signed and sealed drawings to be included in the plans.

Related Items

Forms
- Required: Design
- Recommended: SBDRST

Forms
- Construction: Refer to Comp Book

Documentation
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
- Design
- Construction

Other Standards

Specifications

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s): 7, 13

Status

Struct.  425- 1-AAB  INLETS  EA

AA =
20 (Curb Type 9)
21 (Curb Type 10)
31 (Curb Type P-1) B not 3, 4, 7, or 8
32 (Curb Type P-2) B not 3, 4, 7, or 8
33 (Curb Type P-3) B not 3, 4, 7, or 8
34 (Curb Type P-4) B not 3, 4, 7, or 8
35 (Curb Type P-5) B not 3, 4, 7, or 8
36 (Curb Type P-6) B not 3, 4, 7, or 8
41 (Curb Type J-1) B not 3, 4, 7, or 8
42 (Curb Type J-2) B not 3, 4, 7, or 8
43 (Curb Type J-3) B not 3, 4, 7, or 8
44 (Curb Type J-4) B not 3, 4, 7, or 8
45 (Curb Type J-5) B not 3, 4, 7, or 8
46 (Curb Type J-6) B not 3, 4, 7, or 8
47 (Curb Type 7)
48 (Curb Type 8)
50 (Dt Bot Type A)
51 (Dt Bot Type B)
52 (Dt Bot Type C)
53 (Dt Bot Type C Mod) B not 9
54 (Dt Bot Type D)
55 (Dt Bot Type E)
56 (Dt Bot Type F)
57 (Dt Bot Type G)
58 (Dt Bot Type H)
59 (Dt Bot Type I)
60 (Dt Bot Type J)
61 (Dt Bot Type K)
70 (Gutter Type S)
71 (Gutter Type V)
72 (Gutter Type S Mod) B not 9
80 (Med Barrier Type 1)
81 (Med Barrier Type 2)
82 (Med Barrier Spec Type 1)
83 (Med Barrier Spec Type 2)
84 (Med Barrier Type 3)
85 (Med Barrier Type 4)
86 (Med Barrier Type 5)
88 (Barrier Wall, Rigid, Curb & Gutter)
89 (Barrier Wall)
90 (Special) B not 7 or 8*
91 (Closed Flume) B= 0

B =
1 (=< 10')
2 (> 10')
3 (J Bot, < 10') (Standard Index 201)
4 (J Bot, > 10') (Standard Index 201)
5 (Partial)
7 (J Bottom, <10', Special)
8 (J Bottom, >10', Special)
9 (Modify)
0 (N/A) only for A=91

Notes

425- 2-AAB MANHOLES

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
</tr>
</thead>
</table>

Notes

Details

The designer should consider calling for a ring and cover where routine cleanout and inspection is anticipated, such as a French Drain.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
</table>

Forms

Design SBDRST

COMP 700-050-03

Details and Structure: Chapters 11 to 20
Struct.  425-  2-AAB MANHOLES EA

AA =
4 (P-7)
6 (P-8)
7 (J-7)
9 (J-8)
10 (Special) Plan Detail and/or Tech Spec required

B =
1 ( <= 10') Refer To Index 201
2 ( > 10') " " " 
3 (Partial)

Notes

425-  3-AAB JUNCTION BOX (DRAINAGE)

Unit EA Accuracy Each Plan Quantity? no

Details

Related Items Required Recommended
Forms Design SBDRST COMP 700-050-03
Construction Refer to Comp Book

Documentation Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References PPM Chapter Other

Other Standards Index No. 200, 201

Specifications

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s) 7, 13
AA =
4 (P-7)
6 (J-7)
8 (Special)*
9 (Utility)
10 (Utility, Modify)
11 (Utility, Remove)

B =
1 ( <= 10') Refer To Index 201
2 ( > 10')
3 (Partial)

Notes

<table>
<thead>
<tr>
<th>425- 4-</th>
<th>INLET- ADJUST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>EA</td>
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<tr>
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<td></td>
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<tr>
<td>Details</td>
<td>Consists of changing the vertical placement of an existing inlet so that it will conform to the finished grade as designated in the plans.</td>
</tr>
<tr>
<td>Related Items</td>
<td>Required</td>
</tr>
<tr>
<td>Forms</td>
<td>Design</td>
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<td>Documentation</td>
<td>Design</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td>References</td>
<td></td>
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<td>Standards</td>
<td>Index No. 200, 201, 210</td>
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<td>7, 13</td>
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<table>
<thead>
<tr>
<th>425- 5-  A</th>
<th>MANHOLES- ADJUST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>EA</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>Details</td>
<td>Consists of changing the vertical placement of an existing manhole so that it will conform to the finished grade as designated in the plans.</td>
</tr>
<tr>
<td>Related Items</td>
<td>Required</td>
</tr>
<tr>
<td>Forms</td>
<td>Design</td>
</tr>
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<td>Design</td>
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<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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<td>References</td>
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<td>Index No. 200, 201, 210</td>
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<td>Specifications</td>
<td></td>
</tr>
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</table>

Details and Structure: Chapters 11 to 20
**425- 5-**  MANHOLES- ADJUST  

A = 
Blank (Standard)  
1 (Utilities)

**425- 6-**  VALVE BOX- ADJUST

Unit  EA  Accuracy  Each  Plan

Notes

**425- 8-**  DRAINAGE STRUCTURES, MISCELLANEOUS- ADJUST

Notes

Details

Related Items

Forms

Design  SBDRST  COMP 700-050-03

Documentation

Design  Refer to Comp Book

Construction  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s)  7, 13
**425-8-**

**DRAINAGE STRUCTURES, MISCELLANEOUS- ADJUST**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

For use outside of the R/W. Refer to Design Standard for details.

**Details**

**Related Items**

**Forms**

**Design**

Refer to Comp Book

**Construction**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s) 7, 13

**Status**

Struct. 425-8-
<table>
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<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Details**

**Related Items**

- **Form**
  - SBDRST
  - COMP 700-050-03

**Documentation**

- **Construction**
  - Refer to Comp Book

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**References**

- **PPM Chapter**
  - Design
  - Construction

- **Other**
  - Standards
  - Specifications

- **Plan Detail and/or Tech Spec Required**

- **Prep & Doc Manual Chapter(s)**
  - 7, 13

**Status**

- **Struct.**
  - 425-11-

- **Notes**

- **Details for this pay item must be included in the plans or specifications.**

---

**425-74- A**

**MANHOLES AND INLETS, CLEANING & SEALING**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Details**

**Related Items**

- **Required**
  - Details for this pay item must be included in the plans or specifications.

- **Recommended**

**Documentation**

- **Construction**
  - Refer to Comp Book

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**References**

- **PPM Chapter**
  - Design
  - Construction

- **Other**
  - Standards
  - Specifications

- **Plan Detail and/or Tech Spec Required**

- **Prep & Doc Manual Chapter(s)**
  - 7, 13

**Status**

- **Struct.**
  - 425-11-

- **Notes**

---
### MANHOLES AND INLETS, CLEANING & SEALING

**EA**

#### Standards

- **Index No.** 200, 201, 280

#### Specifications

- **SBDRST**

#### Design

**425- 74- A**

- **A =**
  - 1 (<10')
  - 2 (>10')

#### Construction

Refer to Comp Book

#### Documentation

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

- **PPM Chapter**
- **Other**

#### Prep & Doc Manual Chapter(s)

7, 13

### INLET CAP, PRECAST

**425- 78-**

#### Unit

- **EA**

#### Accuracy

- **Each**

#### PlanQuantity?

- **no**

### INLET CAP, PRECAST

**425- 78-**

#### Design

- **SBDRST**

#### Construction

- Refer to Comp Book

#### Documentation

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

- **PPM Chapter**
- **Other**

#### Prep & Doc Manual Chapter(s)

7, 13

### GRATE, REPLACE

**425- 82-**

#### Design

- **SBDRST**

#### Construction

- Refer to Comp Book

#### Documentation

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

- **PPM Chapter**
- **Other**

#### Prep & Doc Manual Chapter(s)

7, 13
### Topic No. 600-000-002

**Basis of Estimates**

2007 Edition

August 27, 2007

#### Unit: EA

**Accuracy:** Each

**Plan Quantity?** no

#### Notes

Payment includes "...new grates, and removing and stockpiling existing grates", per specification.

#### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SBDRST</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

#### Documentation

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

**PPM Chapter**

**Design**

**Construction**

**Other**

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)** 6, 7, 13

---

#### Status

**Struct.** 425-82-

**GRATE, REPLACE**

EA

---

#### Notes

**430-94-AA** DESILT PIPE

**Unit** LF; M1

**Accuracy** Linear Foot; 10th of a Meter

**Plan Quantity?** no

#### Notes

Effective January 2007 letting; replaces 430-94A-BB

#### Details

Includes furnishing equipment and labor necessary to desilt the pipe, and also includes disposing of all silt and debris removed during the desilting operation.

Summarize on plans by pipe location, diameter (or equivalent round diameter), and length to be desilted.

#### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SBSPMS; SBSDMES</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

#### Documentation

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

**PPM Chapter**

**Design**

**Construction**

**Other**

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)** 6, 7, 13

---

#### Status

**Struct.** 430-94-A

**DESLT PIPE**

**Unit** LF

---

Details and Structure: Chapters 11 to 20
### 430-150-ABB  CAST IRON SOIL PIPE

| Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | yes |

**Notes**
- **Inactive Structure; verify applicable standard index**
- **Details**
  - To be used in accordance with Index 282 for back of sidewalk drainage only.

**Related Items**
- **Forms**
  - **Required**
    - Design: SBDRST
  - **Recommended**
    - Construction: COMP 700-050-03

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
- **Construction**
  - Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**
- **PPM Chapter**
- **Other**
- **Standards**
  - Index No. 282
- **Specifications**

**Status**
- Inactive Structure
**Struct.**
- 430-150-ABB CAST IRON SOIL PIPE LF

\[A = 1 \text{ (Service)} SV\]
\[BB = \text{Standard Pipe Sizes}\]
\[13 (4")\]

**Notes**
- Effective January 2007, use size ranges (CC=01 to CC=05), Pipe diameters (CC=21 to CC=57) valid through 12-31-06.
- Show application, size, and material with class/gage/corrugation on the contract plans. Refer to Index 205 for valid sizes, class/gage/corrugation. For pipe other than round (elliptical concrete and metal pipe arch) show actual size, class/gage/corrugation shown on standard index 205. Use equivalent round pipe size for payment.

**Related Items**
- **Forms**
  - **Required**
    - Design: SBSPMS; SBSDMES
  - **Recommended**
    - Construction: COMP 700-050-03
Standards

Index No. 205

Specifications

Struct. 430-17A-BCC PIPE CULVERT OPTIONAL MATERIAL LF

A =
1 (Storm Sewer)
2 (Cross Drain)
3 (Gutter Drain)
4 (Side Drain)

B = Shape
1 (Round Shape)
2 (Other –Elip/Arch)

CC = Standard Pipe Sizes (effective 1/1/2007)
01 (up to 24”)
02 (25 to 36”)
03 (37 to 48”)
04 (49 to 60”)
05 (61” or greater)

cc = Standard Pipe Sizes (valid through 12-31-2006)
21 (12”)
23 (15”)
25 (18”)
29 (24”)
33 (30”)
38 (36”)
40 (42”)
41 (48”)
42 (54”)
43 (60”)
44 (66”)
45 (72”)
46 (78”)
47 (84”)
48 (90”)
49 (96”)
50 (102”)
51 (108”)
52 (120”)
53 (132”)
54 (144”)

Status

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter

Design

Construction

Other

Documents

Prep & Doc Manual Chapter(s) 6, 7, 13

PPM Chapter

Refer to Comp Book

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

PPM Chapter

Refer to Comp Book

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

PPM Chapter

Refer to Comp Book

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

PPM Chapter

Refer to Comp Book

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

PPM Chapter

Refer to Comp Book

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

PPM Chapter

Refer to Comp Book

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

PPM Chapter

Refer to Comp Book

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

PPM Chapter

Refer to Comp Book

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.
Notes

55 (156")
56 (168")

Details

Intended for use outside the clear zone on median drain and cross drain installations. Pipe sizes 12" and 15" (300 mm and 375 mm) are permitted within the clear zone. Specifically not intended for side drain installation.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
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<tbody>
<tr>
<td>Design</td>
<td>SBDRST</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

Documentation

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards

Index No. 270

Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 430-200-ABB FLARED END SECTION EA

A =
Blank (Concrete)

BB = Standard Pipe Sizes

21 (12")
23 (15")
25 (18")
27 (21")
29 (24")
31 (27")
33 (30")
34
38 (36")
40 (42")
41 (48")
42 (54")
43 (60")
44 (66")
45 (72")

Notes
Notes
Details Refer to Standard Index 260 or 261 for proper selection. To be used only in the clear zone for the drainage of medians and other areas having low design velocities. Precasting or cast-in-place will be permitted. Cost of this item shall include concrete, reinforcing steel, grate and all accessories. For items included on Index 250, payment will be made under concrete and steel items.

Related Items
Required Recommended
Forms Design SBDRST COMP 700-050-03
Construction Refer to Comp Book

Documentation Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Specifications Index No. 260, 261

Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 430-6AB-CDD U-ENDWALL EA

A = Index No.
0 (Std 260) when A =0, BC =21
1 (Std 261)

B = Appurtenance
0 (none)
1 (baffles)
2 (grate)
3 (baffles and grate)

C = slope
0 (1:6)
1 (1:4)
2 (1:3)
3 (1:2)

dd = Standard Pipe Sizes
23 (15”)
25 (18”)
29 (24”)
33 (30”)

Notes

430-72A-BCC PIPE, SLOTTED OR PERFORATED CULVERT

Unit LF; M1 Accuracy Linear Foot; 10th of a Meter PlanQuantity? yes

Details To be used for French Drain applications only. Refer to Design Standards. Show size, class/gage and material on the contract plans. Payment is based on equivalent round pipe size.
### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
<td><strong>Design</strong></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
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<tr>
<td><strong>Documentation</strong></td>
<td><strong>Design</strong></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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### References

<table>
<thead>
<tr>
<th>PPM Chapter</th>
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</tr>
<tr>
<td>Specifications</td>
</tr>
<tr>
<td>Prep &amp; Doc Manual Chapter(s)</td>
</tr>
</tbody>
</table>

### Status

#### Struct.

**430-72A-BCC**  
**PIPE, SLOTTED OR PERFORATED CULVERT**  
**LF**

- A =  
  1 (Storm Sewer) French Drain ONLY
- B = Material  
  4 (Optional)
- CC = Standard Pipe Sizes  
  23 (15")  
  25 (18")  
  27 (21")  
  29 (24")  
  31 (27")  
  33 (30")  
  34  
  38 (36")  
  40 (42")  
  41 (48")  
  42 (54")  
  43 (60")  
  44 (66")  
  45 (72")

### Notes

For cleaning and sealing existing joints only. Coordinate use of this item w/ State Drainage Office.

### Related Items

<table>
<thead>
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<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
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<tr>
<td><strong>Documentation</strong></td>
<td><strong>Design</strong></td>
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### 430-82A-BB  
**CLEANING & SEALING EXISTING PIPE JOINT**

<table>
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<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td>yes</td>
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</tbody>
</table>

**Notes**

For cleaning and sealing existing joints only. Coordinate use of this item w/ State Drainage Office.
### Construction
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

### References
- PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 6, 7, 13

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<td>Description</td>
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<tr>
<td>A =</td>
<td>1 (Storm Sewer)</td>
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<tr>
<td></td>
<td>2 (Cross Drain)</td>
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<tr>
<td>BB = Standard Pipe Sizes</td>
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<td>23 (15&quot;)</td>
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<td>57 (180&quot;)</td>
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### Notes

#### 430-830- PIPE FILLING AND PLUGGING

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<tbody>
<tr>
<td>CY; M3</td>
<td>Cubic Yard; Cubic Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

#### Notes

**Details**

To be used only for filling/plugging existing drainage culverts, where called for in the plans. Per the specifications, "The cost of filling and plugging pipe shown in the plans as existing, to be placed out of service" NOTE: "The cost of plugging pipe, shown in the plans as proposed new pipe, will be included in the contract unit price for pipe culvert." (Do not use this pay item for new pipe.)
### Required Standards and Specifications

#### Documentation

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### Related Items

<table>
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<tr>
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<th>Required</th>
<th>Recommended</th>
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<tr>
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<td>SBDRST</td>
<td>COMP 700-050-04</td>
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<td>Construction</td>
<td>700-050-56</td>
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</table>

<table>
<thead>
<tr>
<th>Standards</th>
<th>Index No. 280</th>
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</table>

### Notes

430-830- **PIPE FILLING AND PLUGGING**

**Status**

Struct. 430-830-

### Related Items

- **Forms**
  - Design: SBDRST
  - Construction: COMP 700-050-04

- **Design**: Refer to Comp Book

#### Documentation

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

PPM Chapter 6, 7, 13

### Other

- **Struct. 430-860- A**
  - **STORM SEWER TRENCH**

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</thead>
<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td>yes</td>
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</table>

#### Notes

430-860- **A**

**STORM SEWER TRENCH**

**Notes**

**Details**

- **Related Items**
  - **Forms**
    - **Design**: SBDRST
    - **Construction**: COMP 700-050-03
  - **Documentation**
    - **Design**: Refer to Comp Book
    - **Construction**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
    - **Construction**: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

#### References

PPM Chapter 7, 13

### Status

**Struct. 430-860- A**

**STORM SEWER TRENCH**

**Details and Structure**: Chapters 11 to 20
<table>
<thead>
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<th>Notes</th>
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<tbody>
<tr>
<td><strong>430-880- AA FLAP GATES</strong></td>
</tr>
<tr>
<td><strong>Unit</strong></td>
</tr>
<tr>
<td>Notes</td>
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<tr>
<td>Details</td>
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<tr>
<td>Related Items</td>
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<td>Forms</td>
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<td>References</td>
</tr>
<tr>
<td>Other Standards</td>
</tr>
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<td><strong>Plan Detail and/or Tech Spec Required</strong></td>
</tr>
<tr>
<td>Prep &amp; Doc Manual Chapter(s)</td>
</tr>
</tbody>
</table>

**Status**

**Struct.** 430-880- AA FLAP GATES EA

AA = Standard Pipe Sizes (effective 1/1/2007)
01 (0 to 24")
02 (25 to 36")
03 (37 to 48")
04 (49 to 60")
05 (61" or greater)
AA = Standard Pipe Sizes (valid through 12/2006)
21 (12")
23 (15")
25 (18")
27 (21")
29 (24")
31 (27")
33 (30")
34
38 (36")
40 (42")
41 (48")
42 (54")
43 (60")
44 (66")
45 (72")
46 (78")
47 (84")
48 (90")
49 (96")

**Details and Structure:** Chapters 11 to 20
### DESILTING CONCRETE BOX CULVERT

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<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
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</thead>
<tbody>
<tr>
<td>CY; M3</td>
<td>Cubic Yard; Cubic Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Payment is for the VOLUME OF SILT removed, based on the length and width of the box culvert, and the average DEPTH OF SILT to be removed.

**Related Items**

**Forms**
- **Design**: SBDRST
- **Construction**: COMP 700-050-04

**Documentation**
- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**: 430-950, 700-050-54

**Status**
- **Struct. 430-950-** DESILTING CONCRETE BOX CULVERT CY

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### PVC PIPE FOR BACK OF SIDEWALK

<table>
<thead>
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<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

Effective January 2007; replaces 430-96A-BCC

**Details**

For use according to Design Standard for back of sidewalk applications. For all other applications, including gutter drain, use Optional Pipe.

**Related Items**

**Forms**
- **Design**: SBDRST
- **Construction**: COMP 700-050-03

**Documentation**
- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form
### PVC Pipe for Back of Sidewalk

**Struct. 430-963- AA**

<table>
<thead>
<tr>
<th>A= Size</th>
<th>1 (4&quot;) Standard</th>
<th>2 (Non-Standard)</th>
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**Notes**
- Plan Detail and/or Tech Spec Required
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### Protective Pipe Bedding

**Struct. 430-970-**

<table>
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<th>Unit</th>
<th>LF; M1</th>
<th>Accuracy</th>
<th>Linear Foot; 10th of a Meter</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Details**
- Includes all pipe, grates (when required), fasteners, reinforcement, connectors, anchors, concrete, sealants, jackets, coupling bands, and all work required to install the mitered end section. Show shape and size on the contract plans. Refer to Index 273 for valid sizes. Use equivalent round pipe size for payment.
Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required Design</th>
<th>Recommended SBSPMS; SBSDMES COMP 700-050-03</th>
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<tr>
<td>Construction</td>
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Documentation

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<tr>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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References

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<td>Index No. 205, 272, 273</td>
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<td>Standards</td>
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Specifications

<table>
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Status

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</tr>
<tr>
<td></td>
<td>4 (Side Drain)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>B = Shape</td>
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</tr>
<tr>
<td></td>
<td>1 (Optional Round)</td>
<td></td>
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<tr>
<td></td>
<td>6 (Optional Other – Elliptical/Arch)</td>
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<td>CC = Standard Round or Equivalent Other Shape Pipe Sizes</td>
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Details and Structure: Chapters 11 to 20
### Notes

Refer to Standard Index 205

---

#### 431- 1- A  PIPE LINER, OPTIONAL MATERIAL

<table>
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<th>Unit</th>
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<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
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</table>

**Notes**

Effective January 2007 letting; replaces 431-1-ABB.

**Details**

Design with manufacturer's lengths in mind for all practical applications. This item is used to rehabilitate an existing pipe by forming a lining on the host pipe's interior, thereby allowing a debilitated pipe to regain strength and performance capabilities. Refer to specifications for current industry practices.

**Related Items**

**Forms**

<table>
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<td>Construction</td>
<td>COMP 700-050-03</td>
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**Documentation**

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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>

**References**

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

---

**Struct. 431- 1- A  PIPE LINER, OPTIONAL MATERIAL  LF**

A= Size Range

1 (0=-24")
2 (25-36")
3 (37-48")
4 (49-60")
5 (61" and greater)

**Notes**

---

#### 432- 3- A  CHEMICAL GROUT REPAIR - PIPE, NON-TEST

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**Notes**

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#### Details

**Related Items**

**Forms**

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<td>Design</td>
<td>SHTabQuant</td>
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<td>Construction</td>
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**Documentation**

<table>
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<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</table>

**Prep & Doc Manual Chapter(s) 6, 7, 13**

Details and Structure: Chapters 11 to 20
### Standards

**Restrictions**

1. (15")
2. (18")
3. (21")
4. (24")
5. (30")
6. (36")
7. (42")
8. (48")
9. (54")
10. (66")
11. (72")

**Notes**

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

### Structure

**432- 3- A**

**CHEMICAL GROUT REPAIR - PIPE, NON-TEST**

**Unit**

**EA**

**Accuracy**

**Each**

**Plan Quantity?**

**no**

**Details**

**Related Items**

**Required**

**Recommended**

**Forms**

**Design**

SHTabQuant

COMP 700-050-03

**Construction**

Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

Other

**Standards**

**Specifications**

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

### Structure

**433- 1-**

**CHEMICAL GROUT REPAIR- MANHOLE/INLET**

**Unit**

**EA**

**Accuracy**

**Each**

**Plan Quantity?**

**no**

**Details**

**Related Items**

**Required**

**Recommended**

**Forms**

**Design**

SHTabQuant

COMP 700-050-03

**Construction**

Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

Other

**Standards**

**Specifications**

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)
PIPE, STRUCTURAL PLATE STEEL CULVERT

Unit LF; M1  Accuracy Linear Foot; 10th of a Meter  Plan Quantity? yes/no

Notes
Refer to Design Standards for valid gauges & sizes.
Design with manufacturer’s lengths in mind for all practical applications.

FINAL:
FOR STORM SEWER AND CROSS DRAIN: Final quantity must be recorded in space provided on summary sheet in the plans. All changes must be shown on final plan sheets. Final pay quantity will be PLAN QUANTITY with the proper consideration for specification tolerances.
FOR SIDE DRAIN AND GUTTER DRAIN: Final quantity and additions must be recorded in space provided on summary of quantity sheet in the plans by station number.

Related Items
Required  Recommended

Forms
Design SBDRST  COMP 700-050-03
Construction Refer to Comp Book

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards Index No. 205
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 435-1A-BCC PIPE, STRUCTURAL PLATE STEEL CULVERT LF

A =
1 (Storm Sewer)
2 (Cross Drain)
4 (Side Drain)

B = Gauge Or Thickness
2 (0.109 Thickness 12 Gauge)
3 (0.138 Thickness 10 Gauge)
4 (0.168 Thickness 8 Gauge)
5 (0.188 Thickness 7 Gauge)
6 (0.218 Thickness 5 Gauge)
7 (0.249 Thickness 3 Gauge)
8 (0.280 Thickness 1 Gauge)

CC = Standard Pipe Sizes
43 (60")
44 (66")
45 (72")
46 (78")
47 (84")
48 (90")
49 (96")
50 (102")
51 (108")
### Notes

**435- 2A-BCC PIPE STRUCTURAL PLATE STEEL ARCH CULVERT**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
<th>Accuracy</th>
<th>Linear Foot; 10th of a Meter</th>
<th>PlanQuantity?</th>
<th>yes/no</th>
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</thead>
</table>

**Notes**

**Details**

Refer to Design Standards for valid gauges & sizes.

Design with manufacturer’s lengths in mind for all practical applications.

**FINAL:**

FOR STORM SEWER AND CROSS DRAIN: Final quantity must be recorded in space provided on summary sheet in the plans. All changes must be shown on final plan sheets. Final pay quantity will be PLAN QUANTITY with the proper consideration for specification tolerances.

FOR SIDE DRAIN AND GUTTER DRAIN: Final quantity and additions must be recorded in space provided on summary of quantity sheet in the plans by station number.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
<td>Design</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
</tr>
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<td><strong>Documentation</strong></td>
<td>Design</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
</tr>
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</table>

**References**

PPM Chapter

Other

**Specifications**

Index No. 205

**Prep & Doc Manual Chapter(s)** 6, 7, 13

**Status**

**Struct.** 435- 2A-BCC PIPE STRUCTURAL PLATE STEEL ARCH CULVERT LF

A =
1 (Storm Sewer)
2 (Cross Drain)
4 (Side Drain)

B = Gauge Or Thickness
2 (0.109 Thickness 12 Gauge)
3 (0.138 Thickness 10 Gauge)
4 (0.168 Thickness 8 Gauge)
5 (0.188 Thickness 7 Gauge)
6 (0.218 Thickness 5 Gauge)
7 (0.249 Thickness 3 Gauge)
8 (0.280 Thickness 1 Gauge)

CC = Standard Pipe Arch Sizes 18” Radius
Pipe Arch - 6" X 2" (12 Gauge Thru 1 Gauge)
36 (6'1" X 4'7")
37 (6'4" X 4'9")
38 (6'9" X 4'11")
39 (7'0" X 5'1")
40 (7'3" X 5'3")
41 (7'8" X 5'5")
42 (7'11" X 5'7")
43 (8'2" X 5'9")
44 (8'7" X 5'11")
45 (8'10" X 6'1")
46 (9'4" X 6'3")
47 (9'6" X 6'5")
48 (9'9" X 6'7")
49 (10'3" X 6'9")
50 (10'8" X 6'11")
51 (10'11" X 7'1")
52 (11'5" X 7'3")
53 (11'7" X 7'5")
54 (11'10" X 7'7")
55 (12'4" X 7'9")
56 (12'6" X 7'11")
57 (12'8" X 8'1")
58 (12'10" X 8'4")
59 (13'5" X 8'5")
60 (13'1" X 8'7")
61 (14'1" X 8'9")
62 (14'3" X 8'11")
63 (14'10" X 9'1")

Pipe Arch - 6" X 2" (10 Gauge Thru 1 Gauge)
66 (15'4" X 9'3")
67 (15'6" X 9'5")
68 (15'8" X 9'7")
69 (15'10" X 9'10")
70 (16'5" X 9'11")
71 (16'7" X 10'1")

CC = Standard Pipe Arch Size 31" Radius
76 (13'3" X 9'4")
77 (13'6" X 9'6")
78 (14'0" X 9'8")
79 (14'2" X 9'10")
80 (14'8" X 10'0")
81 (14'11" X 10'2")
82 (15'4" X 10'4")
83 (15'7" X 10'6")
84 (15'10" X 10'8")
85 (16'3" X 10'10")
86 (16'6" X 11'6")
87 (17'0" X 11'2")
88 (17'2" X 11'4")
89 (17'5" X 11'6")
90 (17'11" X 11'8")
91 (18'1" X 11'10")
92 (18'7" X 12'0")
### 435-3AB-CDD  STRUCTURAL PLATE CULVERT- ALUMINUM, ROUND SHAPE

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**Notes**

**Details**

Refer to Design Standards for valid gauges & sizes.

**Related Items**

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<td>COMP 700-050-03</td>
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**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
  - Standards: Index No. 205
  - Specifications
  - Prep & Doc Manual Chapter(s)

**Status**

**Struct. 435-3AB-CDD  STRUCTURAL PLATE CULVERT- ALUMINUM, ROUND SHAPE**

- A =
  - 1 (Storm Sewer)
  - 2 (Cross Drain)
  - 4 (Side Drain)
- B = Thickness
  - 1 (0.100 Thickness)
  - 2 (0.125 Thickness)
  - 3 (0.150 Thickness)
  - 4 (0.175 Thickness)
  - 5 (0.200 Thickness)
  - 6 (0.225 Thickness)
- C = Rib Type And Spacing
  - 0 (None)
  - 1 (Type II, 9")
  - 2 (Type II, 18")
  - 3 (Type II, 27")
  - 4 (Type II, 54")
  - 5 (Type IV, 9")
  - 6 (Type IV, 18")
7 (Type IV, 27")
8 (Type IV, 54")

DD = Standard Pipe Sizes
43 (60")
44 (66")
45 (72")
46 (78")
47 (84")
48 (90")
49 (96")
50 (102")
51 (108")
52 (114")
53 (120")
54 (126")
55 (132")
56 (138")
57 (144")
58 (150")
59 (156")
60 (162")
61 (168")
62 (174")
63 (180")
64 (186")
65 (192")
66 (198")
67 (204")
68 (210")
69 (216")
70 (222")
71 (228")
72 (234")

Notes

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Details and Structure: Chapters 11 to 20
in space provided on summary of quantity sheet in the plans by station number.

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| Prep & Doc Manual Chapter(s) | 6, 7, 13 |

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A = 1 (Storm Sewer)
2 (Cross Drain)
4 (Side Drain)

B = Thickness
1 (0.100 Thickness)
2 (0.125 Thickness)
3 (0.150 Thickness)
4 (0.175 Thickness)
5 (0.200 Thickness)
6 (0.225 Thickness)

C = Rib Type And Spacing
0 (None)
1 (Type II, 9")
2 (Type II, 18")
3 (Type II, 27")
4 (Type II, 54")
5 (Type IV, 9")
6 (Type IV, 18")
7 (Type IV, 27")
8 (Type IV, 54")

DD = Standard Pipe Arch Sizes
10 (6' 7" X 5' 8")
11 (6'11" X 5' 9")
12 (7' 3" X 5'11")
13 (7' 9" X 6' 0")
14 (8' 1" X 6' 1")
15 (8' 5" X 6' 3")
16 (8'10" X 6' 4")
17 (9' 3" X 6' 5")
18 (9' 7" X 6' 6")
19 (9'11" X 6' 8")
20 (10' 3" X 6' 9")
21 (10' 9" X 6'10")
22 (11' 1" X 7' 0")
### Notes

**435-5AB-CDD  STRUCTURAL PLATE CULVERT- ALUMINUM , ARCH SHAPE**

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<th>Linear Foot; 10th of a Meter</th>
<th>PlanQuantity?</th>
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**Notes**

Refer to Design Standards for valid gauges & sizes. Design with manufacturer's lengths in mind for all practical applications.

**FINAL:**

FOR STORM SEWER AND CROSS DRAIN: Final quantity must be recorded in space provided on summary sheet in the plans. All changes must be shown on final plan sheets. Final pay quantity will be PLAN QUANTITY with the proper consideration for specification tolerances.

FOR SIDE DRAIN AND GUTTER DRAIN: Final quantity and additions must be recorded in space provided on summary of quantity sheet in the plans by station number.

**Related Items**

**Required**
- Design: SBDRST
- Construction: Refer to Comp Book

**Recommended**
- Design: COMP 700-050-03
- Construction: Refer to Comp Book

**Documentation**

**Design**
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**
- Other

**Standards**
- Index No. 205

**Specifications**
- Prep & Doc Manual Chapter(s) 6, 7, 13

---

### Notes

**Struct. 435-5AB-CDD**  STRUCTURAL PLATE CULVERT- ALUMINUM , ARCH SHAPE

A = 1 (Storm Sewer)
2 (Cross Drain)
4 (Side Drain)

B = Thickness
1 (0.100 Thickness)
2 (0.125 Thickness)
3 (0.150 Thickness)
4 (0.175 Thickness)
5 (0.200 Thickness)
6 (0.225 Thickness)

C = Rib Type And Spacing
0 (None)
1 (Type II, 9")
2 (Type II, 18")
3 (Type II, 27")
4 (Type II, 54")
5 (Type IV, 9")
6 (Type IV, 18")
7 (Type IV, 27")
8 (Type IV, 54")

DD = Standard Pipe Arch Sizes
10 ( 5' 0" X  1' 9")
11 ( 5' 0" X  2' 3")
12 ( 5' 0" X  2' 7")
13 ( 6' 0" X  1'10")
14 ( 6' 0" X  2' 4")
15 ( 6' 0" X  2' 9")
16 ( 6' 0" X  3' 2")
17 ( 7' 0" X  2' 4")
18 ( 7' 0" X  2'10")
19 ( 7' 0" X  3' 3")
20 ( 7' 0" X  3' 8")
21 ( 8' 0" X  2'11")
22 ( 8' 0" X  3' 4")
23 ( 8' 0" X  4' 2")
24 ( 9' 0" X  2'11")
25 ( 9' 0" X  3'10")
26 ( 9' 0" X  4' 8")
27 (10' 0" X  3' 6")
28 (10' 0" X  4' 5")
29 (10' 0" X  5' 2")
30 (11' 0" X  3' 6")
31 (11' 0" X  4' 6")
32 (11' 0" X  5' 8")
33 (12' 0" X  4' 1")
34 (12' 0" X  5' 0")
35 (12' 0" X  6' 3")
36 (13' 0" X  4' 1")
37 (13' 0" X  5' 1")
38 (13' 0" X  5'11")
39 (13' 0" X  6' 9")
40 (14' 0" X  4' 8")
41 (14' 0" X  5' 7")
42 (14' 0" X  6' 5")
43 (14' 0" X  7' 3")
44 (15' 0" X  4' 8")
45 (15' 0" X  5' 8")
46 (15' 0" X 6' 7")
47 (15' 0" X 7' 5")
48 (15' 0" X 7' 9")
49 (16' 0" X 5' 3")
50 (16' 0" X 6' 2")
51 (16' 0" X 7' 1")
52 (16' 0" X 7'11")
53 (16' 0" X 8' 3")
54 (17' 0" X 5' 3")
55 (17' 0" X 6' 3")
56 (17' 0" X 7' 2")
57 (17' 0" X 8' 0")
58 (17' 0" X 8'10")
59 (18' 0" X 5' 9")
60 (18' 0" X 6' 9")
61 (18' 0" X 7' 8")
62 (18' 0" X 8'11")
63 (19' 0" X 6' 4")
64 (19' 0" X 7' 4")
65 (19' 0" X 8' 2")
66 (19' 0" X 9' 0")
67 (19' 0" X 9' 5")
68 (19' 0" X 9' 5")

Notes

**435-6AB-CDD**  STRUCTURAL PLATE CULVERT- ALUMINUM, UNDERPASS SHAPE

| Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | no |

**Notes**

**Details**

Refer to Design Standards for valid gauges & sizes.

**Related Items**

**Forms**

- **Required**
  - SHTabQuant
- **Recommended**
  - COMP 700-050-03

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other Standards**
  - Index No. 205
- **Specifications**
- **Prep & Doc Manual Chapter(s)**

**Status**

Inactive Structure

**Struct.**

435-6AB-CDD  STRUCTURAL PLATE CULVERT- ALUMINUM, UNDERPASS SHAPE

A = 1 (Storm Sewer)
2 (Cross Drain)
4 (Side Drain)
B = Thickness
1 (0.100 Thickness)
2 (0.125 Thickness)
3 (0.150 Thickness)
4 (0.175 Thickness)
5 (0.200 Thickness)
6 (0.225 Thickness)

C = Rib Type And Spacing
0 (None)
1 (Type II, 9")
2 (Type II, 18")
3 (Type II, 27")
4 (Type II, 54")
5 (Type IV, 9")
6 (Type IV, 18")
7 (Type IV, 27")
8 (Type IV, 54")

DD = Standard Pipe Arch Sizes
11 (6' 3" X 6' 1")
12 (6' 3" X 6' 5")
13 (6' 2" X 6'11")
14 (6' 4" X 7' 3")
15 (6' 3" X 7' 9")
16 (6' 5" X 8' 1")
17 (12' 1" X 11' 0")
18 (12'10" X 11' 2")
19 (13' 0" X 12' 0")
20 (13' 8" X 12' 4")
21 (14' 0" X 12'11")
22 (14' 6" X 13' 5")
23 (14' 8" X 14' 1")
24 (15' 5" X 14' 5")
25 (15' 6" X 15' 2")
26 (16' 2" X 15' 6")
27 (16' 6" X 16' 0")
28 (16' 8" X 16' 4")

Notes

436- 1- A  TRENCH DRAIN

Unit LF; M1 Accuracy Linear Foot; 10th of a Meter

PlanQuantity? no

Details
Use in accordance with Index 206

Related Items

Forms

Required SHTabQuant
Recommended COMP 700-050-03

Construction Refer to Comp Book

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).
### Trench Drain LF

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<tr>
<td>1 (15&quot; Diameter Standard)</td>
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<td>2 (Special)*</td>
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**Notes:**
- Special may require Tech Spec and/or Plan Detail

### Underdrain

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<th>Unit</th>
<th>LF; M1</th>
<th>Accuracy</th>
<th>Linear Foot; 10th of a Meter</th>
<th>Plan Quantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes:**
- Item based on the size of the smooth interior product. Price per length shall include cost of pipe, fittings, aggregate, sock, filter fabric, cleanouts, and concrete aprons.

### Underdrain Inspection Box

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<th>440-70-</th>
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<tbody>
<tr>
<td>AA =</td>
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<tr>
<td>10 (Type I)</td>
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<td>20 (Type II)</td>
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<td>30 (Type III)</td>
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<td>50 (Type V)</td>
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<tr>
<td>60 (Type Special)</td>
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</table>

**Notes:**
- Special may require Tech Spec and/or Plan Detail

---

**References**

PPM Chapter
- Standards: Index No. 206
- Specifications

Prep & Doc Manual Chapter(s)
- 7, 13
|----------------------|--------------------|--------------|----------------|

### UNDERDRAIN INSPECTION BOX

**Unit:** EA  
**Accuracy:** Each  
**PlanQuantity?:** no

#### Notes

**Details**

**Related Items**

- **Forms**
  - **Required Design:** SBUNDR; SBUnderdrain  
  - **Recommended:** COMP 700-050-03
  - **Construction:** Refer to Comp Book

- **Documentation**
  - **Design:** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - **Construction:** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards** Index No. 245, 286
- **Specifications**
- **Prep & Doc Manual Chapter(s)** 6, 7, 13

---

### UNDERDRAIN OUTLET PIPE

| Struct. | 440-70- | UNDERDRAIN INSPECTION BOX | EA |

#### Notes

**Details**

Use in accordance with Standard Index. Price per length includes trench excavation, pipe, fittings, concrete aprons, hardware cloth for concrete aprons, stubbing into drainage structures, backfill in place, and removal of excess materials.

**Related Items**

- **Forms**
  - **Required Design:** SBUNDR; SBUnderdrain  
  - **Recommended:** COMP 700-050-03
  - **Construction:** Refer to Comp Book

- **Documentation**
  - **Design:** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - **Construction:** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards** Index No. 286
- **Specifications**
- **Prep & Doc Manual Chapter(s)** 7, 13

---

### UNDERDRAIN OUTLET PIPE

| Struct. | 440-73- A | UNDERDRAIN OUTLET PIPE | LF |

**A = Size**

1 (4")
<table>
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**443- 70- AA**  
**FRENCH DRAIN**

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</tr>
<tr>
<td></td>
<td>Other</td>
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</tr>
</tbody>
</table>
### Standards
- Index No. 285

### Specifications
- **Struct. 443-70- AA**
  - **FRENCH DRAIN**
  - **Unit**: LF
  - **Accuracy**: Cubic Yard; Cubic Meter
  - **PlanQuantity?**: no

#### Notes
- **Details**: Do not use with 443-70 French Drain item; refer to Index 285 for details
- **Related Items**: Required, Recommended
- **Forms**: Design SHTabQuant, Construction 700-050-04
- **Documentation**: Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Construction Measure inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% to account for the hoist box and bed fillets. Record all field records on site source record form and transfer final quantity to computation book.

### Status
- **Struct. 443-71- A**
  - **BALLAST ROCK**
  - **Unit**: CY; M3
  - **Accuracy**: Cubic Yard; Cubic Meter
  - **PlanQuantity?**: no

#### Notes
- **Details**: Required
- **Related Items**: Recommended
- **Forms**: Design SHTabQuant, Construction 700-050-04
- **Documentation**: Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Construction Measure inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% to account for the hoist box and bed fillets. Record all field records on site source record form and transfer final quantity to computation book.

### Status
- **Struct. 444-70- AA**
  - **WELL OPEN HOLE (DEEP)**
  - **Unit**: LF; M1
  - **Accuracy**: Linear Foot; 10th of a Meter
  - **PlanQuantity?**: no

#### Notes
- **Details**: Required
- **Related Items**: Recommended
- **Forms**: Design SHTabQuant, Construction 700-050-04
- **Documentation**: Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Construction Measure inside the truck bed; calculate the volume by multiplying those three dimensions. Subtract 2% to account for the hoist box and bed fillets. Record all field records on site source record form and transfer final quantity to computation book.
## Struct. 444-70- AA

**WELL OPEN HOLE (DEEP)**

| Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | no |

### Notes

- **444- 71- AA**

**WELL CASING (DEEP)**

| Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | no |

---

### Related Items

#### Required

- **Design**
  - SHTabQuant

#### Recommended

- **SHTabQuant**

---

### Documentation

#### Design

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

#### Construction

- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

---

### References

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

---

### Status

- **Struct. 444-70- AA**
  - WELL OPEN HOLE (DEEP)
  - LF

---

### Notes

**Plan Details and/or Tech Spec Required**

- **Prep & Doc Manual Chapter(s)**: 6, 7, 13

---

**444-71- AA**

**WELL CASING (DEEP)**

| Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | no |

---

### Related Items

#### Required

- **Design**
  - SHTabQuant

#### Recommended

- **SHTabQuant**

---

### Documentation

#### Design

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

#### Construction

- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

---

### References

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

---

**Plan Details and/or Tech Spec Required**

- **Prep & Doc Manual Chapter(s)**: 6, 7, 13

---

**Details and Structure**: Chapters 11 to 20
Struct. 444-71- AA WELL CASING (DEEP) LF

AA =
5 (12")
6 (14")
7 (16")
8 (18")
11 (24")
14 (30")
17 (36")

Notes

444-72- AA DEEP WELL CLEANING

| Unit    | LF; M1 | Accuracy       | Linear Foot; 10th of a Meter | Plan Quantity? | no |

Notes

Details

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
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</table>

Documentation

<table>
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</thead>
<tbody>
<tr>
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<table>
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<tr>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>

References

PPM Chapter

Other

Standards

Specifications

Plan Details and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

Status Inactive Structure

Struct. 444-72- AA DEEP WELL CLEANING LF

AA =
5 (12")
6 (14")
7 (16")
8 (18")
11 (24")
14 (30")
17 (36")

Notes

446-1- A EDGEDRAIN DRAINCRETE

| Unit    | LF; M1 | Accuracy       | Linear Foot; 10th of a Meter | Plan Quantity? | no |

Details and Structure: Chapters 11 to 20
Price per length includes removal of existing shoulder pavement, trench excavation, disposal of excess materials, filter fabric, draincrete, edgedrain pipe and fittings. Refer to Design Standard for payment details, based on new/rehab construction.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>SBEDDR; SBEdgedrains</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

Documentation

<table>
<thead>
<tr>
<th>Design</th>
<th>Refer to Comp Book</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>

Notes

* non-standard may require Tech Spec and/or Plan Detail

446- 1- A  EDGEDRAIN DRAINCRETE  LF

A= pipe size
1 (Standard)
9 (non-standard)*
standard per Index 287 is 4"

446- 71- A  EDGEDRAIN OUTLET PIPE

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

Notes

Includes removal of existing shoulder pavement, trench excavation, pipe and fitting, concrete apron, sod, stubbing into existing inlets and paved ditches, etc. Refer to Design Standard for details.
### 446- 71- A \n**EDGEDRAIN OUTLET PIPE** \n\nA= pipe size \n1 (4") \n9 (non-standard) Note: standard per Index 287 is 4" \n\n| Notes | * non-standard item may require Tech Spec and/or Plan Detail | 

### 448- 73- \n**PUMPING STATION** \n\n| Unit | LS/LS | Accuracy | Lump Sum | PlanQuantity? | yes |  |
|------|-------|----------|----------|--------------|------|-----|
\n**Notes** \n\n**Details** \n\n**Related Items** \n\n**Forms** \n\n**Design** | SHTabQuantLS | COMP 700-050-05 |  |
**Construction** | Refer to Comp Book |  |  |
\n**Documentation** \n\n**Design** | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor. |  |
**Construction** | Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances. |  |
\n**References** \n\n**PPM Chapter** |  |  |  |
**Other** |  |  |  |
**Standards** |  |  |  |
**Specifications** |  |  |  |
\n**Plan Detail and/or Tech Spec Required** |  |  |  |
\n**Prep & Doc Manual Chapter(s)** | 6, 7, 13 |  |  |

---

### 450- 1-AAA \n**PRESTRESSED BEAMS** \n\n| Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | yes |  |
|------|-------|----------|----------------------------|--------------|------|-----|
\n**Notes** \n\n**Details** \n\nIntended for prestressed beams for bridge construction. Summarize quantities by location per span. 
AAA= 201, 202, 203 are typically used for bridge widening projects. These are non-standard and will require project specific design. Designers must work with the District and/or State Structures Office when using these items. 
AAA=278, 378 are typically used for post-tensioned beams. These are non-standard and will require project specific design. Designers must work with the District and/or State Structures Office when using these items. 

**Related Items** \n\n**Forms** \n\n**Design** | SHTabQuant | COMP 700-050-03 |  |
### 450-1-AAA PRESTRESSED BEAMS

**AAA =**
- 1 (Type II)
- 2 (Type III)
- 3 (Type IV)
- 4 (Type V)
- 5 (Type VI)
- 7 (Special) *non-standard*
- 54 (Bulb T, 54") *non-standard*
- 63 (Bulb T, 63") *non-standard*
- 72 (Bulb T, 72")
- 78 (Bulb T, 78")
- 118 (Florida Double Tee, Fdt18) *non-standard*
- 124 (Florida Double Tee, Fdt24) *non-standard*
- 130 (Florida Double Tee, Fdt30) *non-standard*
- 201 (Type II Modified) *non-standard*
- 202 (Type III Modified) *non-standard*
- 203 (Type IV Modified) *non-standard*
- 250 (Inverted T, 20")
- 278 (Bulb T, 78", Modified, w/post tensioning) *non-standard*
- 378 (Bulb T, 78", Haunched, Modified, w/post tensioning) *non-standard*

### Notes

**450-3-AB PRESTRESSED SLAB UNITS**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
<th>Accuracy</th>
<th>Linear Foot; 10th of a Meter</th>
<th>PlanQuantity?</th>
<th>yes</th>
</tr>
</thead>
</table>

**Notes**

**Details**

Intended for non-post-tensioned prestressed bridge deck panels w/ concrete wearing surface.

**Related Items**

**Required**
- SHTabQuant

**Recommended**
- COMP 700-050-03

**Forms**

**Design**
- Refer to Comp Book

**Documentations**

**Design**
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
Standards

Struct. 450-3-AB PRESTRESSED SLAB UNITS LF

A = Width
1 (48")
2 (60")
3 (96")
4 (72")
5 (36")
6 (54")
7 (57")

B = Thickness
1 (12")
2 (16")
3 (10")
4 (18")
5 (15")

Notes

Plan Detail and/or Tech Spec Required

PPM Chapter
Other SDG's 4.4
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

Status

Struct. 450-3-AB PRESTRESSED SLAB UNITS LF

A = Width
1 (48")
2 (60")
3 (96")
4 (72")
5 (36")
6 (54")
7 (57")

B = Thickness
1 (12")
2 (16")
3 (10")
4 (18")
5 (15")

Notes

450-4-AAA PRESTRESSED BEAM (FLORIDA U-BEAM)

Unit LF; M1 Accuracy Linear Foot; 10th of a Meter PlanQuantity? yes

Details

Intended for prestressed Florida U-beams for bridge construction. Summarize quantities by location per span.

Related Items

Forms

Design SHTabQuant COMP 700-050-03

Construction Refer to Comp Book

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter
Other
Standards Index No. 20210 thru 20299
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 6, 7, 13

Details and Structure: Chapters 11 to 20
## Status

### Struct. 450-4-AAA

<table>
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<tr>
<th>PRESTRESSED BEAM (FLORIDA U-BEAM)</th>
<th>LF</th>
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### Notes

**AAA** =
1 (48")
2 (54")
3 (63")
4 (72")

### Related Items

<table>
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<table>
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<th>COMP 700-050-03</th>
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<tbody>
<tr>
<td>Construction</td>
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### References

- PPM Chapter
- Other Standards
- Specifications

### Prep & Doc Manual Chapter(s)

7, 13

---

## Status

### Struct. 450-82-

<table>
<thead>
<tr>
<th>BEAM REPAIR</th>
<th>LF</th>
</tr>
</thead>
</table>

### Notes

**Unit** LF; M1  
**Accuracy** Linear Foot; 10th of a Meter  
**PlanQuantity?** yes

### Details

Intended for rehabilitation projects to strengthen or repair existing concrete beams. Show locations in plans. Include pay item note to clarify payment for various work items. See also item 450-83.

### Related Items

<table>
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<tr>
<th>Required</th>
<th>Recommended</th>
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<th>COMP 700-050-03</th>
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<th>Design</th>
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</table>

### References

- PPM Chapter

### Prep & Doc Manual Chapter(s)

7, 13

---

## Status

### Struct. 450-83-

<table>
<thead>
<tr>
<th>BEAM REPAIR</th>
<th>LF</th>
</tr>
</thead>
</table>

### Notes

**Unit** EA  
**Accuracy** Each  
**PlanQuantity?** no

### Details

Show locations in plans. Include pay item note to clarify payment for various work items. See also item 450-82.

### Related Items

<table>
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<th>Recommended</th>
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<th>Design</th>
<th>SHTabQuant</th>
<th>COMP 700-050-03</th>
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<th>Design</th>
<th>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</th>
</tr>
</thead>
</table>
**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

**Other**

**Standards**

**Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)** 7, 13

---

**Status**

**Struct.** 450- 83- A BEAM REPAIR EA

\[
\begin{align*}
A &= 1 \text{ (Strand Splices)} \\
   &= 2 \text{ (Bar Splices)}
\end{align*}
\]

---

**Notes**

**450- 88- AA PRESTRESSED SLAB UNITS TRANSVERSELY POST TENSIONED**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
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<tbody>
<tr>
<td>SF; M2</td>
<td>Square Foot; 10th of a Square Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

**Details**

Intended for post-tensioned prestressed bridge deck panels w/ concrete or asphalt wearing surface.

**Related Items**

**Required**

**Recommended**

**Forms**

**Design** SHTabQuant COMP 700-050-01

**Construction** Refer to Comp Book

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

**Other** SDG’s 4.4

**Standards**

**Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)** 7, 13

---

**Status**

**Struct.** 450- 88- AA PRESTRESSED SLAB UNITS TRANSVERSELY POST TENSIONED

\[
\begin{align*}
AA &= 12 (12") \\
   &= 14 (14") \\
   &= 15 (15") \\
   &= 16 (16") \\
   &= 18 (18") \\
   &= 19 (19")
\end{align*}
\]

**Details and Structure:** Chapters 11 to 20
### 451-70- AA  PRESTRESSED SOIL ANCHOR

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**
For permanent applications only. Do not pay for separately when prestressed soil anchors are part of a temporary steel sheet pile wall system. Intended for payment of prestressed soil anchor, proof and creep test. See specification 451-12. Show anchor spacing and force/anchor. Show locations in plans w/ quantity block.

**Required**
Design: SHTabQuant
Construction: Refer to Comp Book

**Recommended**
Design: COMP 700-050-03

**Documentation**
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Status**
Struct. 451-70- AA  PRESTRESSED SOIL ANCHOR  EA

AA =
Blank (F&I, With Standard Tests)
1 (Performance Test)
2 (Creep Test)

### 452-70-  PRECAST SEGMENT PRODUCTION

<table>
<thead>
<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
<th>Lump Sum</th>
<th>PlanQuantity?</th>
<th>yes</th>
</tr>
</thead>
</table>

**Notes**
Intended to cover for segmental casting yard set-up costs. Required on all Precast Segmental Bridge Projects.

**Related Items**
Forms
Design: SHTabQuantLS
Construction: Refer to Comp Book

**Documentation**
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
**Construction**  Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

**PPM Chapter**

**Other**

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**  6, 7, 13

---

**Status**

**Struct.**  452- 70-  PRECAST SEGMENT PRODUCTION  LS/LS

---

**455- 2- A  TREATED TIMBER PILING**

**Unit**  LF; M

**Accuracy**  Linear Foot; 10th of a Meter

**PlanQuantity?**  no

**Notes**

Designer must verify material requirements with State Materials Lab prior to requesting item.

Intended for temporary detour bridge applications, or special use structures. Summarize quantities by location per bent. The quantity to be paid for shall be the length, in feet (meters), of piling actually remaining in the completed structure below the elevation of cut-off shown in the plans or designated by the Engineer.

**Related Items**

**Required**  SHTabQuant

**Recommended**  COMP 700-050-03

**Design**  Refer to Comp Book

**Construction**  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Notes**

Designer must verify material requirements with State Materials Lab prior to requesting item.

**References**

**PPM Chapter**

**Other**

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**  6, 7, 13

---

**Status**

**Struct.**  455- 2- A  TREATED TIMBER PILING  LF

A = Treatment
Blank (Single Treatment)
1 (Dual Treatment)

**Notes**

Designer must verify material requirements with State Materials Lab prior to requesting item.

---

**455- 14- AA  CONCRETE SHEET PILING**

**Details and Structure:**  Chapters 11 to 20
### Topic No. 600-000-002
#### Basis of Estimates

**Unit**: LF; M1  
**Accuracy**: Linear Foot; 10th of a Meter  
**PlanQuantity?**: no

**Notes**

**Details**: Intended for concrete sheet pile walls. Show locations in plans. Include quantity block in plans.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>SHTabQuant</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Documentation**

| **Design** | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| **Construction** | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

<table>
<thead>
<tr>
<th><strong>PPM Chapter</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
</tr>
<tr>
<td>Construction</td>
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<tr>
<td>Standards</td>
</tr>
<tr>
<td>Specifications</td>
</tr>
</tbody>
</table>

**Prep & Doc Manual Chapter(s)** 7, 13

---

### Status

**Struct.**: 455- 14- AA  
**CONCRETE SHEET PILING**  
**Unit**: LF

\[
A = \\
1 (7" X 30") \\
2 (8" X 30") \\
3 (10" X 30") \\
4 (12" X 30") \\
5 (Special) \\
6 (6" X 30") \\
7 (5" X 24") \\
8 (6" X 48") \\
9 (6" X 36") \\
10 (9" X 48")
\]

Notes

**Details**: Intended for projects where impacts of construction vibration on adjacent existing structures is a concern. Survey existing older bridges and monitor vibration/settlement of existing structures located within a few hundred feet of the following construction operations: pile driving, drilled shaft excavations, blasting, vibro-compaction, steel sheet pile installations, well point dewatering systems, etc. Of special concern are old bridge structures on timber piles, existing retaining walls, existing building on shallow foundations, etc.  
List in the plans adjacent to structures not covered under 455-1.1 that require surveying and vibration monitoring, or structures that require special attention during construction

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>SHTabQuantLS</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>COMP 700-050-05</td>
</tr>
</tbody>
</table>

**Notes**

**455- 18-**  
**PROTECTION OF EXISTING STRUCTURES**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS/LS</td>
<td>Lump Sum</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**

**Details**: Intended for projects where impacts of construction vibration on adjacent existing structures is a concern. Survey existing older bridges and monitor vibration/settlement of existing structures located within a few hundred feet of the following construction operations: pile driving, drilled shaft excavations, blasting, vibro-compaction, steel sheet pile installations, well point dewatering systems, etc. Of special concern are old bridge structures on timber piles, existing retaining walls, existing building on shallow foundations, etc.  
List in the plans adjacent to structures not covered under 455-1.1 that require surveying and vibration monitoring, or structures that require special attention during construction

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>SHTabQuantLS</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>COMP 700-050-05</td>
</tr>
</tbody>
</table>
### PROTECTION OF EXISTING STRUCTURES

**Unit**: LF; M1  
**Accuracy**: Linear Foot; 10th of a Meter  
**Plan Quantity?**: no

**Details**
Intended to cover cost and installation of the square prestressed concrete piling. Quantity computed as the total anticipated length of pile without allowances for cutoffs, splices or preforming. Related items 455-143 & 455-137, except for fender system piling, & piling for soldier pile walls.

**Related Items**
- **Required**: SHTabQuant, COMP 700-050-03  
- **Recommended**: Refer to Comp Book

**Documentation**
- **Design**: Locate in plans. Detailed calculations are required in computation book to reflect actual scope of work.
- **Construction**: Final tabulation of quantities must be recorded on proper form in computation book by location.

**References**
- **PPM Chapter**: SDG’s 3.5  
- **Other**: Index 20600 thru 20631.

**Status**
- **Struct.**: 455-18-  

---

<table>
<thead>
<tr>
<th>Form Type</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SHTabQuant</strong></td>
<td>Refer to Comp Book</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td><strong>COMP 700-050-03</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

| A = | 1 (12" Sq.) | 2 (14" Sq.) | 3 (18" Sq.) |
### 455-35- AA PILING, STEEL

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
<th>Accuracy</th>
<th>Linear Foot; 10th of a Meter</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

#### Notes

**Intended to cover cost and installation of the steel “H” or pipe piling.**

Quantity computed as the total anticipated length of pile without allowances for cutoffs, splices or preforming.

#### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

#### Documentation

**Design**
Locate in plans. Detailed calculations are required in computation book to reflect actual scope of work.

**Construction**
Final tabulation of quantities must be recorded on proper form in computation book by location.

#### References

**PPM Chapter**
SDG’s 3.5

**Other**
SDG’s 3.5

**Standards**
SDG’s 3.5

**Specifications**
SDG’s 3.5

**Prep & Doc Manual Chapter(s)** 7, 13

#### Status

**Struct.**

<table>
<thead>
<tr>
<th>455-35- AA</th>
<th>PILING, STEEL</th>
<th>LF</th>
</tr>
</thead>
</table>

AA =

1 (Hp 8 X 36)
2 (Hp 10 X 36)
3 (Hp 10 X 42)
4 (Hp 12 X 53)
5 (Hp 14 X 73)
6 (Hp 14 X 89)
7 (Hp 14 X 102)
8 (Hp 14 X 117)
9 (Special)
20 (18" Dia Pipe)
21 (20" Dia. Pipe)
22 (24" Dia. Pipe)
23 (30" Dia. Pipe)

#### Notes
Meter

Notes
Details: Intended to cover cost and installation of the concrete cylinder piling. Quantity computed as the total anticipated length of pile without allowances for cutoffs, splices or preforming.

Related Items
Forms
- Required: SHTabQuant
- Recommended: COMP 700-050-03

Documentation
- Design: Refer to Comp Book
- Construction: Locate in plans. Detailed calculations are required in computation book to reflect actual scope of work.
- Recommended: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
- PPM Chapter
- Other: SDG's 3.5
- Standards: Index 20654, 20660.
- Specifications: Plan Detail and/or Tech Spec Required

Status
Struct. 455-36- A CONCRETE CYLINDER PILES- FURNISHED & DRIVEN LF

A =
1 (54" Dia.)
2 (60" Dia.)

Notes

455-37- A FIBERGLASS STRUCTURALLY REINFORCED COMPOSITE PILES

Unit LF; M1
Accuracy Linear Foot; 10th of a Meter
PlanQuantity? yes

Related Items
Forms
- Required: SHTabQuant
- Recommended: COMP 700-050-08

Documentation
- Design: Refer to Comp Book
- Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
- Recommended: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
- PPM Chapter
- Other
- Standards
- Specifications

Prep & Doc Manual Chapter(s) 7, 13
455- 37- A  FIBERGLASS STRUCTURALLY REINFORCED  
COMPOSITE PILES  

A= Size  
1 (13” Diameter) to be opened only with Structures Design Approval  
2 (16” Diameter)  

MINIPILE FOUNDATION SYSTEMS- FURNISH AND INSTALL  

Unit  EA  Accuracy  Each  PlanQuantity?  no  

Notes
Details  Intended for strengthening existing bridges or used on new structures that have restricted overhead room. Payment is per each; length is determined by the contractor’s specialty engineer. Minimum tip elevation and minimum casing lengths shall be shown in the plans. Use requires State Structures Design Office approval.  

Related Items
Forms  Required  Recommended  
Design  SHTabQuant  COMP 700-050-03  
Construction  Refer to Comp Book  

Documentation  Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).  

References  PPM Chapter  
Other  Soils and Foundations Handbook 8.2.5  
Standards  
Specifications  Plan Detail and/or Tech Spec Required  
Prep & Doc Manual Chapter(s)  

WRAP PILE CLUSTERS  

Unit  EA  Accuracy  Each  PlanQuantity?  no  

Notes
Details  Repair/Rehab Projects only. Intended on fender repair projects. Show locations in plans w/ quantity block.  

**455-81-ABB CATHODIC PROTECTION**

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: no

**Details**
This item is under development by the State Materials Lab. Contact State Materials Office, Corrosion Lab for assistance in use of this item. Intended for Pile or Pier installation of Zinc or Titanium anode.  
Show locations in plans with quantity block.  
Electrical Work paid under item 400-60-A.  
See items 400-142 (structure) and 457-71 (pile jacket) for related work.

**Related Items**

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
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<td>Documentation</td>
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<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
<tr>
<td>References</td>
<td>PPM Chapter</td>
<td></td>
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<tr>
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<td>Other</td>
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<td>Standards</td>
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</tr>
<tr>
<td></td>
<td>Specifications</td>
<td></td>
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</tbody>
</table>

**Status**

**Struct.** 455-76- WRAP PILE CLUSTERS EA

**Notes**

---

**455-81-ABB CATHODIC PROTECTION**

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: no

**Details**
This item is under development by the State Materials Lab. Contact State Materials Office, Corrosion Lab for assistance in use of this item. Intended for Pile or Pier installation of Zinc or Titanium anode.  
Show locations in plans with quantity block.  
Electrical Work paid under item 400-60-A.  
See items 400-142 (structure) and 457-71 (pile jacket) for related work.

**Related Items**

<table>
<thead>
<tr>
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<th>Recommended</th>
</tr>
</thead>
<tbody>
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<td>Design</td>
<td>SHTabQuant</td>
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<tr>
<td>Documentation</td>
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<tr>
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<tr>
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<td>Other</td>
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<td>Standards</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specifications</td>
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</tbody>
</table>

**Status**

**Struct.** 455-81-ABB CATHODIC PROTECTION EA

A = Operation  
1 (Furnish & Install)
<table>
<thead>
<tr>
<th>455-87-</th>
<th>ANCHOR BAR, STEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>EA</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>Each</td>
</tr>
<tr>
<td><strong>Plan</strong></td>
<td>Quantity?</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td></td>
</tr>
<tr>
<td>Intended for wall anchor tiebacks to connect wall to dead men or anchor piles. Not for prestressed soil anchor applications. Show locations in plans w/ quantity block. Design for sacrificial thickness and coat with coal tar epoxy, if required.</td>
<td></td>
</tr>
<tr>
<td><strong>Related Items</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Required</strong></td>
<td>Design</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td><strong>Documentation</strong></td>
<td></td>
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<tr>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
<tr>
<td><strong>References</strong></td>
<td></td>
</tr>
<tr>
<td>PPM Chapter</td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td>Standards</td>
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<td>Specifications</td>
<td></td>
</tr>
<tr>
<td>PPM Chapter(s)</td>
<td>6, 7, 13</td>
</tr>
</tbody>
</table>

**Status**

| Struct. | 455-87- | ANCHOR BAR, STEEL | EA |

**Notes**

---

<table>
<thead>
<tr>
<th>455-88- AA</th>
<th>DRILLED SHAFT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>LF; M1</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td><strong>Plan</strong></td>
<td>Quantity?</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td></td>
</tr>
<tr>
<td>Intended to pay for the cost of concrete and steel, temporary casing, all labor, materials, equipment and incidentals necessary to complete the drilled shaft. Length is measured from top-of-shaft elevation to the design tip elevation shown in the plans. Pay Item 455-122-XAA is required with this item. Pay Item 455-122 covers the cost of the shaft excavation. Clearly specify in plans CSL testing requirements as required. Cost of Shaft Inspection Device included in cost of drilled shaft, 455-88-XAA. CSL tubes included under 455-88-XAA. CSL testing paid for under Item 455-142.</td>
<td></td>
</tr>
<tr>
<td><strong>Related Items</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Required</strong></td>
<td>455-122 (2455-122)</td>
</tr>
<tr>
<td><strong>Recommended</strong></td>
<td>455-142 when CSL testing is</td>
</tr>
</tbody>
</table>
**Standards**

- **Specifications**
  - **Struct. 455-88- AA DRILLED SHAFT LF**
    - **AA =**
      - 1 (24" Dia.)
      - 2 (30" Dia.)
      - 3 (36" Dia.)
      - 4 (42" Dia.)
      - 5 (48" Dia.)
      - 6 (60" Dia.)
      - 7 (72" Dia.)
      - 8 (54" Dia.)
      - 9 (66" Dia.)
      - 12 (90" Dia.)
      - 15 (108" Dia.)
      - 18 (96" Dia.)

**Notes**

**455-89- AA DRILLED SHAFT TIP GROUTING**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>Plan Quantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Details**

Intended for the post grouting of drilled shaft tips after installation. The item includes all materials, hardware, and labor to perform the work.

**Related Items**

- **Required**: 455-122 (2455-122), 455-88- AA (2455-88- AA)
- **Recommended**: 455-122

**Forms**

- **Design**: SHTabQuant COMP 700-050-03
- **Construction**: Refer to Comp Book

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**: SDG’s 3.6
- **Other**: SDG’s 3.6

**Status**

**Struct.**: 455-88- AA DRILLED SHAFT LF
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)  6, 7, 13

Status

Struct.  455- 89- AA  DRILLED SHAFT TIP GROUTING  EA

AA =
1 (24" Dia.)
2 (30" Dia.)
3 (36" Dia.)
4 (42" Dia.)
5 (48" Dia.)
6 (60" Dia.)
7 (72" Dia.)
8 (54" Dia.)
9 (66" Dia.)
19 (90" Dia.)
20 (108" Dia.)

Notes

455-101-  A  LOAD TEST- OSTERBERG

Unit  EA  Accuracy  Each  PlanQuantity?  no

Details

Intended to load test drilled shafts using Osterberg Cells. Show location and test load of o-cells test shafts. Show number and depth of o-cells for each test shaft.

Related Items

Required  455-129-XXA  Recommended  455-131- and 455-132- required for test located on water.

Forms

Design  SHTabQuant  COMP 700-050-03
Construction  Refer to Comp Book

Documentation

Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other  Soils and Foundations Handbook 10.3.3
Standards
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

Status

Struct.  455-101-  A  LOAD TEST- OSTERBERG  EA

A =
1 (Less Than 5 Cells)
2 (5 Or More Cells)
### Notes

**455-103-ABB** | **LOAD TEST- STATNAMIC**
--- | ---
**Unit** | EA  
**Accuracy** | Each  
**PlanQuantity?** | no

**Notes**

**Details**  
Intended for Statnamic load testing of piles or drilled shafts. Show location and test load of test shafts or piles.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>455-129- A</th>
</tr>
</thead>
</table>

**Recommended**

| 455-131- and 455-132- |

**Forms**

**Design**

SHTabQuant  
**Construction**

Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

**Other**

Soils and Foundations Handbook 10.3.1

**Standards**

**Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)** 6, 7, 13

---

**Status**

**Struct.**

455-103-ABB | LOAD TEST- STATNAMIC
--- | ---
EA

A = Type
1 (Compression)
2 (Lateral)

BB = Test Capacity
01 ( 100 Tons)
02 ( 200 Tons)
03 ( 300 Tons)
04 ( 400 Tons)
05 ( 500 Tons)
06 ( 600 Tons)
07 ( 700 Tons)
08 ( 800 Tons)
09 ( 900 Tons)
10 (1000 Tons)
11 (1100 Tons)
12 (1200 Tons)
13 (1300 Tons)
14 (1400 Tons)
15 (1500 Tons)
16 (1600 Tons)
30 (3000 Tons)

---

**Details and Structure**: Chapters 11 to 20

Page 151 of 428
### 455-107- AA DRILLED SHAFT CASING

**Unit**: LF; M1  
**Accuracy**: Linear Foot; 10th of a Meter  
**PlanQuantity?**: no

**Notes**

**Details**

Intended on drilled shaft projects when plans require permanent casing method be used. Permanent casing is typically not paid for separately for portions of shaft in waterway unless permanent casing method is required for shaft below the mud line. Show locations and depths in drilled shaft data table.

**Related Items**

**Required**: 455-122- AA, 455-88- AA  
**Recommended**: 455-107- AA, 455-88- AA

**Forms**

**Design**: SHTabQuant  
**Construction**: COMP 700-050-03

**Documentation**

**Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
**Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**:  
**Other**: SDG's 3.6

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**: 6, 7, 13

---

**Status**

**Struct.**: 455-107- AA DRILLED SHAFT CASING LF

AA =  
1 (24" Dia.)  
2 (30" Dia.)  
3 (36" Dia.)  
4 (42" Dia.)  
5 (48" Dia.)  
6 (60" Dia.)  
7 (72" Dia.)  
8 (54" Dia.)  
9 (66" Dia.)  
18 (84" Dia.)  
19 (90" Dia.)  
20 (108" Dia.)  
21 (96" Dia)

**Notes**

---

### 455-111- CORE/PILOT HOLE- DRILLED SHAFT EXCAVATION

**Unit**: LF; M1  
**Accuracy**: Linear Foot; 10th of a Meter  
**PlanQuantity?**: no

**Notes**

**Details**

Intended for payment of pilot holes or cores for drilled shaft projects to determine the quality of the material below the tip. Pilot holes are taken at shaft locations prior to shaft excavation. Cores are taken below the tip of an excavated shaft. Pilot holes or cores when deemed necessary, are typically taken 3 to 5 shaft diameters
below the shaft’s planned tip elevation. Use 3 shaft diameters unless otherwise noted in
the plans.
Show location in the plans. Clarify whether pilot holes or cores are to be taken. Base
quantity on the anticipated pilot hole and/or core length needed. Include pay item note.

Establish quantities as follows: Cores: measured from the bottom of shaft elevation to the
bottom of the core (3 to 5 shaft diameters below tip); Pilot holes: measured from the
ground elevation to the bottom elevation of the pilot hole (3 to 5 shaft diameters below tip).

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
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<tr>
<td>Documentation</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>

| References             | PPM Chapter    |
|                        | Other          |
|                        | Standards      |
|                        | Specifications |
|                        | Prep & Doc Manual Chapter(s) 6, 7, 13 |

Status

Struct. 455-111- CORE/PILOT HOLE- DRILLED SHAFT EXCAVATION LF

Notes

455-112- A PILE- AUGER GROUTED

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td>no</td>
<td>Intended for payment of auger cast piles to support miscellaneous structures. Do not use with Pay Item 534-72-1AA. Cost of sound barrier foundations included in the cost of sound barrier wall. Not for use to support bridge structures.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuant</td>
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<td>Design</td>
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<tr>
<td></td>
<td>Construction</td>
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</tr>
<tr>
<td>References</td>
<td>PPM Chapter</td>
<td></td>
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<tr>
<td></td>
<td>Other</td>
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<td>Standards</td>
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<td>Specifications</td>
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</tr>
<tr>
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<td>Prep &amp; Doc Manual Chapter(s) 7, 13</td>
<td></td>
</tr>
</tbody>
</table>

Status
### 455-112- A
**PILE- AUGER GROUTED**

| A = | 1 (16” Diameter) | 2 (14” Diameter) | 3 (24” Diameter) | 4 (30” Diameter) |

### Notes

**455-119-ABB**
**LOAD TEST- STATIC**

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

**Details**
Intended for static axial or lateral load testing of piles or drilled shafts. Not used for Osterberg-Cell or Statnamic tests. Show location and test load in plans.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>455-129- A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>455-131- and 455-132-</td>
</tr>
</tbody>
</table>

**Required for test located on water.**

**Forms**

<table>
<thead>
<tr>
<th>Design</th>
<th>SHTabQuant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

**Documentation**

<table>
<thead>
<tr>
<th>Design</th>
<th>Refer to Comp Book</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
</tbody>
</table>

| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

<table>
<thead>
<tr>
<th>PPM Chapter</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils and Foundations Handbook 10.3.1</td>
<td></td>
</tr>
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</table>

**Prep & Doc Manual Chapter(s)**

7, 13

---

**Status**

**Struct.**

<table>
<thead>
<tr>
<th>455-119-ABB</th>
<th>LOAD TEST- STATIC</th>
</tr>
</thead>
</table>

| EA |

<table>
<thead>
<tr>
<th>A = Type Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Compression)</td>
</tr>
<tr>
<td>2 (Tension)</td>
</tr>
<tr>
<td>3 (Lateral)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BB = Amount Of Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 ( 0 - 50 Tons)</td>
</tr>
<tr>
<td>02 (51 - 100 Tons)</td>
</tr>
<tr>
<td>03 (101 - 600 Tons)</td>
</tr>
<tr>
<td>04 (601 -1200 Tons)</td>
</tr>
<tr>
<td>05 (1201-1800 Tons)</td>
</tr>
</tbody>
</table>

**Notes**

**455-120- A**
**PILE POINT PROTECTION**

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

**Details and Structure: Chapters 11 to 20**
### Details

Intended for steel "H" or pipe piling and steel sheet piling projects when borings show soils that may be difficult to penetrate. Show locations in plans w/ quantity block.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>455-35, 455-133</td>
<td></td>
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</table>

### Forms

<table>
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<tr>
<th>Design</th>
<th>Construction</th>
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<tbody>
<tr>
<td>SHTabQuant</td>
<td>Refer to Comp Book</td>
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</table>

### Documentation

<table>
<thead>
<tr>
<th>Design</th>
<th>Construction</th>
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</tr>
</tbody>
</table>

### References

<table>
<thead>
<tr>
<th>PPM Chapter</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standards</td>
</tr>
<tr>
<td></td>
<td>Specifications</td>
</tr>
</tbody>
</table>

**Notes**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### Status

**Struct.** 455-120- A  
**PILE POINT PROTECTION**  
**EA**

A =
1 (HP 14" X 89)  
2 (20" Sq.)  
3 (24" Sq.)  
4 (HP 14 X 117)  
5 (HP 14" X 73")

### 455-122- AA  
**UNCLASSIFIED SHAFT EXCAVATION**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Intended for the excavation of the drilled shafts. Pay Item 455-88-XAA is required with this item. Quantity is the depth of excavated hole from ground elevation to tip of shaft.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>455-88- AA</td>
<td></td>
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</tbody>
</table>

### Forms

<table>
<thead>
<tr>
<th>Design</th>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>SHTabQuant</td>
<td>Refer to Comp Book</td>
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</table>

### Documentation

<table>
<thead>
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<th>Design</th>
<th>Construction</th>
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<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
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### References

<table>
<thead>
<tr>
<th>PPM Chapter</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SDG’s 3.6</td>
</tr>
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</table>

**Notes**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### Status

**Notes**

Intended for the excavation of the drilled shafts. Pay Item 455-88-XAA is required with this item. Quantity is the depth of excavated hole from ground elevation to tip of shaft.
Struct. 455-122- AA  UNCLASSIFIED SHAFT EXCAVATION  LF

AA =
1 (24" Diameter.)
2 (30" Diameter.)
3 (36" Diameter.)
4 (42" Diameter.)
5 (48" Diameter.)
6 (60" Diameter.)
7 (72" Diameter.)
8 (54" Diameter.)
9 (66" Diameter.)
19 (90" Diameter.)
20 (108" Diameter.)
21 (96" Diameter.)

455-129- A  INSTRUMENTATION AND DATA COLLECTION  LS/LS

Unit  Accuracy  PlanQuantity?
LS/LS  Lump Sum  yes

Notes

455-131- PLATFORM, WORKING SERVICE  EA

Unit  EA  Accuracy  PlanQuantity?
Each  no

Notes
Intended for access platform at pile/shaft test site. Use with all static, staticnamic and Osterberg Cell load test projects when tests are located in waterway or on land tests where access is difficult.

### Related Items

**Required** 455-101, 455-103, or 455-119

**Recommended**

### Forms

**Design** SHTabQuant

**Construction** Refer to Comp Book

### Documentation

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

### Status

**Struct.** 455-131- PLATFORM, WORKING SERVICE EA

### Notes

---

**455-132- PLATFORM, REMOTE OBSERVATION**

| Unit  | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

Intended for survey platform at test pile/shaft. Use with all static, staticnamic and Osterberg Cell load test projects when tests are located in waterway or on land tests where access is difficult.

### Related Items

**Required** 455-101, 455-103, or 455-119

**Recommended**

### Forms

**Design** SHTabQuant

**Construction** Refer to Comp Book

### Documentation

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 6, 7, 13

### Status

**Inactive Structure**

**Struct.** 455-132- PLATFORM, REMOTE OBSERVATION EA

---

Details and Structure: Chapters 11 to 20
Notes

455-133- A SHEET PILING, STEEL

Unit SF; M2
Accuracy Square Foot; 10th of a Square Meter
PlanQuantity? yes

Details

PERMANENT: Complete designs and details must be provided in the plans including the Steel sheeting section, begin and end stations, top and bottom pile elevations.
TEMPORARY: This item should be utilized for temporary sheet pile installations that are installed at “critical locations.” Critical walls” are walls necessary to maintain the safety of the traveling public or structural integrity of nearby structures, roadways and utilities during construction.
For temporary critical walls requiring soil anchors, dead men etc., provide full details in plans (design of wale, soil anchor spacing and load, dead men anchor, number of proof test and creep test required, etc.).
Complete design and details must be provided in the plans including the section modulus, begin and end stations, top and bottom pile elevations.
See 455-12.6.2 for
MEASUREMENT: The area to be paid for will be measured from top of pile elevation to bottom of pile elevation and longitudinally from beginning to end of wall, as shown in the plans.
PAYMENT: PLAN QUANTITY will be the basis of payment to the contractor. No separate payment will be made for the cost of the anchor system for anchored

Required
Design SHTabQuant
Construction Refer to Comp Book

Recommended
Design COMP 700-050-01

Related Items

Forms
Construction Required Recommended 455-120

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter SDG’s 3.5
Other
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Status

Struct. 455-133- A SHEET PILING, STEEL SF

A =
2 (Temporary- Critical)
3 (Furnish & Install Permanent)

Notes

455-137- LOAD TEST- DYNAMIC

Unit EA
Accuracy Each
PlanQuantity? no

Details and Structure: Chapters 11 to 20
Intended on driven piling projects for PDA testing. Quantity given should be equal to the number of test piles called out on the Foundations Layout Sheet.

**Related Items**

**Required**
- 455-143-XAA, 455-144-XAA, 455-145-XXA

**Recommended**

**Forms**

**Design**
- SHTabQuant

**Construction**
- Refer to Comp Book

**Documentation**

**Design**
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Notes**

**Details**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Forms**

**Design**
- SHTabQuant

**Construction**
- Refer to Comp Book

**Documentation**

**Design**
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**
- 6, 7, 13

**Soils and Foundation Handbook**
- 10.1, 10.2

**Prep & Doc Manual Chapter(s)**
- 6, 7, 13

**Status**

**Struct. 455-137- LOAD TEST- DYNAMIC**

**Unit**
- EA

**Accuracy**
- Each

**Plan Quantity?**
- no

---

**455-142- CROSSHOLE SONIC LOGGING**

**Unit**
- EA

**Accuracy**
- Each

**Plan Quantity?**
- no

**Notes**

Intended for integrity testing of drilled shafts. Typically CSL tubes are required to be placed in all drilled shafts but only a portion of shafts will be actually CSL tested. Determine number of shafts to be CSL tested.

**Related Items**

**Required**
- 455-88, 455-122-XAA

**Recommended**

**Forms**

**Design**
- SHTabQuant

**Construction**
- Refer to Comp Book

**Documentation**

**Design**
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**
- 6, 7, 13

**Soils and Foundation Handbook**
- 10.4.2, 10.4.3

**Prep & Doc Manual Chapter(s)**
- 6, 7, 13

**Status**

**Struct. 455-142- CROSSHOLE SONIC LOGGING**

**Unit**
- EA

**Accuracy**
- Each

**Plan Quantity?**
- no

---
### Notes

**Details**

Intended to cover cost and installation of the prestressed concrete test piling. PDA paid for separately under item 455-137.

**DESIGN:**

Design quantity is computed as the total anticipated length of test pile without allowances for cutoffs, splices or preforming. Show locations on Foundation Layout Sheet. Give test pile lengths in Pile Installation Table.

**CONSTRUCTION:**

Construction/Final quantity for Test Piles is based on Specification. For Example: 

\[(\text{Sum of test pile lengths}) + (0.3 \times \text{Sum of required preformed pile hole depths for test piles})\]

Do not add allowances for splices.

Include quantity for preformed holes only if preforming is known to be required and shown in the plans. Do not use as contingency.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>455-137, 455-34</td>
<td></td>
</tr>
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</table>

### Forms

<table>
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<tr>
<th>Design</th>
<th>Construction</th>
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<tbody>
<tr>
<td>SHTabQuant</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

### Documentation

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<th>Construction</th>
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</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

### References

**PPM Chapter**

Soils and Foundation Handbook 10.1, 10.2

**Other**

**Standards**

**Specifications**

*Selected Items may require Tech Spec and/or Plan Detail

### Prep & Doc Manual Chapter(s)

7, 13

### Status

**Struct.**

| TEST PILES- PRESTRESSED CONCRETE | LF |

| AA = |
| 1 (12" Sq.) |
| 2 (14" Sq.) |
| 3 (18" Sq.) |
| 4 (20" Sq.) |
| 5 (24" Sq.) |
| 6 (30" Sq.) |
| 7 (36" Dia) |
| 8 (Special)* |

* Special may require Tech Spec and/or Plan Detail

### Notes

**455-144- AA TEST PILES- STEEL**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

Details and Structure: Chapters 11 to 20
Intended to cover cost and installation of the prestressed concrete test piling. PDA paid for separately under item 455-137.

Design quantity computed as the total anticipated length of test pile without allowances for cutoffs, splices or preforming. Show locations on Foundation Layout Sheet. Give test pile lengths in Pile Installation Table.

Construction/Final quantity for Test Piles is computed as follows:
(Sum of test pile lengths) + [(0.3) x Sum of required preformed pile hole depths for test piles]
Do not add allowances for splices.

Include quantity for preformed holes only if preforming is known to be required and shown in the plans. Do not use as contingency.

**Related Items**

**Required** 455-137, 455-34  
**Recommended**

**Forms**

**Design** SHTabQuant  
**Construction** Refer to Comp Book

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter  
Other Soils and Foundation Handbook 10.1, 10.2

**Standards**

**Specifications**

*Selected Items may require Tech Spec and/or Plan Detail*

**Prep & Doc Manual Chapter(s)** 7, 13

---

**Struct.** 455-144- AA  
TEST PILES- STEEL  
LF

AA =
1 (Hp 8 X 36)
2 (Hp 10 X 36)
3 (Hp 10 X 42)
4 (Hp 12 X 53)
5 (Hp 14 X 73)
6 (Hp 14 X 89)
7 (Hp 14 X 102)
8 (Hp 14 X 117)
9 (Special)*
20 (18” Dia Pipe)
21 (20” Dia Pipe)
22 (24” Dia Pipe)
23 (30” Dia Pipe)

* Special may require Tech Spec and/or Plan Detail
Intended to cover cost and installation of the prestressed concrete test piling. PDA paid for separately under item 455-137.

Design quantity computed as the total anticipated length of test pile without allowances for cutoffs, splices or preforming. Show locations on Foundation Layout Sheet. Give test pile lengths in Pile Installation Table.

Construction/Final quantity for Test Piles is computed as follows:

\[(\text{Sum of test pile lengths}) + [(0.3) \times \text{Sum of required preformed pile hole depths for test piles}]\]

Do not add allowances for splices.

Include quantity for preformed holes only if preforming is known to be required and shown in the plans. Do not use as contingency.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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</tbody>
</table>

**Documentation**

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Soils and Foundation Handbook 10.1, 10.2

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**

7, 13

**Status**

Struct. 455-145- A

TEST PILE- CONCRETE CYLINDER PILES LF

A =

1 (54" Dia.)
2 (60" Dia.)

**Notes**

455-146-

EMBEDDED DATA COLLECTOR

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Effective January 2007. Implemented by mandatory specification change and Structures Temporary Design Bulletin

**Details**

To be used with all prestressed concrete test piles. Estimate a quantity of 1 per test pile. Each collector system will include gauges at the top and tip, as well as antenna and incidental equipment for installation in each pile, as shown in the standard.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>COMP 700-050-03</td>
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<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

<table>
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<th>Design</th>
<th>Construction</th>
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<tr>
<td>Refer to Comp Book</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</table>
### 457-70-ABB  
**INTEGRAL PILE JACKET**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
</tbody>
</table>

**Notes**
Intended for rehabilitation projects to repair concrete pile corrosion damage. Contact State Materials Office, Corrosion Lab for assistance in use of this item. Show locations in plans w/ quantity block.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
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</tbody>
</table>

**Documentation**

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</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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**References**

<table>
<thead>
<tr>
<th>PPM Chapter</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>Standards</td>
<td>Interim 20602</td>
</tr>
<tr>
<td>Specifications</td>
<td></td>
</tr>
</tbody>
</table>

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**  6, 7, 13

---

A =
1 (Epoxy Grout Filler)
2 (Portland Cement Grout Filler)
3 (Class III Concrete Seal Filler)
4 (Others)

BB =
01 (12")
02 (14")
03 (15")
04 (16")
05 (18")
06 (20")
07 (21")
08 (22")
09 (24")
10 (27")
11 (30")

Notes

**457- 71- AB  CATHODIC PROTECTION- PILE JACKET**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

**Details**

This item is under development by the State Materials Lab. Contact the State Materials Office, Corrosion Lab for assistance in use of this item. Intended for rehabilitation projects to repair piles with corrosion damage using cathodic protection. Show locations in plans w/ quantity block. Electrical Work paid under item 400-60-A. See items 400-142 (structure) and 455-81 (pier or pile) for related work.

**Related Items**

**Required**  400- 60- 455- 81

**Recommended**

**Forms**

<table>
<thead>
<tr>
<th>Design</th>
<th>SHTabQuant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Documentation**

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

PPM Chapter

Other Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

**Struct.**  457- 71- AB  CATHODIC PROTECTION- PILE JACKET  LF

A =
1 (Galvanic Cathodic Protection Non-Structural)
2 (Galvanic Cathodic Protection Structural)
3 (Impressed Current Cathodic Protection Non-Structural)
4 (Impressed Current Cathodic Protection Structural)
5 (Other)

B= Pile Size
1 (up to 16")
2 (16.1 to 30")
3 (30.1 and larger)

Notes

**458- 1- AB  BRIDGE DECK EXPANSION JOINT**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td></td>
</tr>
</tbody>
</table>

Details and Structure: Chapters 11 to 20
**Notes**

**Effective January 2007. Replaces several joint seal items**

Refer to Design Standards and Specifications for selection and use of these joints. Note: Tech Specs are required for selected items, as shown in the pay item structure. For Bridge Approach Expansion Joints, refer to 370 items. For Concrete Joint repairs in Structures, refer to 400 items.

**Details**

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td>Documentation</td>
<td>Design</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
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</table>

**References**

<table>
<thead>
<tr>
<th>Standards</th>
<th>Index No. 21110, 21100</th>
</tr>
</thead>
</table>

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct. 458-1-AB**

**BRIDGE DECK EXPANSION JOINT**

**LF**

A= Operation
1 (New Construction- F&I)
2 (Rehabilitation- Clean, Seal, Replace)

B= Type
1 (Poured Joint with Backer Rod)
2 (Strip Seal)
3 (Modular) Note: Tech Spec Required
4 (Finger Joint) Note: Tech Spec Required
5 (Compression Elastomeric) Note: For Rehab only
6 (Other)

**Notes**

**459-71-**

**PILES, POLYETHYLENE SHEETING**

**Unit** SY; M2

**Accuracy** Square Yard; Square Meter

**PlanQuantity? no**

**Notes**

Intended on piling or drilled shaft projects to wrap portion of end bent pile or shaft within the fill height to reduce down-drag. Add note on Foundation Layout Sheet. Pay quantity is the pile area wrapped.

**Details**

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td>Documentation</td>
<td>Design</td>
</tr>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>
Standards
Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

Notes

460-1 AA STRUCTURAL STEEL- REHAB

| Unit   | LB; KG | Accuracy | Pound; Kilogram | PlanQuantity? | yes |

Details
Do not use for new steel structures. This item will be used on all rehabilitation work only. Show steel quantities in quantity blocks on plans. Pay for painting of structural steel separately. Conduct lead based paint survey. Add general note to alert Contractor of existing lead based paint.

Related Items

Forms
Design SHTabQuant
Construction Refer to Comp Book

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 460-1 AA STRUCTURAL STEEL- REHAB LB

AA =
1 (Carbon)
2 (Low Alloy)
3 (Shoe Assemblies)
4 (Expansion Assemblies)
5 (Bascule Leaves)
6 (Bascule Piers)
7 (Approach Spans)
11 (Screws, Bolts And Washer Assemblies)
12 (Flanking Spans)
13 (Bolts, Nuts, Washers And Plates)
15 (Miscellaneous)
16 (Movable Span)
18 (Carbon, Truss)

Details and Structure: Chapters 11 to 20
19 (Low Alloy, Truss)
20 (Weathering)

Notes

<table>
<thead>
<tr>
<th>460- 2- AA</th>
<th>STRUCTURAL STEEL- NEW/WIDENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>LS/LB; LS/KG</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Pound; Kilogram</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>yes</td>
</tr>
</tbody>
</table>

Notes

Details

Intended for new construction of steel structures and bridge widenings. When painting is specified, cost of painting is incidental to this item.

WEATHERING item used when uncoated weathering steel is specified.

CARBON item used for Grades 36 and higher including weathering steel when painted.

LOW ALLOY item used for Grade 50 steel.

BASCULE LEAVES item used for all grades of steel in bascule leaf except steel used for decking, and steel counterweight blocks. When flanking span remains within the limits of bascule pier, pay under BASCULE PIERS. If not, include under CARBON or LOW ALLOY. Cost of F-shaped or vertical shape steel traffic railing barrier located on bascule leaf included in steel quantity under BASCULE PIERS. Leaf Centering Device Assembly included in steel quantity under BASCULE LEAVES.

BASCULE PIERS item used for all grades of steel in bascule pier except for steel for decking. Cost of F-shaped or vertical shape steel traffic railing barrier located within limits of bascule pier included in steel quantity under BASCULE PIERS.

Calculate weight of steel for estimating purposes only. Due not tabulate steel quantities in the plans. On steel box girder projects add note to include cost of all access hatches, and screen doors in cost on structural steel.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Forms</td>
<td>SHTabQuantLS</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-05</td>
</tr>
</tbody>
</table>

Documentation

Design

Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status

<table>
<thead>
<tr>
<th>Struct.</th>
<th>460- 2- AA</th>
<th>STRUCTURAL STEEL- NEW/WIDENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA</td>
<td>LS/LB</td>
<td></td>
</tr>
</tbody>
</table>

AA =
1 (Carbon)
2 (Low Alloy)
3 (Shoe Assemblies)
5 (Bascule Leaves)
6 (Bascule Piers)
15 (Miscellaneous)
18 (Carbon, Truss)
19 (Low Alloy, Truss)

Details and Structure: Chapters 11 to 20
20 (Weathering)

### 460- 6- LADDERS & PLATFORMS

<table>
<thead>
<tr>
<th>Unit</th>
<th>LB; KG</th>
<th>Accuracy</th>
<th>Pound; Kilogram</th>
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</thead>
<tbody>
<tr>
<td>PlanQuantity?</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Details**

Intended for both steel and aluminum ladders and platforms when necessary for personnel/ maintenance access. Clearly define location w/ quantity block in plans.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Documentation**

Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter

**Status**

Struct. 460- 6- LADDERS & PLATFORMS LB

---

### 460- 13- A STRUCTURAL STEEL REHAB- SANDWICH PLATE SYSTEM

<table>
<thead>
<tr>
<th>Unit</th>
<th>SY; M²</th>
<th>Accuracy</th>
<th>Square Yard; Square Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>PlanQuantity?</td>
<td>yes</td>
<td></td>
<td></td>
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</tbody>
</table>

**Notes**

Experimental Item. Requires State Structures Design Office Approval / FHWA

**Details**

Must be coordinated with State Structures Design Office.

Consists of Furnishing and Installing Sandwich Plate System, including wearing surface, bridge deck, and supporting stringer.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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</table>

**Documentation**

Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

Status

Struct. 460-13- A

STRUCTURAL STEEL REHAB- SANDWICH PLATE SYSTEM

A=
1 (Deck and Stringer)
2 (Deck)

Notes

Specifications

ALUMINUM BULLET RAILINGS

Unit LF; M1
Accuracy Linear Foot; 10th of a Meter
PlanQuantity? yes

Notes

Details

Consists of furnishing and installing bullet railing on top of traffic railing barriers and parapets to protect pedestrians or bicycles. Note details on Indexes 423, 820, 821, and 822.

For other aluminum railings, refer to Index Series 860 and 870, and pay items 515-1-xxa and 515-2-xxa.

Related Items

Required 521-6- A when Index 820 Ped Bicycle railing is used

Recommended

Forms

Design SHTabQuant
Construction Refer to Comp Book

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter
Other

Standards Index No. 423, 820, 821, 822
Specifications

PPM Chapter
Other

Prep & Doc Manual Chapter(s) 6, 7, 13

Status

Struct. 460-70- A

ALUMINUM BULLET RAILINGS LF

A =
1 (Single Rail)
2 (Double Rail)
3 (Triple Rail)

Notes

460-71- A

METAL TRAFFIC RAILING

Details and Structure: Chapters 11 to 20
Unit: LF; M1
Accuracy: Linear Foot; 10th of a Meter
Plan Quantity: yes

Details
Consists of furnishing and installing metal traffic barriers, for new construction or Barrier Retrofit. Show location in plans and include in quantity block.

Related Items
Required
Forms
Design: SHTabQuant
Construction: Refer to Comp Book

Documentation
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
SDG’s 6.7
Specifications
Index 470 through 476

Status
Struct. 460-71- A
Metal Traffic Railing

A =
1 (Thrie Beam Retrofit)
2 (Steel Post And Rail)*
3 (Steel Post and Rail-Retaining Wall System Maintenance)

Notes
*Non-standard; custom design may be required.

460-81- A
Rivet / High Strength Bolt Replacement

Unit: EA
Accuracy: Each
Plan Quantity: no

Details
For Rehabilitation projects only.

Related Items
Required
Forms
Design: SHTabQuant
Construction: Refer to Comp Book

Documentation
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13
### Status

**Struct.** 460-81- A

**RIVET / HIGH STRENGTH BOLT REPLACEMENT**

**EA**

A =
- Blank (Standard)
- 1 (Special)

### Notes

<table>
<thead>
<tr>
<th>460-95-</th>
<th>STRUCTURAL STEEL REPAIR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>LB; KG</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>Pound; Kilogram</td>
</tr>
<tr>
<td><strong>PlanQuantity?</strong></td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

Intended on rehabilitation projects for in-place heat straightening. Quantity based on weight of steel components to be repaired. Show locations in the plans w/ pay item note to address all work items required.

**Related Items**

- **Required**
  - 460-1-XAA

- **Recommended**
  - 460-1-XAA

**Forms**

- **Design**
  - SHTabQuant

- **Construction**
  - COMP 700-050-06

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

- **Construction**
  - Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s)**

7, 13

---

### Status

**Struct.** 460-95-

**STRUCTURAL STEEL REPAIR**

**LB**

### Notes

<table>
<thead>
<tr>
<th>460-98-</th>
<th>PIPE HANGER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>EA</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>Each</td>
</tr>
<tr>
<td><strong>PlanQuantity?</strong></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

To be used ONLY for non-drainage system applications such as structure utility attachments. When deck inserts are required for utility attachments by others, do not include this item. Deck inserts are included in the cost of the superstructure concrete. Show location spacing w/ quantity block in plans.

Note: Pipe hangers for bridge drainage system paid for under 506-2.

**Related Items**

- **Required**
  - SHTabQuant

- **Recommended**
  - COMP 700-050-03

**Forms**

- **Design**
  - SHTabQuant

- **Construction**
  - COMP 700-050-03

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
**Construction**
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **Prep & Doc Manual Chapter(s)** 7, 13

**Status**
- **Struct.** 460-98-
- **A** PIPE HANGER
- **EA**

**Notes**
- **A =**
  - 1 (Carbon)
  - 2 (Stainless)

---

**460-112-** ANCHOR BOLT REPLACEMENT

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**
- For rehabilitation jobs only. Show location with quantity block in plans.

**Related Items**
- **Required**
- **Recommended**

**Forms**
- **Design** SHTabQuant
- **Construction** Refer to Comp Book

**Documentation**
- **Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **Prep & Doc Manual Chapter(s)** 7, 13

**Status**
- **Struct.** 460-112-
- **ANCHOR BOLT REPLACEMENT**
- **EA**

---

**461-113-** MULTI ROTATIONAL BEARING ASSEMBLY

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**
- Intended furnish and installing pot, disc or cylindrical bearing assemblies. Include location w/ quantity block in plans.

**Related Items**
- **Required**
- **Recommended**

**Forms**
- **Design** SHTabQuant
- **Construction** COMP 700-050-03
### Struct. 461-113- AB

**MULTI ROTATIONAL BEARING ASSEMBLY**

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

Intended furnish and installing pot, disc or cylindrical bearing assemblies. Include location w/ quantity block in plans.

**Related Items**

**Forms**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other  
SDG’s 6.5

**Prep & Doc Manual Chapter(s)** 7, 13
### Struct. 461-114- AB  
**MULTI ROTATIONAL BEARING ASSEMBLY-EXPANSION**

A = Operation  
1 (Furnish & Install)  

B =  
1 (1 - 250 Kips)  
2 (251 - 500 Kips)  
3 (501 - 750 Kips)  
4 (751 - 1000 Kips)  
5 (1001 - 1250 Kips)  
6 (1251 - 1500 Kips)  
7 (1501 - 1750 Kips)  
8 (1751 - 2000 Kips)  
9 (>= 2001 Kips)

### Notes

#### 462-2- AA  
**POST TENSIONING TENDONS**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LB; KG</th>
<th>Accuracy</th>
<th>Pound; Kilogram</th>
<th>PlanQuantity?</th>
</tr>
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</table>

**Notes**

**Details**

**Related Items**

**Forms**

**Design**

SHTabQuant

**Recommended**

COMP 700-050-06

**Construction**

Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Prep & Doc Manual Chapter(s)**

7, 13

**Status**

### Struct. 462-2- AA  
**POST TENSIONING TENDONS**

AA =

11 (Superstructure Strand)  
12 (Superstructure Bar)  
13 (Substructure Strand)  
14 (Substructure Bar)

### Notes

---

**Details and Structure**: Chapters 11 to 20
Details

Intended for rehabilitation projects intended to strengthen span with the installation of additional post-tensioning. Show location in plans. Include a schedule of post tensioning tendons w/ quantity block in plans. Include a pay item notes as necessary to cover the work activity.

Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

Documentation

| Design      | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction| Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

References

PPM Chapter
Other
Index 21801 thru 21803

Standards
Specifications

Prep & Doc Manual Chapter(s)

Status

Inactive Structure

Struct.

462- 3- ADDITIONAL POST-TENSIONING IN SEGMENTAL BOX SPAN

Notes

462- 20- A POST TENSIONING REPAIR

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA; LF; CF</th>
<th>Accuracy</th>
<th>Each; Linear Foot; Cubic</th>
<th>PlanQuantity?</th>
</tr>
</thead>
</table>

NOT FOR USE ON NEW CONSTRUCTION. Details to be included in Tech Specs.

Tendon Inspection: Do not include repairs under this item, except for repair of inspection holes.

Anchorage Inspection: Do not include void repairs or pour backs under this item.

Tendon Repair Set-up: To be used every time a void is detected and is to cover the cost of installing injection and outlet points, preparing to fill void, and sealing of these areas after completion. Shop drawings may be required.

Replace Anchorage Protect Sys: Includes replacement of the tendon anchorage protect system

Repair External Ducts: Not for use to repair areas damaged while repairing voids.

Tendon Replace: Remove & replace complete tendons, including anchorage components, placement & stressing new tendon, grouting, inspection, and protection system.

Grout Tendon Voids: Includes installation & material, detailed in Tech Spec

Install Grout Ports: includes drilling and installing grout ports suitable for connection to grouting equipment.

Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

Documentation

| Design      | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction| Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

Details and Structure: Chapters 11 to 20
MOVABLE BRIDGE- MECHANICAL EQUIPMENT

**Unit**: LS/LS  
**Accuracy**: Lump Sum  
**Plan Quantity?**: yes

**Notes**

For new bridge construction only. Intended for furnishing and installing complete mechanical system for bascule bridge. Includes all mechanical equipment and appurtenances (speed reducer and gear train, trunnion assemblies, span locks, couplings, live load shoes, flat & curved tracks, plain journal bearings, spherical bearings, supports and brackets, hydraulic systems, and all other equipment/service) required for a complete mechanical system on new bascule bridges. Clearly define scope of work in plans and specifications. Contact State Structures Design for boiler plate Specification 465 to be modified as required for project specifics.

**Related Items**

**Forms**

- **Required**: SHTabQuantLS  
- **Recommended**: COMP 700-050-05

**Documentation**

- **Design**: Refer to Comp Book  
- **Construction**: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

- **PPM Chapter**: SDG’s Chapter 8
### Status

**Struct. 465- 1-**  
MOearable BRIDGE- MECHANICAL EQUIPMENT  
LS/LS

### Notes

**465- 2-ABB**  
MOovable BRIDGE MACHINERY AND CASTINGS- REHAB

<table>
<thead>
<tr>
<th>Unit</th>
<th>LS/LS; EA; AS</th>
<th>Accuracy</th>
<th>Lump Sum; Each; Assembly</th>
<th>PlanQuantity?</th>
<th>yes</th>
</tr>
</thead>
</table>

**Notes**

**Details**

Intended for rehabilitation projects for bascule bridge machinery and castings. For new structures, the complete machinery system is included under 465- 1, LS. Contact C.O. Structures Design for boiler plate 465 Specification to be modified as required for project specifics.

**Related Items**

**Required** | **Recommended**
---|---
Design | SHTabQuantLS  
COMp 700-050-05

**Documentation**

**Design**
LUMP SUM ITEMS: Use a quantity of 1. No form required. Locate or define the scope of work involved on the plans.  
EACH ITEMS: Location must be summarized on the plans.

**Construction**
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

**Status**

**Struct. 465- 2-ABB**  
MOvable BRIDGE MACHINERY AND CASTINGS- REHAB  
LS/LS; EA;

A= Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Recondition)  
5 (Adjust/Modify)  
6 (Remove & Dispose) Note: Contractor takes ownership  
7 (Remove & Stockpile/Salvage) Note: DOT/maintaining agency retains ownership  
8 (Field Machining)

BB= Equipment

01 (Speed Reducer And Gear Train) LS/LS  
04 (Trunion Assembly) EA  
05 (Span Locks) AS  
07 (Couplings) EA  
08 (Live Load Shoes) LS/LS  
10 (Flat Rack, Curved Rack, Flat Track) EA  
11 (Hopkins Frame) EA

**Details and Structure:** Chapters 11 to 20

**Page 177 of 428**
21 (Plain Journal Bearing) EA
22 (Spherical Bearing) EA
52 (Hydraulic Cylinder) EA
53 (Hydraulic Motor) EA
54 (Hydraulic Power Pack) EA
55 (Temporary Hydraulic System) EA

Notes

465- 3- AB MOBILE BRIDGE COUNTERWEIGHT

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA; TN; MT</th>
<th>Accuracy</th>
<th>Each; Ton; Metric Ton</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

Notes

Details

Applies for either rehabilitation or new bridge projects. Intended for work items related to bascule bridge counterweights (balance calculations, balance blocks, steel ballast, transition slabs, sump pumps, bumper blocks). Steel ballast intended for bulk steel counterweight (transition slabs, steel plates). Show location & quantity block in plans. When using "Adjust" item, Tech Spec must clearly define method of measurement: adjustment of each bridge, leaf, or after specific operations.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
</table>

Forms

Design

SHTabQuant

COMP 700-050-03

Construction

Refer to Comp Book

Documentation

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

SDG's Chapter 8

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

Status

Struct.

465- 3- AB MOBILE BRIDGE COUNTERWEIGHT EA; TN

A= Operation
1 (Furnish & Install)
5 (Adjust) EA; for A=5, B=0
9 (Clean) Valid for B=6 only

B= Item
1 (Fiberglass Pocket Cover) EA
2 (Sump Pump) EA
4 (Bumper Block) EA
6 (Pockets) EA
7 (Balance Blocks) EA
9 (Steel Ballast) TN

Notes

465- 4- MOBILE BRIDGE SPAN JACKING

Details and Structure: Chapters 11 to 20

Page 178 of 428
### MOVABLE BRIDGE SPAN JACKING

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>Plan Quantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS/EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Intended for rehabilitation projects to jack bascule span off trunnion supports. Used in conjunction with trunnion reconditioning or bearing replacement. Tech Spec should include jacking procedure, and require that procedures and calculations be completed by a Florida Licensed Engineer.

**Details**

**Related Items**

- **Required**
  - Design: SHTabQuantLS
  - Construction: Refer to Comp Book

- **Recommended**
  - Design: COMP 700-050-05

**Documentation**

- **Design**
  - Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.

- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**

---

### MOVABLE BRIDGE OPERATOR

<table>
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<tr>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>LS/EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

**Related Items**

- **Required**
  - Design
  - Construction

**Forms**

**Documentation**

- **Design**
  - Refer to Comp Book

- **Construction**

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 465-21- MOVABLE BRIDGE OPERATOR
### MOVABLE BRIDGE FUNCTIONAL CHECKOUT

**Unit** | LS/LS  
---|---
**Accuracy** | Lump Sum  
**PlanQuantity?** | yes

**Notes**

**Details**

Phase A to be used to test first-two leafs of a four leaf bascule, Phase B to be used for the Second-two leafs, and Phase C to be used for the complete bridge. Sometimes Phase C and Phase B are combined for simplicity. This item is required on all new bascule bridges and on all bascule bridge rehabilitation projects where the leaf operation, weight is being affected. Where phasing is not required, only a single checkout (Phase C) is required. Contact State Structures Design for boiler plate 465 Specification to be modified as required for project specifics.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
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<tbody>
<tr>
<td><strong>Forms</strong></td>
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<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
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<td><strong>Documentation</strong></td>
<td><strong>Design</strong></td>
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<tr>
<td><strong>Construction</strong></td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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**References**

<table>
<thead>
<tr>
<th>PPM Chapter</th>
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<tbody>
<tr>
<td>SDG’s 8.7.19</td>
</tr>
</tbody>
</table>

**Prep & Doc Manual Chapter(s)**

6, 7, 13

---

### TREATED TIMBER, STRUCTURAL

**Unit** | MB; M3  
---|---
**Accuracy** | 10th of a Thou Board Measure; 10th of a Cubic Meter  
**PlanQuantity?** | yes

**Notes**

**Details**

Intended for the cost of treated structural timber. The quantity of timber to be based on the final width and thickness shown in the plans. When applicable, indicate in the plans the nominal size (2x6) and dressed dimension. Quantity is to be based on the dressed volume. For rough cut or “full sawn” sizes, the nominal size is the finished size and the basis of the quantity. Timber piles paid for under 455-2-XXA. The board-foot measure is the unit of volume for measuring lumber. One board-foot measure is a 12-inch long 1-inch-by-12-inch volume. MB is per thousand board-foot measure.
Example calculation:
800’ - 12X6 Rough Sawn = $\frac{800 \times 12 \times 6}{12,000} = 4.8 \text{ MB}$
800’ - 12X6 Dressed Lumber (Dressed 11 ½” X 5 ½”) = $\frac{800 \times 11.5 \times 5.5}{12,000} = 4.2 \text{ MB}$

### Related Items

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<tr>
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<tr>
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### Documentation

<table>
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<tr>
<td>Other</td>
<td>Structures Detailing Manual Chapter 12.</td>
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</tbody>
</table>

### Status

| Struct. | 470- 1- | TREATED TIMBER, STRUCTURAL | MB |

### Notes

#### 470- 2- TIMBER, STRUCTURAL- UNTREATED

| Unit     | MB; M3 | Accuracy       | 10th of a Thou Board Measure; 10th of a Cubic Meter | PlanQuantity? | yes |

| Notes    | Intended for the cost of untreated structural timber. The quantity of timber to be based on the final width and thickness shown in the plans. When applicable, indicate in the plans the nominal size (2x6) and dressed dimension. Quantity is to be based on the dressed volume. For rough cut or “full sawn” sizes, the nominal size is the finished size and the basis of the quantity. Timber piles paid for under 455- 2-XXA. The board-foot measure is the unit of volume for measuring lumber. One board-foot measure is a 12-inch long 1-inch-by-12-inch volume. MB is per thousand board-foot measure. Example calculation:

800’ - 12X6 Rough Sawn = $\frac{800 \times 12 \times 6}{12,000} = 4.8 \text{ MB}$
800’ - 12X6 Dressed Lumber (Dressed 11 ½” X 5 ½”) = $\frac{800 \times 11.5 \times 5.5}{12,000} = 4.2 \text{ MB}$

### Related Items

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Details and Structure: Chapters 11 to 20
### 471- 1- A  
**FENDER SYSTEM, PLASTIC MARINE LUMBER**

<table>
<thead>
<tr>
<th>Unit</th>
<th>MB; M³</th>
<th>Accuracy</th>
<th>10th of a Thou Board Measure; 10th of a Cubic Meter</th>
<th>PlanQuantity?</th>
</tr>
</thead>
</table>

**Notes**
- Effective January 2007 letting.
- To be used for wales and dimensional lumber for fender systems. Plastic piling to be paid separately under Section 455 items.
- one board foot = one foot square by one inch thick; convert to thousand board foot for pay item.
- Refer to Design Standards and Specifications for additional information.

**Related Items**
- **Required**: 455- 37- a
- **Recommended**

**Forms**
- **Design**: SHTabQuant
- **Construction**: Refer to Comp Book

**Documentation**
- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **Prep & Doc Manual Chapter(s)**

**Status**
- **Struct.**: 471- 1- A  
- **FENDER SYSTEM, PLASTIC MARINE LUMBER**

A= Reinforcement
1 (Reinforced)
2 (non-reinforced)

---

### 504- 1- AA  
**STEEL ROADWAY FLOOR**

| Unit | SF; M² | Accuracy | Square Foot; 10th of a Square Meter | PlanQuantity? | yes |

**Notes**

Details and Structure: Chapters 11 to 20
Details

Intended for steel grating for sidewalks and bridge decks usually on bascule leaves. Show location w/ quantity block in plans. Make deductions in quantities for openings or joints. When concrete filled decks are called for in the plans, no separate payment is made for fill concrete. See Section 504 for Specifications.

Related Items

Required  
Recommended

Forms
Design  
SHTabQuant  
COMP 700-050-01

Construction  
Refer to Comp Book

Documentation

Design  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction  
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s)  6, 7, 13

Notes

Details

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Related Items

Required  
Recommended

Forms
Design  
SHTabQuant  
COMP 700-050-01

Construction  
Refer to Comp Book

Documentation

Design  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Notes

Details

Intended for rehabilitation projects when steel sidewalks gratings is required without roadway grating. On new bascule bridge projects, include both sidewalk and roadway grating quantity under 504-1. Show location w/ quantity block in plans. Make deductions in quantities for openings or joints. When concrete filled decks are called for in the plans, include cost of the concrete fill under this pay item (add pay item note).
Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

Status

Inactive Structure

Struct. 504-2

SIDEWALK FLOOR, STEEL - REHAB SF

Notes

505-1-AB FIRE SUPPRESSION SYSTEM

Unit LF; M1
Accuracy Linear Foot; 10th of a Meter
Plan Quantity? no

Notes

Details

Coordinate the use of this item with the State Structures Design Office
Tech Spec should indicate that this is a complete system, including all lines, fittings, incidentals, and testing.

Related Items

Required
Design SHTabQuant
Construction Refer to Comp Book

Recommended
Design COMP 700-050-03
Construction

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

Status

Struct. 505-1-AB FIRE SUPPRESSION SYSTEM LF

A=location
1 (Bridge)
B= System Type
1 (Dry Line System)

Notes

506-2 BRIDGE DRAIN PIPE

Unit LF; M1
Accuracy Linear Foot; 10th of a Meter
Plan Quantity? yes
Notes

Details
Intended for payment for drainage pipes located on bridge structure to convey water from deck inlets to ends of bridge or down to ground at pier locations. Include piping that is cast into concrete components in the quantity. Bridge drains paid separately under 506-3. Show location w/ quantity block in plans.

Related Items
Required 506-3  Recommended

Forms
Design SHTabQuant COMP 700-050-03

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 506-2 BRIDGE DRAIN PIPE LF

Notes

506-3 BRIDGE DRAINS

Unit EA Accuracy Each PlanQuantity? yes

Notes
Details
Intended for payment for deck inlets located on bridge structure. Bridge piping paid under 506-2. Deck scuppers holes cast into bridge deck should not be paid for under this item unless they consist of a casting. Pay for deck scupper holes under superstructure concrete (add pay item note). Show location w/ quantity block in plans.

Related Items
Required 506-2  Recommended

Forms
Design SHTabQuant COMP 700-050-03

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status
## BRIDGE DRAINS

### Notes

**Unit** SF; M2  
**Accuracy** Square Foot; 10th of a Square Meter  
**PlanQuantity?** yes

### ALUMINUM SIDEWALK FLOOR

**Unit** SF; M2  
**Accuracy** Square Foot; 10th of a Square Meter  
**PlanQuantity?** yes

**Details** Intended for aluminum sidewalks usually on bascule leaves. Show location w/ quantities block in plans.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
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<td>Construction</td>
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**Documentation**

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<tr>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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</tbody>
</table>

**References**

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<thead>
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<th>PPM Chapter</th>
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</thead>
<tbody>
<tr>
<td>Standards</td>
<td>Specifications</td>
</tr>
</tbody>
</table>

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)** 7, 13

---

## MOVABLE BRIDGE ELECTRICAL EQUIPMENT

**Unit** LS/LS  
**Accuracy** Lump Sum  
**PlanQuantity?** yes

**Details** For movable bridges only. Clearly define scope of work in plans and specifications. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

NEW- FURNISH & INSTALL: Includes complete, new, electrical system for bascule bridge. Includes all electrical equipment and appurtenances (emergency generator, submarine cable, motors, control console, brakes, programmable controller, motor control center, drive system, CCTV system, navigation lights, gates, signals, and all other equipment/service) required for a complete installation on bascule bridges.

EXISTING- ADJUST/MODIFY/REHAB: Includes all electrical system equipment, components, and/or work not paid for separately under other items. May include furnishing/wiring/installation of new or rehab electrical components.

REMOVAL: Clearly identify which items are to be stockpiled or disposed. For stockpiled
items, include a location for delivery (define limits of contractor's work) and a contact name.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
<td><strong>Design</strong></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
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**Documentation**

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<td><strong>Construction</strong></td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
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</table>

**References**

| PPM Chapter |
| Other |
| Standards |
| Specifications |

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 508-1 A

**MOVABLE BRIDGE ELECTRICAL EQUIPMENT**

LS/LS

A= Operation

1 (New- Furnish & Install)

4 (Relocate)

5 (Existing- Adjust/Modify/Rehab)

6 (Remove & Dispose) Note: Contractor takes ownership

7 (Remove & Stockpile/Salvage) Note: DOT/maintaining agency retains ownership

**Notes**

- **Details**

  For use on movable bridges only. This item may be used with 508-1 for rehab bridge projects. (DO NOT use on New Bridge Construction.) Clearly define scope of work in plans and specifications. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

  FURNISH & INSTALL: Furnish & Install new gates on an existing bascule bridge.

  ADJUST/MODIFY/REHAB: Includes all work and materials necessary for rehab of existing gates. Include pay item 508-1 for other electrical system work.

- **Related Items**

<table>
<thead>
<tr>
<th>Required</th>
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</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
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</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

  | **Design** | **Construction** |
  | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

  **References**

  | PPM Chapter |
  | Other |

---

Details and Structure: Chapters 11 to 20
Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s)

Status

Struct.  508- 2- A  MOBILE BRIDGE GATE  AS

A= Operation
1 (Furnish & Install)
4 (Relocate)
5 (Adjust/Modify/Rehab)
6 (Remove & Dispose) Note: Contractor takes ownership
7 (Remove & Stockpile/Salvage) Note: DOT/maintaining agency retains ownership

Notes

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s)

508- 3- A  MOBILE BRIDGE SIGNAL

Unit AS  Accuracy Assembly  PlanQuantity? yes

Notes

Details

For use on movable bridges only. This item may be used with 508-1 for rehab bridge projects. (DO NOT use on New Bridge Construction.) Clearly define scope of work in plans and specifications. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

FURNISH & INSTALL: Furnish & Install new signals on an existing bascule bridge.

ADJUST/MODIFY/REHAB: Includes all work and materials necessary for rehab of existing signals. Include pay item 508-1 for other electrical system work.

Related Items

Forms
Design SHTabQuant  COMP 700-050-03
Construction Refer to Comp Book

Documentation
Design Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s)

Status

Struct.  508- 3- A  MOBILE BRIDGE SIGNAL  AS

A= Operation
1 (Furnish & Install)
4 (Relocate)
5 (Adjust/Modify/Rehab)
6 (Remove & Dispose) Note: Contractor takes ownership
### MOVABLE BRIDGE EMERGENCY GENERATOR

**Unit**: AS  
**Accuracy**: Assembly  
**Plan Quantity?**: yes

#### Notes

- Includes standby generator system (generator, transfer switch, control panel, etc.) for bascule bridge rehabilitation projects only.
- For new structures, emergency generator is included under 508-1-. Clearly define work in plans and specifications.
- Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

#### Related Items

<table>
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#### Documentation

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
- **Construction**: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

#### Status

- **Struct.**: 508-72- A  
- **MOVABLE BRIDGE EMERGENCY GENERATOR**  
- **AS**

  A = 1 (Furnish & Install)  
  2 (Furnish)  
  3 (Install)  
  4 (Remove)

#### Notes

### SUBMARINE CABLE ASSEMBLY

**Unit**: LS/LF; LS/M1  
**Accuracy**: Lump Sum (Linear Foot); Lump Sum (Meter)  
**Plan Quantity?**: yes

#### Notes

- Intended for sub-aqueous cable. For bascule bridge rehabilitation projects only or fixed new bridge projects.
- For new bascule bridge projects, submarine cable is included under 508-1-. Clearly define work in plans and specifications. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

#### Related Items

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<td>COMP 700-050-05</td>
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</table>

**Details and Structure**: Chapters 11 to 20
### Structural 508-73- A  SUBMARINE CABLE ASSEMBLY LS/LF

#### Notes

**A** =  
1. Furnish & Install  
2. Furnish  
3. Install  
4. Remove

#### Status

**Struct.** 508-73- A  SUBMARINE CABLE ASSEMBLY LS/LF

#### References

**PPM Chapter**  
**Other**  
**Standards**  
**Specifications**

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)** 7, 13

### Structural 508-76- A  MOVABLE BRIDGE REHAB- SPAN MOTORS AND CONTROLLERS

#### Notes

Includes span drive motors and speed controllers for bascule bridge rehabilitation only. For new structures, span motors are included under 508-1-. Clearly define work in plans and specifications. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

#### Related Items

**Required**  
**Recommended**

**Forms**  
**Design**  
SHTabQuantLS  
COMP 700-050-05  
Refer to Comp Book

**Documentation**  
**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**  
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

#### References

**PPM Chapter**  
**Other**  
**Standards**  
**Specifications**

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)** 7, 13

#### Status

**Struct.** 508-76- A  MOVABLE BRIDGE REHAB- SPAN MOTORS AND LS/LS

Details and Structure: Chapters 11 to 20
CONTROLLERS

A =
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Recondition)

Notes

### 508- 77- A MOVABLE BRIDGE REHAB- PROGRAMMABLE LOGIC CONTROLLER

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td></td>
<td></td>
<td></td>
<td>no</td>
</tr>
<tr>
<td>Details</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes programmable logic controllers (controllers, I/O racks, power supplies, programming) for bascule bridge rehabilitation only. For new structures, logic controllers are included under 508- 1-. Clearly define work in plans and specifications. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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<tr>
<td>Documentation</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</table>

**References**
- PPM Chapter
- Other: SDG’s Chapter 8

**Standards Specifications**

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)** 7, 13

**Status**

**Struct.** 508- 77- A MOVABLE BRIDGE REHAB- PROGRAMMABLE LOGIC CONTROLLER

A = 1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Programming)

Notes

### 508- 78- A MOVABLE BRIDGE REHAB- LIMIT SWITCHES AND TRANSDUCERS

<table>
<thead>
<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
<th>Lump Sum</th>
<th>PlanQuantity?</th>
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<tbody>
<tr>
<td>Notes</td>
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</tr>
<tr>
<td>Details</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes limit switches and transducers for bascule bridge rehabilitation only. For new structures, limit switches and transducers are included under 508- 1-. Contact State</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Details and Structure: Chapters 11 to 20
Structures Design for boiler plate specification to be modified as required for project specifics.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuantLS</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
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<table>
<thead>
<tr>
<th>Documentation</th>
<th>Design</th>
<th>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>References</th>
<th>PPM Chapter</th>
<th>SDG’s Chapter 8</th>
</tr>
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</table>

Plan Detail and/or Tech Spec Required

<table>
<thead>
<tr>
<th>Prep &amp; Doc Manual Chapter(s)</th>
<th>7, 13</th>
</tr>
</thead>
</table>

Status

Struct. 508-78- A MOVABLE BRIDGE REHAB- LIMIT SWITCHES AND TRANSDUCERS

A =
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Programming)

Notes

Includes control console and associated equipment (switches, indicating lights, relays, etc.) for bascule bridge rehabilitation only. For new structures, control console is included under 508-1-. Clearly define work in plans and specifications. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
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</table>

<table>
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<tr>
<th>Documentation</th>
<th>Design</th>
<th>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</th>
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<td></td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>References</th>
<th>PPM Chapter</th>
<th>SDG’s Chapter 8</th>
</tr>
</thead>
</table>

Details and Structure: Chapters 11 to 20
Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

---

Status

Struct.  508- 79-  A  MOVABLE BRIDGE REHAB- CONTROL CONSOLE  EA

A =
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)

---

Notes

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

---

508- 80- A  MOVABLE BRIDGE REHAB- BRAKE SYSTEM

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

Notes

Includes brake systems (brake shoes, brake drums, brake operators) for bascule bridge rehabilitation only. For new structures, brake system is included under 508- 1-. Clearly define work in plans and specifications.
Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

Related Items

Required  Recommended

Forms
Design  SHTabQuant  COMP 700-050-03
Construction  Refer to Comp Book

Documentation
Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter  Other  SDG’s Chapter 8

Standards  Specifications

---

Status

Struct.  508- 80- A  MOVABLE BRIDGE REHAB- BRAKE SYSTEM  EA

A =
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Recondition)

---

Notes

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

---

508- 82- A  MOVABLE BRIDGE REHAB- CONTROL PANEL / MOTOR CONTROLLER

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

Details and Structure: Chapters 11 to 20
Includes motor control center and starters for bascule bridge rehabilitation only. For new structures, control panel or motor controller is included under 508-1-. Clearly define work in plans and specifications. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

Required  Recommended

---

Required  Recommended

---

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)  6, 7, 13

---

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Recondition)
5 (Replace)

Includes drive systems (motor(s), variable speed drive, shop testing) for bascule bridge rehabilitation only. For new structures, integrated drive system is included under 508-1-. Contact State Structures Design for boiler plate specification to be modified as required for project specifics.

Related Items

Required  Recommended

---

Required  Recommended

---

508-83-ABB  MOVABLE BRIDGE REHAB- INTEGRATED DRIVE SYSTEM

Unit  AS  Accuracy  Assembly  PlanQuantity?  no
508-83-ABB  MOVABLE BRIDGE REHAB- INTEGRATED DRIVE SYSTEM

A = Operation
1 (Furnish & Install)
2 (Replace)
3 (Recondition)
4 (Repair)

BB = Drive Type
01 (25 kW Or Less)
02 (26 - 40 kW)
03 (41 - 60 kW)
04 (61 - 80 kW)
05 (81 - 115 kW)
06 (116 - 155 kW)
07 (156 - 190 kW)
08 (191 Or Larger)

Notes
Plan Detail and/or Tech Spec Required
PPM Chapter
7, 13

Transportation
Specifications

Status

510-1-NAVIGATION LIGHTS- FIXED BRIDGE

Unit  LS/LS; EA  Accuracy  Lump Sum; Each  Plan Quantity?  yes/no

Notes
Includes work related to the navigation lights and accessories for fixed bridges, including the fender and channel lights. For bascule bridges, navigation lights included under 508-1.

FINAL:
LUMP SUM: No calculations required unless item is to be adjusted. All calculations and documentation of adjustments, in accordance with the Specifications, are required.
EACH: Final quantity must be recorded in space provided on summary sheet in the plans. All changes must be shown on final plan sheets.

Related Items

Required  Recommended
Forms  Design  SHTabQuantLS  COMP 700-050-05
Construction  Refer to Comp Book

Documentation
Design  LUMP SUM ITEMS: Use a quantity of 1. No form required. Locate or define the scope of work involved on the plans.
EACH ITEMS: Location must be summarized on the plans.

Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards  Index 21220
Specifications

Details and Structure: Chapters 11 to 20
### Topic No. 600-000-002

**Basis of Estimates**

2007 Edition

August 27, 2007

---

#### 510-1-A Navigation Lights - Fixed Bridge LS/LS; EA

**Notes**

- **A:** Blank (Navigation Lights) LS/LS
- **3:** (Piers) EA

---

#### 512-1-A Movable Bridge - Control House LS/LS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS/LS</td>
<td>Lump Sum</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**

Intended for the complete cost of control house for bascule bridges. Include cost of foundation under separate pay items (piling, shaft, etc.). Contact State Structures Design for boiler plate specification to be modified as required for project specifics. Clearly show limits in plans for payment purposes. Include complete bar lists for control house in the plans, including cost of reinforcing steel for walls and floors.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuantLS</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Documentation**

- **Design:** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
- **Construction:** Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Prep & Doc Manual Chapter(s)** 7, 13

---

#### 512-71-A Movable Bridge Plumbing System EA

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Related Items**

<table>
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<tr>
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<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
</tbody>
</table>

**Prep & Doc Manual Chapter(s)** 7, 13

---

Details and Structure: Chapters 11 to 20
**514-71- A**  
**FILTER FABRIC, PLASTIC**

**Unit**: SY; M2  
**Accuracy**: Square Yard; Square Meter  
**PlanQuantity?**: no

**Details**  
Roadway Design and Structures Design should coordinate when this item is used. Intended for Subsurface Drainage or Stabilization applications, as detailed in Section 514 of Specifications.

**Related Items**  
**Required**: SHTabQuant  
**Recommended**: COMP 700-050-01

**Forms**  
**Design**: Refer to Comp Book  
**Construction**: Refer to Comp Book

**Documentation**  
**Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
**Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**  
**PPM Chapter**: 6, 7, 13  
**Other**:  
**Standards**: Index No. 199  
**Specifications**:  
**Prep & Doc Manual Chapter(s)**: 6, 7, 13

**Status**  
**Struct.**: 514-71- A  
**FILTER FABRIC, PLASTIC**  
**SY**

A =  
1 (Subsurface)  
2 (Stabilization)
514-72 - LINER IMPERMEABLE PVC

<table>
<thead>
<tr>
<th>Notes</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tech Spec/Details to consider include: materials, construction requirements, method of measurement and basis of payment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Forms</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td>Recommended</td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>References</th>
<th>PPM Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Standards Specifications</td>
</tr>
</tbody>
</table>

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 514-72 - LINER IMPERMEABLE PVC SY
Notes

515-1 - A PIPE HANDRAIL - GUIDERRAIL

<table>
<thead>
<tr>
<th>Notes</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>To be used as detailed on Design Standards Index 870 (aluminum) or 880 (steel). Two pipe handrail is generally used in locations where drop-off is between 10&quot; and 30&quot;. Additional applications may include &quot;steering&quot; pedestrians next to a sidewalk or out of a parking lot (with or without drop-off). For use next to drop-off greater than 30&quot;, refer to Index 800 series and pay items 460-70 or 515-2. Not valid for use on bridge.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Forms</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.</td>
</tr>
<tr>
<td>Recommended</td>
<td>Construction</td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>References</th>
<th>PPM Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
Standards  
Index No. 870 (aluminum) or 880 (steel) only

Specifications  

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s)  
6, 7, 13

---

**Struct.**  
515-1- A  
PIPE HANDRAIL- GUIDERAIL  

A =  
1 (Steel) per Index 880  
2 (Aluminum) per Index 870  
5 (PVC)*

Notes  
*Plan Details and/or Tech Spec required for PVC materials. Consider weather, UV requirements, etc.

---

515-2-ABB  
PEDESTRIAN/BICYCLE RAILING

Unit  
LF; M1

Accuracy  
Linear Foot; 10th of a Meter

PlanQuantity?  
yes

Notes  
To be used for pedestrian railing next to drop-offs greater than 30”. Use in accordance with Index 850 and 860; English standards may be used on metric projects. These specific rails replace the current two rail system, and are intended to be used when there is a drop-off next to a pedestrian or bicycle facility which must be protected. These rails are not intended for use on top of traffic barriers or where vehicle containment is required.  
For drop-off locations less than 30", consider item 515-1. For other railings, refer to Index series 800 and pay item 460-70-xxa.

Related Items  
Required  
Recommended

Forms  
Design  
SHTabQuant  
COMP 700-050-03

Construction  
Refer to Comp Book

Documentation  
Design  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction  
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References  
PPM Chapter  
Vol 1, Section 8.8

Other  

Standards  
Index No. 850 or 860

Specifications  

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s)  

---

Status  

**Struct.**  
515-2-ABB  
PEDESTRIAN/BICYCLE RAILING  

A = Required Material Types  
1 (Non Specified)  
2 (Steel Only)  
3 (Aluminum Only)
4 (Special)*
BB = Rail Type
01 (42" Picket Railing)
02 (54" Picket Railing)
03 (Special)*

Notes  **"Special" will require plan details and/or Tech Spec**

<table>
<thead>
<tr>
<th>519- 78-</th>
<th>BOLLARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>EA</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Each</td>
</tr>
<tr>
<td>Plan Quantity?</td>
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</tr>
</tbody>
</table>

Notes

Details
Tech Spec should indicate that this is a plan quantity item. Details to consider include: materials, methods and/or construction requirements. Intended for posts placed at the ends of pedestrian or special-use facilities. Space as necessary to restrict certain vehicles, while allowing others.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

Documentation

| Design | Refer to Comp Book |

| Construction | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor. |

| Construction | Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances. |

References
PPM Chapter
Other

Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

Status

Struct.  519- 78-  BOLLARDS  EA

Notes

<table>
<thead>
<tr>
<th>520- 1- AA</th>
<th>CONCRETE CURB AND GUTTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>LF; M1</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td>Plan Quantity?</td>
<td>yes</td>
</tr>
</tbody>
</table>

Notes

Details
Includes construction of concrete curb and/or curb and gutter, and all forming, contraction joint forming, expansion joint construction, steel reinforcement, finishing and backfilling and compaction. Deduct inlet top lengths as shown in the standards from the length of curb and gutter. Length to be measure along the face of the curb. Cost of asphalt curb pad, and additional curb thickness required, to be included in the cost of curb and gutter.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Forms</td>
<td>COMP 700-050-02 (with deductions) or 700-050-03 (no deductions)</td>
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</table>

Details and Structure: Chapters 11 to 20
**Struct.  520-1- AA CONCRETE CURB AND GUTTER LF**

**Notes**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter

Other

Standards Index No. 300

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Related Items**

**Forms**

Required Design SHTabQuant

Recommended COMP 700-050-02 (with deductions) or 700-050-03 (no deductions)

**Notes**

Per specification, asphalt curb pad will be included in unit price, when detailed in the plans.

**Details**

"Special" will require plan details and/or Tech Spec.

**520-2- AA CONCRETE CURB**

**Unit** LF; M1

**Accuracy** Linear Foot; 10th of a Meter

**PlanQuantity?** yes

**Notes**

Per specification, asphalt curb pad will be included in unit price, when detailed in the plans.

**Details**

**Required**

Design SHTabQuant

**Recommended**

COMP 700-050-02 (with deductions) or 700-050-03 (no deductions)

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter

Other

Standards Index No. 300

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Related Items**

**Forms**

Required Design SHTabQuant

Recommended COMP 700-050-02 (with deductions) or 700-050-03 (no deductions)

**Notes**

Per specification, asphalt curb pad will be included in unit price, when detailed in the plans.

**Details**

"Special" will require plan details and/or Tech Spec.

**520-2- AA CONCRETE CURB**

**Unit** LF; M1

**Accuracy** Linear Foot; 10th of a Meter

**PlanQuantity?** yes

**Notes**

Per specification, asphalt curb pad will be included in unit price, when detailed in the plans.

**Details**

**Required**

Design SHTabQuant

**Recommended**

COMP 700-050-02 (with deductions) or 700-050-03 (no deductions)

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter

Other

Standards Index No. 300

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Related Items**

**Forms**

Required Design SHTabQuant

Recommended COMP 700-050-02 (with deductions) or 700-050-03 (no deductions)

**Notes**

Per specification, asphalt curb pad will be included in unit price, when detailed in the plans.

**Details**

"Special" will require plan details and/or Tech Spec.

**520-2- AA CONCRETE CURB**

**Unit** LF; M1

**Accuracy** Linear Foot; 10th of a Meter

**PlanQuantity?** yes

**Notes**

Per specification, asphalt curb pad will be included in unit price, when detailed in the plans.

**Details**

"Special" will require plan details and/or Tech Spec.
### 520-3- VALLEY GUTTER, CONCRETE

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### 520-4- CONCRETE GUTTER, SPECIAL

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520-5 AB  CONCRETE TRAFFIC SEPARATOR

Notes
Includes construction of traffic separator in 4, 6, and 8.5' (1.2, 1.8, and 2.6 meter) widths. Includes all forming, contraction joint forming, expansion joint construction, steel reinforcement, finishing and backfilling and compaction. Include the length of the nose when calculating the linear feet (meters). Refer to Plans Preparation Manual for proper use.

For separator of variable width, consider item 520-70, paid per area.

Required
- Design: SHTabQuant

Recommended
- Design: COMP 700-050-02 (with deductions) or 700-050-03 (no deductions)

Related Items
- Forms
  - Design: SHTabQuant

Details
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

PLAN QUANTITY will be basis of payment to the Contractor.

Documentation
- Design: Refer to Comp Book
- Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
- Index No. 300, 302, 212, 213

Other
- Standards
  - Index No. 300

Specifications

Prep & Doc Manual Chapter(s)
- 6, 7, 13

Struct.
- 520-4
- CONCRETE GUTTER, SPECIAL
- LF

Details and Structure: Chapters 11 to 20
520- 6-  
**SHOULDER GUTTER, CONCRETE**  

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<th>Accuracy</th>
<th>Linear Foot; 10th of a Meter</th>
<th>PlanQuantity?</th>
<th>yes</th>
</tr>
</thead>
</table>

**Notes**  
NOTE: A = 1 Thru 6 Valid For Widths Of 4', 6' And 8.5' Only; B = 1, 2 Or 6 Only.  
Selected items blocked 6/30/2001

**Details**  
Deduct inlet top lengths as shown in the standards from the length of curb and gutter. For Type S, length to be measured along the face of the curb.

**Related Items**  
**Required** | **Recommended**  
--- | ---  
Design | SHTabQuant | COMP 700-050-02 (with deductions) or 700-050-03 (no deductions)  

**Construction**  
Refer to Comp Book

**Documentation**  
**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**  
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**  
**PPM Chapter**  
Other

**Standards**  
Index No. 220, 284, 300

**Specifications**  

**Status**

**Struct.**  
520- 6-  
SHOULDER GUTTER, CONCRETE  
LF

**Notes**

520- 70-  
**CONCRETE TRAFFIC SEPARATOR, SPECIAL- VARIABLE WIDTH**  

<table>
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<th>Square Yard; Square Meter</th>
<th>PlanQuantity?</th>
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</table>

**Notes**

Includes construction of traffic separator in variable width, as indicated in the plans. Refer to Plans Preparation Manual for proper use. Consider item 520-5 for constant width separator, paid per length

**Related Items**  
**Required** | **Recommended**  
--- | ---  
Design | SHTabQuant | COMP 700-050-01  

**Forms**  
**Construction**  
Refer to Comp Book

**Documentation**  
**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**  
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

Details and Structure: Chapters 11 to 20
521- 1- A  MEDIAN CONCRETE BARRIER WALL

Unit LF; M1  Accuracy Linear Foot; 10th of a Meter  PlanQuantity? yes

Notes
To be used when calling for concrete barrier wall that is to be located in a median (double face or full wall barrier); see 521- 72- (2521- 72- ) for shoulder wall. Consists of construction of plain or reinforced barrier wall. The contractor may request approval for precast construction in lieu of cast-in-place.

Details
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor. Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

521- 5- A  CONCRETE TRAFFIC RAILING- BRIDGE

Unit LF; M1  Accuracy Linear Foot; 10th of a Meter  PlanQuantity? yes

Notes
Details and Structure: Chapters 11 to 20
Notes

Details

Items to be used in accordance with Standard Indexes. If any modification is made to a standard barrier, the "Special" pay item should be used. Details for any non-standard barrier must be submitted to the Structures Design Office for approval, due to crash testing requirements.

Include barriers located on approach slabs in this item.

Standard Indexes:

- Index 420 - 32" F-Shape
- Index 425: 42" F-Shape
- Index 421: 32" Median, Double Face
- Index 423: 32" Vertical Face
- Index 422: 42" Vertical Face
- Index 424: Corral With Curb
- Index 424: Corral W/O Curb
- Index 480 thru Index 483: Retrofit-Vertical Face
- Index 5210: F-Shaped with Sound Barrier Wall, 8'Ht.

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Specifications

- Design: Refer to Comp Book
- Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

- PPM Chapter
- SDG 6.7
- Other: See detail for index numbers 420, 421, 422, 423, 424, 425, 480, 481, 482, 483, 5210

Status

Struct. 521-5- A

CONCRETE TRAFFIC RAILING- BRIDGE

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<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td>yes</td>
</tr>
</tbody>
</table>

Notes

*See details above for use of "Special" item
Notes
Details
Intended for pedestrian/ bicycle railings located on bridge or on retailing walls. Includes cost of concrete portion of the parapet (including cost of sidewalk as applicable). Railing mounted on the top of parapet are to be paid for separately.
Show location w/ quantity block on bridge superstructure sheets and wall sheets as required.
When Index 800, Pedestrian Bicycle Railing is utilized, Pay Item 460-70-3 also Required

Related Items
Required
Forms
Design
SHTabQuant

Recommended
Construction
COMP 700-050-03
Refer to Comp Book

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
PLAN QUANTITY will be basis of payment to the Contractor.

Construction
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
Other

Standards
Index No. 820
Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct.
521- 6- A
CONCRETE PARAPET
LF

Unit
LF; M1
Accuracy
Linear Foot; 10th of a Meter
PlanQuantity?
yes

Notes
**“Special” will require plan details and/or Tech Spec

521- 7- AA
CONCRETE TRAFFIC RAILING BARRIER- RETAINING WALL SYSTEM

Notes
Details
Intended for 8' retaining wall mounted sound barrier with junction slab.
Show location with quantity block on wall sheets

Related Items
Required
Forms
Design
SHTabQuant

Recommended
Construction
COMP 700-050-03
Refer to Comp Book

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
PLAN QUANTITY will be basis of payment to the Contractor.

Construction
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
Other

Struct.
521- 7- AA
CONCRETE TRAFFIC RAILING BARRIER- RETAINING WALL SYSTEM

Unit
LF; M1
Accuracy
Linear Foot; 10th of a Meter
PlanQuantity?
yes
Standards  Index 415
Specifications  
Prep & Doc Manual Chapter(s)  

Status  
Struct.  521- 7- AA  CONCRETE TRAFFIC RAILING BARRIER- RETAINING WALL SYSTEM  

A =  
1 (F Shape with Sound Barrier Wall 8’ Ht.)  

Notes  

521- 8- AA  CONCRETE TRAFFIC RAILING BARRIER- RETAINING WALL SYSTEM, MOUNTED WITH SLEEPER SLAB  

Unit  LF; M1  Accuracy  Linear Foot; 10th of a Meter  PlanQuantity?  yes  

Notes  

Details  
Item to be used in accordance with Standard Indexes. Show location with quantity block in wall plans.  
Sometimes used with item 521-5- A for traffic railing systems that extend onto bridge.  

Related Items  
Required  Recommended  
Forms  
Design  SHTabQuant  COMP 700-050-03  
Construction  Refer to Comp Book  

Documentation  
Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).  

References  
PPM Chapter  
Other  
Standards  Index 420 & 5300-32” F-Shape  
Index 425 & 5300-42” F-Shape)  
Index 423 & 5300-32” Vertical Face  
Index 422 & 5300-42” Vertical Face  
Index 424 & 5300-Corral With Curb  

Specifications  
Prep & Doc Manual Chapter(s)  

Status  
Struct.  521- 8- AA  CONCRETE TRAFFIC RAILING BARRIER- RETAINING WALL SYSTEM, MOUNTED WITH SLEEPER SLAB  

AA =  
1 (32” F-Shape)  
2 (42” F-Shape)  
3 (32” Vertical Face)  
4 (42” Vertical Face)  
5 (Corral With Curb)  
20 (Special)*  

Notes  
**Special” will require plan details and/or Tech Spec

Details and Structure: Chapters 11 to 20  
Page 208 of 428
### 521-72- AA  SHOULDER CONCRETE BARRIER WALL

| Unit       | LF; M1       | Accuracy   | Linear Foot; 10th of a Meter | PlanQuantity? | yes |

#### Notes

**Details**

Intended for rigid shoulder roadway barriers with 8’-14’ shoulder mounted sound barrier walls and box culvert mounted barriers. Use 521-1-(2521-1-) for median wall.

#### Related Items

<table>
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<tr>
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<tr>
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<td>COMP 700-050-03</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
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#### Documentation

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

#### References

**PPM Chapter**

**Other**

**Standards**

Index No. 410, 411, 5210, 5211, 5213, 5214, 5215

**Specifications**

Prep & Doc Manual Chapter(s) 6, 7, 13

#### Status

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<th>SHOULDER CONCRETE BARRIER WALL</th>
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AA =
- 2 (Box Culvert)
- 3 (Rigid - Shoulder) 32”, Index 410
- 4 (Rigid - Retaining)
- 5 (Rigid - Curb & Gutter)
- 6 (Plain - Shoulder)
- 7 (Rigid - Shoulder, With 8’ Sound Wall)
- 10 (Rigid Shoulder 42”) Index 411
- 11 (Rigid Shoulder 54”) Index 411
- 20 (F-Shaped, With 8’ Sound Wall)
- 21 (F-Shaped, With 10’ Sound Wall)
- 22 (F-Shaped, With 12’ Sound Wall)
- 23 (F-Shaped, With 14’ Sound Wall)

#### Notes

**521-73-**  CONCRETE BARRIER WALL- REMOVAL

| Unit       | LF; M1       | Accuracy   | Linear Foot; 10th of a Meter | PlanQuantity? | no |

#### Notes

**Details**

This work normally paid for under Clearing and Grubbing or removal of existing structures. Read standards and specifications carefully before use.

To be used for Roadway barrier only. For bridge barrier, refer to Structures Standards.

#### Related Items

<table>
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</table>

**Notes**

Details and Structure: Chapters 11 to 20
522-  1-  

CONCRETE SIDEWALK, 4" THICK

Unit  SY; M2  Accuracy  Square Yard; Square Meter  PlanQuantity?  yes

Notes
Consists of construction of plain or reinforced sidewalk. Includes all materials, foundation preparation, joint forming (or sawing), placing, finishing and curing. Specifically excludes excavation.
Sidewalk 6" (0.15 meter) is used in traffic-bearing situations, i.e., driveways.
Detectable Warning for sidewalk ramps is incidental to the cost of new sidewalk; for retrofit of ramps, refer to Section 527 of the specifications.
Additional details on Index 310.
For designs near significant trees, consult with Environmental Management Office.

Related Items
Required  Recommended

Forms
Design  SHTabQuant  COMP 700-050-03
Construction  Refer to Comp Book

Documentation
Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
Construction  Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
Other
Standards  Index No. 282, 304,310, 515
Specifications
Prep & Doc Manual Chapter(s)  6, 7, 13

Status
Struct.  522-  1-  CONCRETE SIDEWALK, 4" THICK  SY
### 522- 2- CONCRETE SIDEWALK, 6" THICK

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<th>Square Yard; Square Meter</th>
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#### Notes
Refer to 522-1 for details.

#### Related Items
- **Required** Design: SHTabQuant
- **Recommended** Construction: COMP 700-050-01

#### Forms
- **Design** Documentation: Refer to Comp Book

#### References
- **PPM Chapter**
- **Other Standards** Index No. 282, 304, 310

#### Status
- **Struct. 522- 2-** CONCRETE SIDEWALK, 6" THICK SY

#### Notes

### 522- 73- EXPOSED AGGREGATE TOPPING- SIDEWALK

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#### Notes

#### Related Items
- **Required** Design: SHTabQuant
- **Recommended** Construction: COMP 700-050-01

#### Forms
- **Design** Documentation: Refer to Comp Book

#### References
- **PPM Chapter**
- **Other Standards**
- **Specifications**

#### Status
- **Inactive Structure**

#### Notes

---

Details and Structure: Chapters 11 to 20
### 523- 1- A  PATTERNED / TEXTURED PAVEMENT

| Unit       | SY; M2 | Accuracy | Square Yard; Square Meter | PlanQuantity? | no |

**Notes**

Includes placement of a patterned (colored) and/or textured (imprinted, stamped) treatment. Work/materials (coloring, coating, etc.) for treatment included under this item. Underlying asphalt/concrete material paid for separately.

**Related Items**

**Required**

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**Forms**

Refer to Comp Book

**Documentation**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Status**

- **Struct.** 523- 1- A  PATTERNED / TEXTURED PAVEMENT  SY

A= Underlying Pavement Material

1 (Asphalt)

2 (Concrete)

**Notes**

### 524- 1- A  CONCRETE DITCH PAVEMENT (NON-REINFORCED)

| Unit       | SY; M2 | Accuracy | Square Yard; Square Meter | PlanQuantity? | yes |

**Notes**

Consists of construction of concrete pavement in the flow channel of drainage ditches. Includes excavation below the finished grade, refilling and tamping, and disposal of surplus material. Also includes all costs of providing joints and weep holes and of furnishing and placing the filter fabric.

Refer to Index 281 for additional information.

**Related Items**

**Required**

<table>
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**Recommended**

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<tbody>
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**Forms**

Refer to Comp Book

**Documentation**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Final pay quantity will be PLAN QUANTITY with proper consideration for
Specification tolerances.

**References**

**PPM Chapter**

**Other**

**Standards** Index No. 281

**Specifications**

**Prep & Doc Manual Chapter(s)** 6, 7, 13

---

**Status**

**Struct.** 524-1- A

**CONCRETE DITCH PAVEMENT (NON-REINFORCED)**

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<td>4 (6&quot;)</td>
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**Notes**

**Details**

Consists of construction of concrete pavement in the flow channel of drainage ditches. Includes excavation below the finished grade, refilling and tamping, and disposal of surplus material. Also includes all costs of providing joints and weep holes and of furnishing and placing the filter fabric.

**Related Items**

**Required**

**Recommended**

**Forms**

**Design** SBDTPS; SBDitchPvmt

**Construction** Refer to Comp Book

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

**Other**

**Standards** Index No. 281

**Specifications**

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 524-1- AB

**CONCRETE DITCH PAVEMENT (REINFORCED)**

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<td>3 (5&quot;)</td>
</tr>
<tr>
<td>4 (6&quot;)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 (Reinforced)</td>
</tr>
</tbody>
</table>

---

**Notes**

**Details**

Consists of construction of concrete pavement in the flow channel of drainage ditches. Includes excavation below the finished grade, refilling and tamping, and disposal of surplus material. Also includes all costs of providing joints and weep holes and of furnishing and placing the filter fabric.

**Related Items**

**Required**

**Recommended**

**Forms**

**Design** SBDTPS; SBDitchPvmt

**Construction** Refer to Comp Book

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

**Other**

**Standards** Index No. 281

**Specifications**

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 524-1- AB

**CONCRETE DITCH PAVEMENT (REINFORCED)**

<table>
<thead>
<tr>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (3&quot;)</td>
</tr>
<tr>
<td>2 (4&quot;)</td>
</tr>
<tr>
<td>3 (5&quot;)</td>
</tr>
<tr>
<td>4 (6&quot;)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 (Reinforced)</td>
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</tbody>
</table>
### 524- 2- A  CONCRETE SLOPE PAVEMENT (NON-REINFORCED)

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY; M²</td>
<td>Square Yard; Square Meter</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**
- Intended for non-reinforced slope pavement to protect bridge fill slopes, to line flow channels, and drainage ditches. Refer to 524- 1-xxa for details.

**Related Items**
- **Required Forms**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book
- **Recommended Forms**
  - Design: COMP 700-050-01

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
- **Construction**
  - Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Status**
- **Struct.**
  - 524- 2- A  CONCRETE SLOPE PAVEMENT (NON-REINFORCED)  SY

A =
- 1 (3"")
- 2 (4"")
- 3 (5"")
- 4 (6"")

**Notes**

### 524- 2- AB  CONCRETE SLOPE PAVEMENT (REINFORCED)

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY; M²</td>
<td>Square Yard; Square Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**
- Intended for reinforced slope pavement to protect bridge fill slopes, to line flow channels, and drainage ditches. Refer to 524- 1-xxa for details.

**Related Items**
- **Required Forms**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book
- **Recommended Forms**
  - Design: COMP 700-050-01

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).
### Standards

**Struct. 524-2-AB**

**CONCRETE SLOPE PAVEMENT (REINFORCED)**

- **A** =  
  1 (3")  
  2 (4")  
  3 (5")  
  4 (6")  
- **B** =  
  9 (Reinforced)

### Notes

- **525-1-** **ASPHALTIC CONCRETE CURB**

  **Unit**: LF; M1  
  **Accuracy**: Linear Foot; 10th of a Meter  
  **PlanQuantity?**: yes

- **Not intended for temporary or MOT applications. Use in accordance with Index 300.**

- **Related Items**
  - **Forms**
    - **Design**: SHTabQuant  
    - **Construction**: Refer to Comp Book
  - **Documentation**
    - **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
    - **Construction**: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

### References

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **Prep & Doc Manual Chapter(s)**

### Status

**Struct. 526-1-A**

**PAVERS, ARCHITECTURAL**

- **Unit**: SY; M2  
  **Accuracy**: Square Yard; Square Meter  
  **PlanQuantity?**: no

### Notes

- **Details and Structure**: Chapters 11 to 20
Details
Used for roadway and/or sidewalk applications. For Patterned/Textured pavement (asphalt or concrete), use 523 items.

Related Items
<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
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</table>

Documentation
<table>
<thead>
<tr>
<th>Design</th>
<th>Construction</th>
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<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td></td>
</tr>
<tr>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
<td></td>
</tr>
</tbody>
</table>

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct. 526-1-A PAVERS, ARCHITECTURAL SY

A =
1 (Roadway)
2 (Sidewalk)

Notes

<table>
<thead>
<tr>
<th>527-1-</th>
<th>DETECTABLE WARNING ON WALKING SURFACE- RETROFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>EA</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Each</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

Details
This pay item is to be used for applied device on existing ramps only (RETROFIT for previous projects), used in coordination with Index 304. For new installations (ramps constructed under this project/proposal), use index 304; cost of detectable warning for new installations is included in the cost of the sidewalk. Refer to specifications for a complete description of product.

Related Items
<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

Documentation
<table>
<thead>
<tr>
<th>Design</th>
<th>Construction</th>
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<tbody>
<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td></td>
</tr>
<tr>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
<td></td>
</tr>
</tbody>
</table>

References
PPM Chapter
Other
Standards
Index 304
Specifications
Prep & Doc Manual Chapter(s)

Status
Struct. 527-1- DETECTABLE WARNING ON WALKING SURFACE- EA
RETROFIT

Notes

530- 1- RIPRAP- SAND - CEMENT

Unit CY; M3  Accuracy 10th of a Cubic Yard; 10th of a Cubic Meter  PlanQuantity? no

Notes

Details
This item entails the use of sand-cement bags to construct endwalls, provide fill slope protection, and/or provide ditch bottom and ditch slope protection.

FINAL:
Record and show how quantity was arrived at on tabulation form 700-050-56. If sand-cement is proportioned by volume, the sand shall be measured loose in an approved measure prior to mixing with cement. If proportioned by weight, approved scales shall be used for this purpose and the volume shall be calculated using a standard conversion factor for sand of 85 lb/ft³ (1360 kg/m³).

Related Items

Required  Recommended

Forms
Design SHTabQuant  COMP 700-050-04
Construction  700-050-56

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s) 6, 13

Status
Struct.  530- 1- RIPRAP- SAND - CEMENT CY

Notes

530- 3- A RIPRAP- RUBBLE

Unit TN; MT  Accuracy 10th of a Ton; 10th of a Metric Ton  PlanQuantity? no

Notes

Details
To be used for bank and shore, bridge abutment, ditch, and outlet structure protection.
Refer to Drainage Manual for design criteria. Gradation is given in the specifications.
Design quantity is based on the following: W = Vol.s X S.G. X Ww X Vf
W = Weight of Stone
Vol.s = Volume of Stone
S.G. = Specific Gravity
=2.3 for Bank & Shore Protection
=1.9 for Ditch Lining
Ww = 62.4 lb/ft³ (1 MT/M3) Weight of Water
Vf = .90 (Void Factor)
NOTE: remember to convert weight (LB) to (TN) for unit of measure & payment. Final measure, per specifications, will be by railroad scales, truck scales, or barge displacement.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
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<tr>
<td>Construction</td>
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### Forms

<table>
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<td>COMP 700-050-06</td>
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### Documentation

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<th>Construction</th>
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### References

<table>
<thead>
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<th>PPM Chapter</th>
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<tr>
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<td>Construction</td>
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<td>SHTabQuant</td>
<td>COMP 700-050-06</td>
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### Prep & Doc Manual Chapter(s)

| 6, 13 |

### Status

<table>
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<tr>
<th>Struct.</th>
</tr>
</thead>
<tbody>
<tr>
<td>530- 3- A RIPRAP- RUBBLE TN</td>
</tr>
</tbody>
</table>

A =
3 (Bank & Shore)
4 (Ditch Lining)

### Notes

**530- 74- BEDDING STONE**

<table>
<thead>
<tr>
<th>Unit</th>
<th>TN; MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>10th of a Ton; 10th of a Metric Ton</td>
</tr>
</tbody>
</table>

**Notes**

Quantities should be based on 115 lbs per cubic foot (1840 kg per cubic meter).

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>700-050-56</td>
</tr>
</tbody>
</table>

### Forms

<table>
<thead>
<tr>
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<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>SHTabQuant</td>
<td>COMP 700-050-06</td>
</tr>
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### Documentation

<table>
<thead>
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<th>Construction</th>
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<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
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### References

<table>
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<th>PPM Chapter</th>
<th>Other</th>
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<tbody>
<tr>
<td>Design</td>
<td>Construction</td>
</tr>
<tr>
<td>SHTabQuant</td>
<td>COMP 700-050-06</td>
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### Prep & Doc Manual Chapter(s)

| 6, 7, 13 |

### Status

<table>
<thead>
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<tbody>
<tr>
<td>530- 74- BEDDING STONE TN</td>
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</table>

### Notes

Details and Structure: Chapters 11 to 20
### 530-76- A GABION MAT

<table>
<thead>
<tr>
<th>Unit</th>
<th>SY; M2</th>
<th>Accuracy</th>
<th>Square Yard; Square Meter</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

**Details**

Standards under development; contact the State Drainage Office for assistance.

**Related Items**

**Required**

**Recommended**

**Forms**

**Design**

SHTabQuant

COMP 700-050-01

**Construction**

Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other Standards Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

**Struct.**

530-76- A GABION MAT SY

A = Thickness

1 (6" Thick)

2 (9" Thick)

3 (18")

4 (12")

**Notes**

---

### 530-77- A GABION BASKET

<table>
<thead>
<tr>
<th>Unit</th>
<th>SY; M2</th>
<th>Accuracy</th>
<th>Square Yard; Square Meter</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

**Details**

**Related Items**

**Required**

**Recommended**

**Forms**

**Design**

SHTabQuant

COMP 700-050-01

**Construction**

Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other Standards Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

---
Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 6, 7, 13

- **Struct. 530-77- A GABION BASKET SY**
  - **A =**
  - 1 (12" Thick)
  - 2 (36" Thick)
  - 3 (30" Thick)
  - 4 (18" Thick)

**Notes**

- **530-78- RIPRAP- ARTICULATING BLOCK**
  - **Unit** SY; M2
  - **Accuracy** Square Yard; Square Meter
  - **Quantity?** no

**Related Items**

- **Required**
  - SHTabQuant
  - COMP 700-050-01

**Documentation**

- **Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Plan Detail and/or Tech Spec Required**
Prep & Doc Manual Chapter(s)

- **Status** Inactive Structure

- **Struct. 530-78- RIPRAP- ARTICULATING BLOCK SY**

**Notes**

- **534-72-1AA SOUND BARRIERS- INCLUDING FOUNDATION**
  - **Unit** SF; M2
  - **Accuracy** Square Foot; 10th of a Square Meter
  - **Quantity?** yes

**Details**

- Refer to standards for details. Includes the cost of the foundation (auger cast piles or spread footings when called for in the plans), test wall, etc. Area bounded by top of panel, bottom of panel, without deductions for openings; refer to specs for additional information.

- **NOTE:** Sound barriers to be placed on bridges or MSE wall sections are not covered by the new standards or this pay item. Sound barriers in these locations have separate...
standards and pay items. See 521-5, 521-7, and 521-72 for shoulder mounted sound barriers.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms: Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Documentation: Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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### Related Items

<table>
<thead>
<tr>
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<th>Recommended</th>
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<tbody>
<tr>
<td>Forms: Design</td>
<td>SBGDRL; SGuardrail</td>
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<tr>
<td>Documentation: Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
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### Standards

Index No. 5200 to 5206

### Related Items

<table>
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<tbody>
<tr>
<td>Notes: Design</td>
<td>SBGDRL; SBGuardrail COMP 700-050-03</td>
</tr>
<tr>
<td>Documentation: Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
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</table>

### Status

**Struct. 534-72-1AA**

**SOUND BARRIERS- INCLUDING FOUNDATION**

**SF**

A=

01 (Permanent)

02 (Temporary)

03 (Special Wall/Foundation)

### Notes

**GUARDRAIL**

**Unit**

LF; M1

**Accuracy**

Linear Foot; 10th of a Meter

**PlanQuantity?**

yes

### Details

- Consists of the construction of metal guardrail on posts of timber or steel as specified. Panels are 12.5' (3.810 meters) in length. The plan length of a run of guardrail should normally be determined as a multiple of the nominal panel lengths.
- When attaching guardrail to a new or widened bridge railing, the guardrail (including transition and thrie beam panels) is paid for under item 536-1- (2536-1-). The cost of connecting the guardrail to the bridge railing is included in the cost of the guardrail.
- When connecting guardrail to an existing bridge railing or to vertical face rail retrofits, the guardrail (including transition and thrie beam panels) is paid for under the item 536-1- (2536-1-) and item 536-8 is included for the cost of connecting the guardrail to the existing bridge railing.
- Other situations should be noted in the plans.
- Pipe rail/pedestrian safety treatment is to be included in the cost of the guardrail, as indicated on standards. Document locations on summary table. Refer to PPM Vol 2, Chapter 7 for details.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
<td>Forms: Design</td>
<td>339-1 (2339-1)</td>
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<tr>
<td>Documentation: Design</td>
<td>Include in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
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</tbody>
</table>
PLAN QUANTITY will be basis of payment to the Contractor.

**Construction** Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

**PPM Chapter**

**Other**

**Standards** Index No. 400, 402

**Specifications**

**Prep & Doc Manual Chapter(s)** 6, 7, 13

**Status**

**Struct.** 536- 1- AA GUARDRAIL LF

A =
1 (Roadway)
2 (Bridge)
3 (Roadway, Double Face)
4 (Bridge, Double Face)
5 (Roadway, Thrie Beam)
6 (Bridge, Thrie Beam)

8 (Roadway, With Rub Rail)
9 (Roadway, Thrie Beam, Double Face)
10 (Roadway, Weathering Steel)
11 (Roadway, Modified Thrie Beam)
12 (Roadway, Modified Thrie Beam, Double Face)

**Notes**

**536- 2- GUARDRAIL- SHOP BENT PANELS**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accuracy</strong></td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td><strong>PlanQuantity?</strong></td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

When this item is used, item 339- 1 must be used.

**Related Items**

**Required**

**Recommended**

**Forms**

Design SBGDRL; SGBguardrail

Construction Refer to Comp Book

**Documentation**

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

**PPM Chapter**

**Other**

**Standards** Index No. 400

**Specifications**

**Prep & Doc Manual Chapter(s)** 7, 13

**Status**

**Struct.** 536- 2- GUARDRAIL- SHOP BENT PANELS LF

Details and Structure: Chapters 11 to 20
### 536- 7- GUARDRAIL POST, SPECIAL

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>Plan Quantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**
- Used when culvert, pier footing or other concrete structure precludes normal post installation and special fabrication is required. Specifically excludes posts for double-faced median guardrail. When this item is used, item 536- 1-xxa (2536-1-xxa) must be used.

**Related Items**
- **Forms**
  - **Design**
    - Required: SBGDRL; SBGuardrail
    - Recommended: COMP 700-050-03
  - **Construction**
    - Refer to Comp Book

- **Documentation**
  - **Design**
    - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - **Construction**
    - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
  - Index No. 400
- **Specifications**

**Prep & Doc Manual Chapter(s)**
- 7, 13

---

### 536- 8- A GUARDRAIL BRIDGE ANCHORAGE ASSEMBLY

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>Plan Quantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**
- Used when connecting guardrail to an existing bridge. Includes furnishing and installing special end shoes, wood blocks or concrete wedges, concrete posts and necessary hardware. When this item is used, item 536-1 (2536-1) must be used.
- Remove: Plans or specs to indicate disposal or salvage instruction.

**Related Items**
- **Forms**
  - **Design**
    - Required: SBGDRL; SBGuardrail
    - Recommended: COMP 700-050-03
  - **Construction**
    - Refer to Comp Book

- **Documentation**
  - **Design**
    - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - **Construction**
    - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- **PPM Chapter**
- **Other**
- **Standards**
  - Index No. 402
- **Specifications**

---
**GUARDRAIL BRIDGE ANCHORAGE ASSEMBLY**

**Unit**: EA

**Notes**

**GUARDRAIL REMOVAL**

**Unit**: LF; M1

**Accuracy**: Linear Foot; 10th of a Meter

**PlanQuantity?**: no

**Related Items**

**Forms**

- **Required**: Design
- **Recommended**: SBGDRL; SBGuardrail

**Construction**

- **Required**: Refer to Comp Book

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**: Index No. 400

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**: 7, 13

---

**GUARDRAIL POSTS- SPECIAL LENGTH**

**Unit**: EA

**Notes**

**Related Items**

**Forms**

- **Required**: Design
- **Recommended**: SBGDRL; SBGuardrail

**Construction**

- **Required**: Refer to Comp Book

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Struct. 536-76- GUARDRAIL POSTS- SPECIAL LENGTH EA

Notes

536-82- GUARDRAIL ANCHORAGE- CONCRETE BARRIER WALL

Notes

Details
Independent stand alone anchorage to be used between guardrail and a fixed structure.

Related Items
Required Recommended
Forms Design SBGDRL; SBGuardrail COMP 700-050-03
Construction Design Refer to Comp Book
Construction Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Prep & Doc Manual Chapter(s) 7, 13

GBDRL; SBGuardrail COMP 700-050-03 Refer to Comp Book

Details

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

Related Items

Prep & Doc Manual Chapter(s) 7, 13

Details and Structure: Chapters 11 to 20
**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

**Status**

Struct. 536-83- A GUARDRAIL POST REPLACEMENT EA

A =
1 (Regular)
2 (Special)
3 (Steel In Concrete, Regular)
4 (Steel In Asphalt, Regular)
5 (Steel In Soil, Regular)
6 (Wooden In Asphalt, Regular)
7 (Wooden In Soil, Regular)

**Notes**

Includes furnishing and installing all necessary hardware, as shown in Standard Index 400.

**Related Items**

Required 536-1 Recommended

**Forms**

Design SBGDRL; SBGuardrail

Construction Refer to Comp Book

**Documentation**

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

**Status**

Struct. 536-85- AA GUARDRAIL END ANCHORAGE ASSEMBLY EA

AA =
22 (Flared)
24 (Parallel)
25 (Type II)
26 (Type CRT)
27 (Double Face Terminal)
### 538- 1- GUARDRAIL- RESET

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

**Details**

Consists of the removal of existing guardrail and resetting of the salvaged guardrail along with necessary new materials. Locations of the existing and proposed guardrail must be shown in the plans. Coordinate the use of this item with District Maintenance Office. Refer to Section 3 of this Handbook for recommended pay item plan note. When this item is used, Item 339 (2339- 1) must be used.

**Related Items**

**Forms**

<table>
<thead>
<tr>
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<th>Recommended</th>
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<tbody>
<tr>
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<td>SBGDRL; SBGuardrail</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

<table>
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**References**

PPM Chapter

Other

Specifications

Index No. 400

**Prep & Doc Manual Chapter(s)** 7, 13

---

### 539- 75-ABC GLARE SCREEN

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
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**Notes**

**Details**

**Related Items**

**Forms**

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<th>Recommended</th>
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<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

<table>
<thead>
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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
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</table>

**References**

PPM Chapter

Other

Specifications

Plan Detail and/or Tech Spec Required

---

Details and Structure: Chapters 11 to 20
### Prep & Doc Manual Chapter(s)

**Status** | Inactive Structure
---|---
**Struct.** | 539- 75-ABC GLARE SCREEN LF

<table>
<thead>
<tr>
<th>A = Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Furnish &amp; Install)</td>
</tr>
<tr>
<td>2 (Furnish)</td>
</tr>
<tr>
<td>3 (Install)</td>
</tr>
<tr>
<td>4 (Remove)</td>
</tr>
<tr>
<td>5 (Replace)</td>
</tr>
<tr>
<td>6 (Relocate)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B = Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Modular)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C = Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (18&quot;)</td>
</tr>
<tr>
<td>2 (24&quot;)</td>
</tr>
<tr>
<td>3 (30&quot;)</td>
</tr>
</tbody>
</table>

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### Notes

#### Status

Inactive Structure

### Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

| Documentation Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction Design | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

### References

PPM Chapter

Other

Standards | Index No. 461 |
Specifications

Prep & Doc Manual Chapter(s) | 6, 7, 13 |

---

### Notes

**Unit** | LF; M1 |
**Accuracy** | Linear Foot; 10th of a Meter |
**PlanQuantity?** | no |

---

Details and Structure: Chapters 11 to 20

Page 228 of 428
### Topic No. 600-000-002
#### Basis of Estimates

**2007 Edition**

**August 27, 2007**

3 (Aluminum)
C = Height
1 (2' 3" Height)

---

#### Notes

**540-**

**HIGH TENSION CABLE BARRIER SYSTEM WITH ANCHORS**

| Unit     | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | no |

**Notes**
Future item; refer to developmental item 904-540-xx1

**Details**

**Required**

<table>
<thead>
<tr>
<th>Forms</th>
<th>Design</th>
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</thead>
<tbody>
<tr>
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**Related Items**

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<tbody>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

**Design**
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s)

---

**542- 70-**

**BUMPER GUARDS, CONCRETE**

| Unit     | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

**Details**

**Required**

<table>
<thead>
<tr>
<th>Forms</th>
<th>Design</th>
<th>SHTabQuant</th>
</tr>
</thead>
<tbody>
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<td>Refer to Comp Book</td>
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**Related Items**

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</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Documentation**

**Design**
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Standards

Index No. 300

---

**Details and Structure:** Chapters 11 to 20
### Specifications

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)** 7, 13

### Status

| Struct. | 542-70- | BUMPER GUARDS, CONCRETE | EA |

### Notes

#### 544-74- AA

**RELOCATE VEHICULAR IMPACT ATTENUATOR / CRASH CUSHION**

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

#### Notes

**Details**

Items to be installed in accordance with Standards and/or manufacturer's instructions.

**Related Items**

**Required**

**Recommended**

**Forms**

**Design** SHTabQuant

**Computation** COMP 700-050-03

**Construction**

Refer to Comp Book

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

**PPM Chapter**

**Other**

**Standards** Index No. 432, 433, 434, 435, 436, 438

**Specifications**

**Prep & Doc Manual Chapter(s)** 7, 13

### Status

| Struct. | 544-74- AA | RELOCATE VEHICULAR IMPACT ATTENUATOR / CRASH CUSHION |

#### Notes

AA =

8 (Cat)

9 (Brakemaster)

10 (Dragnet)

13 (React 350)

14 (Quadgard)

17-20 Hold

23 (SCI)

24 (Quest)

### 544-75- AA

**CRASH CUSHION- VEHICULAR IMPACT ATTENUATOR**

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

#### Notes

**Details**

Items to be installed in accordance with Standards and/or manufacturer's instructions. All items must be listed on QPL, per specifications.

**Related Items**

**Required**

**Recommended**
Topic No. 600-000-002
Basis of Estimates

Forms
Design: SHTabQuant
Construction: Refer to Comp Book

Documentation
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 544-75- AA CRASH CUSHION- VEHICULAR IMPACT ATTENUATOR EA

AA =
8 (Cat)
9 (Brakemaster)
10 (Dragnet)
13 (React 350)
14 (Quadguard)
16 (Tracc)
17 (QuadGuard Elite)
18 (QuadGuard LMC)
19 (QuadGuard LMA)
20 (QuadTrend)
21 (TAU-II)
22 (Widetracc)
23 (SCI)
24 (Quest)
30 (Special) Plan Details and/or Tech Spec required
40 (Optional)

Notes

544-76- ATTENUATOR MODULES- SAND FILLED

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EA</td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

Notes
Details
Related Items
Required Design: SHTabQuant
Recommended Design: COMP 700-050-03

Forms
Construction: Refer to Comp Book

Documentation
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other

Details and Structure: Chapters 11 to 20
Standards
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct.  544- 76-  ATTENUATOR MODULES- SAND FILLED   EA

Notes

546- 71-  RUMBLE STRIP SETS

| Unit  | PS  | Accuracy  | Per Set | PlanQuantity? | no |

Notes
Details
Raised rumble strip SETS shall be constructed at all structures with less than full width shoulders. They will also be constructed at intersection approaches only when specified in the plans. This item is to be used in accordance with Standard Index 518. Note that thermoplastic sets typically include 4 strips; Asphalt sets include 6 strips. Refer to Index for details.

For ground-in strips, refer to item 546-72-AB.

Related Items
Forms
Required  Recommended
Design  SHTabQuant  COMP 700-050-03
Construction  Refer to Comp Book

Documentation
Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards  Index No. 518
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Status
Struct.  546- 71-  RUMBLE STRIP SETS  PS

Notes

546- 72-  AB  RUMBLE STRIPS

| Unit  | PM; KM  | Accuracy  | 10th of a Mile; Kilometer | PlanQuantity? | no |

Notes
Details
Ground-in rumble strips (16” minimum width, 400 mm minimum width) shall be constructed on freeway and other limited access per Index No. 518. Other methods and types of applications shall not be used unless approved in writing by the State Roadway Design Engineer. Approval will be considered only with sufficient documented justification for variance from this standard.

For Raised Rumble Strips, refer to item 546-71-.

Related Items
Required  Recommended

Details and Structure: Chapters 11 to 20
### Specifications

**Struct.  546- 72- AB RUMBLE STRIPS PM; KM**

- **A = Type**
  - 5 (Ground-In)
- **B =**
  - 1 (16" Min. Width)
  - 0 (Non Standard)

### Notes

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

PPM Chapter 6, 7, 13

### Prep & Doc Manual Chapter(s)

6, 7, 13

---

**547- 70- A RIPRAP, FABRIC-FORMED CONCRETE**

- **Unit**  SY; M2
- **Accuracy**  Square Yard; Square Meter
- **Plan Quantity?**  no

### Notes


### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

### Status

**Struct.  547- 70- A RIPRAP, FABRIC-FORMED CONCRETE**

- **A =**
  - 1 (8" Filter Points)
548- AA-

**RETAINING WALL SYSTEM**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF; M2</td>
<td>Square Foot; 10th of a Square Meter</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**

Approved walls are listed on the Qualified Products List (QPL). NOTE: Include item in TRNS*PORT Roadway Category. Pay area based on area bounded by coping line, top of leveling pad, begin and end of wall. Barriers and parapets paid for separately (Items 521-8 and 521-6.)

**Details**

Required: SHTabQuant
Recommended: 521-6-xxa, or 521-8-xaa

**Related Items**

- **Forms**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book

- **Documentation**
  - Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
  - Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**Status**

**Struct.** 548- AA-

**RETTAINING WALL SYSTEM**

**SF**

AA = Type
12 (Permanent) excluding barrier
13 (Temporary) excluding barrier
14 (Permanent- Widening) attached to existing wall

**Notes**

**550- 10-ABC**

**FENCING**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1</td>
<td>Linear Foot; 10th of a Meter</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Includes all fence, posts, and incidental materials. Gates to be paid under 550-60-ABC. Type 9 (Special) to be used for decorative fencing, other than A, B, or R. Tech Spec and/or plan details required to specify materials, installation, and payment.

**Related Items**

- **Forms**
  - Design: SBFN; SBFence; SBFNTA; COMP 700-050-03
  - Construction: Refer to Comp Book

- **Documentation**
  - Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**References**

- **PPM Chapter** Chapter 30
- **Other**
  - Standards: Index 5300, 5301
- **Specifications**
  - Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

**Struct.** 548- AA-

**RETTAINING WALL SYSTEM**

**SF**

AA = Type
12 (Permanent) excluding barrier
13 (Temporary) excluding barrier
14 (Permanent- Widening) attached to existing wall

**Notes**

Details: Chapters 11 to 20
### Standards

**A** = Type
- 1 (Type A)
- 2 (Type B)
- 3 (Type R)
- 9 (Special) Not Type A, B, or R; C= 8 or 9

**B** = Nominal Fabric Height
- 1 (0.0- 5.0’ Height) Note: Type A Standard
- 2 (5.1- 6.0’ Height) Note: Type B Standard
- 3 (6.1- 7.0’ Height)
- 4 (7.1- 8.0’ Height)
- 5 (8.1-10.0’ Height)

**C** = Details/Features
- 0 (Standard)
- 1 (w/Barbed Wire Attachment, Type B Only)
- 2 (w/Vinyl Coating, Type B Only)
- 3 (Full Enclosure, Type R Only)
- 4 (Partial Enclosure, Type R Only)
- 5 (Vertical, Type R Only)
- 8 (Reset Existing)
- 9 (Special) Special Feature, other than coating, barbs, or enclosure

*Selected Items may require Tech Spec and/or Plan Detail

### Status

**Struct.** 550-10-ABC **FENCING** LF

A = Type
1 (Type A)
2 (Type B)
3 (Type R)
9 (Special) Not Type A, B, or R; C= 8 or 9

B = Nominal Fabric Height
1 (0.0- 5.0’ Height) Note: Type A Standard
2 (5.1- 6.0’ Height) Note: Type B Standard
3 (6.1- 7.0’ Height)
4 (7.1- 8.0’ Height)
5 (8.1-10.0’ Height)

C = Details/Features
0 (Standard)
1 (w/Barbed Wire Attachment, Type B Only)
2 (w/Vinyl Coating, Type B Only)
3 (Full Enclosure, Type R Only)
4 (Partial Enclosure, Type R Only)
5 (Vertical, Type R Only)
8 (Reset Existing)
9 (Special) Special Feature, other than coating, barbs, or enclosure

Note: *A= Special for non-standard types (wood fence?)
*B= Special for other than coatings or enclosure
*A or B =9 may require Tech Spec and/or Plan Detail

#### 550-60-ABC FENCE GATE

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Plan Quantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Each</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

Fence to be installed in accordance with standards.
Special: Tech Spec and/or plan details required to specify materials, installation, and payment. Do not use "special" item for type A, B, or R fencing.

**Related Items**

- **Forms**
  - Required 550-10-ABC
  - Recommended 550-050-03
  - Design: SBFN; SBFence; SBFNTA; COMP 700-050-03
  - Construction: Refer to Comp Book

- **Documentation**
  - Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

---

Details and Structure: Chapters 11 to 20

Page 235 of 428
**Struct.** 550-60-ABC  FENCE GATE  EA

A = Type
1 (Type A)
2 (Type B)
9 (Special) *Not Type A or B

B = Type
1 (Single)
2 (Double)
3 (Sliding / Cantilever)

C = Size of Opening
1 (0-6.0' Opening)
2 (6.1-12.0' Opening)
3 (12.1-18.0' Opening)
4 (18.1-20.0' Opening)
5 (20.1-24.0' Opening)
6 (24.1-30.0' Opening)
7 (Greater than 30' Opening)

*Selected Items may require Tech Spec and/or Plan Detail*

**Notes**
*Special may require Tech Spec and/or Plan Detail*

---

**555-1- A  DIRECTIONAL BORE**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
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</table>

**Notes**
Payment will include work and materials, including casing, to be installed in accordance with specified method. Review alternate installation methods to determine best method for each location/crossing.

**Related Items**

<table>
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<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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<td>COMP 700-050-03</td>
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<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

**References**
PPM Chapter
Other
Standards
Specifications

**Prep & Doc Manual Chapter(s)** 7, 13
### Status

**Struct.** 555-1-A  
**Directional Bore LF**

\[ A = \text{Diameter Of Pipe} \]
1 (Less Than 6")
2 (6" To <12")
3 (12" To <18")
4 (18" To <24")
5 (24" To <36")
6 (36" To <48")
7 (48" To <60")

**Notes**  
Additional Ranges At 12" Increments

---

### Notes

**556-1-A Jack And Bore LF**

**Unit** LF; M1  
**Accuracy** Linear Foot; 10th of a Meter  
**PlanQuantity?** no

**Details**

Payment will include work and materials, including casing, to be installed in accordance with specified method. Review alternate installation methods to determine best method for each location/crossing.

**Related Items**  
**Required** SHTabQuant  
**Recommended** 556-1-xaa, 557-1-xxa

**Forms**  
**Design** USD  
**Construction** Refer to Comp Book

**Documentation**  
**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Prep & Doc Manual Chapter(s)**  
7, 13

---

### Status

**Struct.** 556-1-A  
**Jack And Bore LF**

\[ AA = \text{Diameter Of Casing} \]
1 (<6")
2 (6" to <12")
3 (12" to <18")
4 (18" to <24")
5 (24" to <36")
6 (36" to <48")
7 (48" to <60")
8 (60" to <72")
9 (72" to <84")
10 (84" to <96")
11 (96" to <108")

**Notes**

---

Details and Structure: Chapters 11 to 20
557- 1- A  VIBRATORY PLOWING

**Unit**  LF; M1  **Accuracy**  Linear Foot; 10th of a Meter  **PlanQuantity?**  no

**Notes**

**Details**  
Effective January 03: Payment will include work and materials, including casing, to be installed in accordance with specified method. Review alternate installation methods to determine best method for each location/crossing.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Forms**

**Design**  SHTabQuant  **Construction**  Refer to Comp Book

**Documentation**

**Design**  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  **Construction**  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter  Other  Standards  Specifications

Prep & Doc Manual Chapter(s)  7, 13

**Status**

**Struct.**  557- 1- A  **Unit**  LF  **Notes**

A = Diameter Of Casing

1 ( < 6")

2 ( 6" to < 12")

3 (12" to < 18")

560- 1-  PAINTING STRUCTURAL STEEL- REHAB

**Unit**  LS/TN; LS/MT  **Accuracy**  Lump Sum (Ton); Lump Sum (Metric Ton)  **PlanQuantity?**  yes

**Notes**

**Details**  
Intended for rehabilitation projects. For new bridges, the cost of painting is included in the cost of the structural steel. Do not include quantities in the plans. The weight of the steel to be painted is for estimating purposes only.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuantLS</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

**Forms**

**Design**  SHTabQuantLS  **Construction**  Refer to Comp Book

**Documentation**

**Design**  Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.  **Construction**  Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter  Other

Details and Structure: Chapters 11 to 20
Standards
Specifications
Prep & Doc Manual Chapter(s)  6, 7, 13

Status
Struct.  560- 1-  PAINTING STRUCTURAL STEEL- REHAB  LS/TN

Notes

563- A  ANTI-GRAFFITI COATING

| Unit   | SF; M2  | Accuracy | Square Foot; 10th of a Square Meter | PlanQuantity? | yes |

Notes
Pending specification change for July 2008: Measurement to be made by plan quantity.

Details
Coordinate the use of this item with District Maintenance Office. Consists of furnishing and applying anti-graffiti coating to the surfaces indicated in the plans. The work also includes surface preparations prior to application of the coating. All coatings are to be clear, unless otherwise specified in the plans, or approved by the Engineer. Pay Item specifies whether material is sacrificial or non-sacrificial.
Measurement is based on the projected area of the wall (height x length) or surface, with no additional allowance for surface texture.

***************
For projects let before 7/2008, measurement/payment will be based on measured area, as indicated above.
For projects let 7/2008 and later, measurement will be based on plan quantity, as indicated above.

Related Items
Required          Recommended
Forms
Design          SHTabQuant          COMP 700-050-01
Construction Refer to Comp Book

Documentation
Design          Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.
Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s)  6, 7, 13

Status
Struct.  563- A  ANTI-GRAFFITI COATING  SF

A =
3 (Sacrificial)
4 (Non – Sacrificial)

Notes
### PERFORMANCE TURF

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY; M2</td>
<td>Square Yard; Square Meter</td>
<td>Yes</td>
<td>Effective January 2007 letting. Replaces several 570 items.</td>
</tr>
</tbody>
</table>

**Details**
- Consists of establishing a stand of grass on slopes, shoulders, or other areas by seeding (includes seeding, seeding & mulching, hydroteeding, bonded fiber matrix, or any combination), or sodding, in accordance with Section 570.
- Coordinate the use of this item with Sections 104 and 580.
- This item includes the mowing of all areas, including undisturbed areas, within the project limits, as noted in the plans. DO NOT use item 104-4 when this item is used. Payment for all mowing is incidental to the turf payment.

**Related Items**
- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book
- **Recommended**
  - Design: COMP 700-050-01

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### PLASTIC EROSION MAT

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SY; M2</td>
<td>Square Yard; Square Meter</td>
<td>no</td>
<td>Geosynthetic rolled erosion control product that retains soil, moisture, and seed; promotes vegetative growth while preventing erosion in ditches, channels, and spillways. To be used where conditions prevent vegetation that lasts past a single growing season.</td>
</tr>
</tbody>
</table>

**Details**
- Geosynthetic rolled erosion control product that retains soil, moisture, and seed; promotes vegetative growth while preventing erosion in ditches, channels, and spillways. To be used where conditions prevent vegetation that lasts past a single growing season.

**Related Items**
- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book
- **Recommended**
  - Design: COMP 700-050-01

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards Index No. 199

Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

Status

Struct. 571-1-AB PLASTIC EROSION MAT SY

A = Application
   1 (TRM) "Turf Reinforcement Mat"

B = Type
   1 (Type 1)
   2 (Type 2)
   3 (Type 3)

Notes

This item is for the complete installation of plants, in accordance with Specification Section 580, including all incidental work. Mowing included as part of the landscape work will be identified in the contract documents. If mowing is required outside of the landscape areas, use pay item 104-4, unless 570-1-A is included.

Small plants are defined as:
   all ground covers, shrubs to less than 7 gallon, trees to less than 7 gallon, palms clustering type less than 6 foot overall height, cycads to less than 7 gallon

Large plants are defined as:
   shrubs 7 gallon or greater, trees 7 gallon or greater, all palms single trunk, palms clustering type 6 foot overall height and greater, cycads 7 gallon or greater, all sabal palms (aka sabal palmetto, cabbage palm, state tree)

Refer to the latest edition of the Florida Grades and Standards for Nursery Plants for classification. All plants must be detailed in the plans in accordance with Volume 2, Chapter 26 of the PPM.

The computation book will use form 70-050-05 Lump Sum Quantities. On the form, refer to the plans tabulation sheet for calculations; do not repeat tabulation sheet information on the form.

All 580 and 590 items must be loaded in TRNS*PORT Category 0600. If there are only a few items, they may be shown in roadway plans, but tabulated with "Summary of Landscape Pay Items" in Category 0600.

Related Items

Required Recommended

Forms Design SBTBLD COMP 700-050-05

Construction Refer to Comp Book

Documentation Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
   PLAN QUANTITY will be basis of payment to the Contractor.

Construction Final pay quantity will be PLAN QUANTITY with proper consideration for
Specification tolerances.

<table>
<thead>
<tr>
<th>References</th>
<th>PPM Chapter</th>
<th>Other Standards Specifications Prep &amp; Doc Manual Chapter(s)</th>
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</thead>
<tbody>
<tr>
<td>Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Struct.</td>
<td>580- 1- A</td>
<td>LANDSCAPE COMPLETE LS/LS</td>
</tr>
<tr>
<td></td>
<td>A= Plant Size</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td>1 (Small Plants) Includes incidental landscape work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 (Large Plants)</td>
<td></td>
</tr>
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</table>

### 590- 70- IRRIGATION SYSTEM

<table>
<thead>
<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
<th>Lump Sum</th>
<th>PlanQuantity?</th>
<th>yes</th>
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</table>

**Notes**

All 580 and 590 items must be loaded in TRNS*PORT Category 0600. If there are only a few items, they may be shown in roadway plans, but tabulated with "Summary of Landscape Pay Items" in Category 0600.

**Related Items**

<table>
<thead>
<tr>
<th>Required Forms</th>
<th>Design</th>
<th>SBTBLD</th>
<th>Construction</th>
<th>COMP 700-050-05</th>
<th>Refer to Comp Book</th>
</tr>
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</table>

**Documentation**

| Design  | Construction | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor. |
|---------|---------------|--------|--------------|------------------|--------------------|

**Construction**

| Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances. |

**References**

<table>
<thead>
<tr>
<th>PPM Chapter</th>
<th>Other Standards Specifications</th>
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</thead>
</table>

**Prep & Doc Manual Chapter(s)**

| 7, 13 |

---

### 604- 1- AB DATA COLLECTION

<table>
<thead>
<tr>
<th>Unit</th>
<th>LO; EA</th>
<th>Accuracy</th>
<th>Per Location; Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Details**
### Related Items

**Required**
- Design: SHTabQuant
- Construction: Refer to Comp Book

**Recommended**
- Design: COMP 700-050-03

### Documentation

**Design**
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### Status

**Struct.** 604- 1- AB  
**DATA COLLECTION**  
**LO; EA**

**Notes**

### 604- 2-AAB  
**ANALYSIS & DOCUMENTATION, INTERSECTION**

| Unit       | PA; EA | Accuracy             | Per Analysis; Each | PlanQuantity? | no |

### Details

**Related Items**

**Required**
- Design: SHTabQuant
- Construction: Refer to Comp Book

**Recommended**
- Design: COMP 700-050-03

### References

**PPM Chapter**
- Design
- Construction

**Other**

**Standards**

**Specifications**

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)** 7, 13
AA = (Number Of Intersections)
B = (Number Of Timing Patterns)

### TIMING IMPLEMENTATION

<table>
<thead>
<tr>
<th>Unit</th>
<th>PI</th>
<th>Accuracy</th>
<th>Per Intersection</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**604-3- A**

**Related Items**

**Forms**
- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)** 7, 13

**Status**

**Struct. 604-3- A**

A = Controller Type
- 1 (Controller)
- 2 (Controller And Coordination Unit)
- 3 (Master Clock Unit)

### INTERSECTION ANALYSIS & DOCUMENTATION

<table>
<thead>
<tr>
<th>Unit</th>
<th>PI</th>
<th>Accuracy</th>
<th>Per Intersection</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**604-4-**

**Related Items**

**Forms**
- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

---

Status

Struct. 604-4- INTERSECTION ANALYSIS & DOCUMENTATION PI

Notes

---

604-5-A ARTERIAL ANALYSIS & DOCUMENTATION

| Unit   | PA; EA | Accuracy      | Per Analysis; Each | PlanQuantity? | no |

---

Notes

Details

---

Related Items

Form Required Recommended

Design SHTabQuant COMP 700-050-03

Construction Refer to Comp Book

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 6, 7, 13

---

Status

Struct. 604-5-A ARTERIAL ANALYSIS & DOCUMENTATION PA; EA

A = Number Of Timing Patterns Per Section

1 (1 Timing Pattern)

2 (2 Timing Patterns)

3 (3 Timing Patterns)

5 (5 Timing Patterns)

6 (6 Timing Patterns)

8 (8 Timing Patterns)

---

Notes

Details

---

630-1-AB CONDUIT- SIGNALS

| Unit   | LF; M1 | Accuracy      | Linear Foot; 10th of a Meter | PlanQuantity? | no |

---

Notes

Details

For traffic signals and traffic control devices only. Use 'Underground' in locations where the placement of the conduit will not necessitate saw-cutting of pavement. Most conduit placed on new construction projects will be placed underground prior to the placement of pavement, and should be paid for as 'Underground.' 'Underpavement' should be used.
when it is necessary to saw-cut and backfill the pavement in order to place the conduit, i.e. EXISTING PAVEMENT.

### Required Recommended

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Forms</th>
<th>Design</th>
<th>SHTabQuant</th>
<th>COMP 700-050-03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes

- **Status**
  - **Struct.** 630- 1- AB
  - **CONDUIT - SIGNALS**
  - **Unit** LF; M1
  - **Accuracy** Linear Foot; 10th of a Meter
  - **PlanQuantity?** no

- **Details**
  - Use for runs to flashing beacon, signs, etc. beyond the normal limits of the intersection.
  - Includes cable, support wire, cable ties, cable clamps, lashing wire, terminal connectors and cable grounding. Use item 632- 7- (2632- 7-) for cable within the intersection.

- **Related Items**
  - **Forms**
    - **Design** SHTabQuant
    - **Construction** Refer to Comp Book
  - **Documentation**
    - **Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
    - **Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

- **References**
  - **PPM Chapter** Design
  - **Construction**
  - **Prep & Doc Manual Chapter(s)** 6, 7, 13

### Other

- 632- 6- A
- **CABLE - SIGNAL**
  - **Unit** LF; M1
  - **Accuracy** Linear Foot; 10th of a Meter
  - **PlanQuantity?** no

- **Notes**
  - Use for runs to flashing beacon, signs, etc. beyond the normal limits of the intersection.
  - Includes cable, support wire, cable ties, cable clamps, lashing wire, terminal connectors and cable grounding. Use item 632- 7- (2632- 7-) for cable within the intersection.
### Structural (632-6) - Cable - Signal (A)

**Standard Index No.** 17727  
**Specifications**

#### Notes

**A = Operation**
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Adjust)

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Status</th>
<th>632-6- A</th>
<th>CABLE- SIGNAL</th>
<th>LF</th>
</tr>
</thead>
</table>

**Notes**

Includes cable, support wire, cable ties, cable clamps, lashing wire, terminal connectors and cable grounding, within the normal limits of the intersection. Consider 632-6-2632-6- for runs outside the limits of the intersection.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
</table>

**Design**  
SHTabQuant  
COMP 700-050-03  
**Construction**  
Refer to Comp Book

**Details**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

<table>
<thead>
<tr>
<th>References</th>
</tr>
</thead>
</table>

**PPM Chapter**  
Other  
**Standards Index No.** 17727  
**Specifications**

| Notes |

**Structural (632-7) - Cable - Signal (A)**

| Notes |

**Unit** PI  
**Accuracy** Per Intersection  
**PlanQuantity?** no

| Notes |

Includes cable, support wire, cable ties, cable clamps, lashing wire, terminal connectors and cable grounding, within the normal limits of the intersection. Consider 632-6-2632-6- for runs outside the limits of the intersection.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
</table>

**Design**  
SHTabQuant  
COMP 700-050-03  
**Construction**  
Refer to Comp Book

**Details**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

| References |

**PPM Chapter**  
Other  
**Standards Index No.** 17727  
**Specifications**

| Notes |

**Structural (632-8) - Cable - Interconnect (A-C)**

| Notes |

| Unit | LF; M1  
**Accuracy** Linear Foot; 10th of a Meter  
**PlanQuantity?** no

**Notes**
Details

Related Items | Required | Recommended
--- | --- | ---
Forms | Design | SHTabQuant | COMP 700-050-03
 | Construction | Refer to Comp Book | 
Documentation | Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
 | Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards | Index No. 17733

Specifications

Prep & Doc Manual Chapter(s) | 7, 13

Status

Struct. | 632- 8-ABC | CABLE- INTERCONNECT | LF

A = Number Of Pairs
1 (To Be Determined By Contractor)
2 (1-25)
3 (26-50)
4 (51-100)
5 (101-150)

B = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)

C = Type Of Interconnect Cable Installation
1 (Aerial)
2 (Underground)

Notes

633-ABC- D | CABLE- FIBER OPTIC

Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | PlanQuantity? | no

Notes

Details

NOT TO BE USED FOR ITS Projects. Refer to 780 items.

Related Items

Forms | Required | Recommended
--- | --- | ---
 | Design | SHTabQuant | COMP 700-050-03
 | Construction | Refer to Comp Book | 
Documentation | Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
 | Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 633-ABC- D CABLE- FIBER OPTIC LF

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)

B = Type Of Interconnect Cable Installation
1 (Aerial)
2 (Underground)
3 (Drop)

C = Type Of Fiber
1 (Single Mode)
2 (Multi Mode)
3 (Composite)

D = Number Of Fibers In Cable
1 ( 1 - 25)
2 (26 - 50)
3 (51 - 100)
4 (101 - 150)
5 (151 - 200)

Notes

634- 4-ABC SPAN WIRE ASSEMBLY

Unit PI Accuracy Per Intersection PlanQuantity? no

Notes

Details

Related Items Required Recommended
Forms Design SHTabQuant COMP 700-050-03
Construction Refer to Comp Book

Documentation Design
Locate in plans. Summarize quantities by location on tabulation of
quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form
(comp book).

References

PPM Chapter
Other
Standards Index No. 17356, 17727
Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

Status

Struct. 634- 4-ABC SPAN WIRE ASSEMBLY PI

A = Operation
1 (Furnish & Install)
2 (Furnish)  
3 (Install)  
4 (Adjust)  

B = Type Assembly  
1 (Two Wire)  
2 (Three Wire)  

C = Type Span  
1 (Perpendicular)  
2 (Diagonal)  
3 (Box)  
4 (Other - As Shown In Plans)  

### Notes

<table>
<thead>
<tr>
<th>634- 5- A</th>
<th>FIBERGLASS INSULATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>LF; M1</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td>Plan Quantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

#### Details

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

**Documentation**

Design

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction

- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

6, 7, 13

#### Status

| Struct.  | 634- 5- A | FIBERGLASS INSULATOR | LF |

A = Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  

### Notes

### 634- 6- A  MESSENGER WIRE

| Unit      | LF; M1               |
| Accuracy  | Linear Foot; 10th of a Meter |
| Plan Quantity? | no |

#### Details

**Related Items**

<table>
<thead>
<tr>
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<th>Recommended</th>
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<tr>
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</table>

**References**

PPM Chapter

Other

Standards

Specifications

**Prep & Doc Manual Chapter(s)**

6, 7, 13
### 634-6- A

**Messenger Wire**

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<tr>
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</tbody>
</table>

**Notes:**

- **A** = Operation
- 1 (Furnish & Install)
- 2 (Furnish)
- 3 (Install)

---

**Status**

**Struct.** 634-6- A // MESSENGER WIRE // LF

- **Construction** Refer to Comp Book
- **Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards** Index No. 17356, 17727
- **Specifications**
- **PPM Chapter** 7, 13
- **Design**
- **Construction**

---

### 634-7-

**Cable, Adjust**

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**Related Items**

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<td>Construction</td>
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**Documentation**

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **PPM Chapter** 7, 13
- **Design**
- **Construction**

---

### 635-1-AB

**Pull & Junction Boxes**

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**Notes:**

**Related Items**

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<td>Construction</td>
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**Documentation**

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **PPM Chapter** 7, 13
- **Design**
- **Construction**

---

**Details and Structure:** Chapters 11 to 20

Page 251 of 428
Details

NOT TO BE USED FOR ITS Projects. Refer to 780 items. Use in accordance with Section 635 of the specifications. For Special sizes, detail in the plans or specifications.

Related Items

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<td>Construction</td>
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Documentation

| Design | Location in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

References

PPM Chapter

Other

Standards

Index No. 17500, 17503, 17733

Specifications

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s)

7, 13

Status

Struct. 635-1-AB  PULL & JUNCTION BOXES  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
B = Type Of Box
1 (Pull Box)
2 (Aerial Junction Box)
3 (Mounted Junction Box)
4 (Telephone Termination Assembly)
5 (Fiber Optics)
6 (Special)*

Notes

* Special may require Tech Spec and/or Plan Detail

---

**ELECTRICAL POWER SERVICE (SIGNS)**

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Notes

Details

Related Items

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Documentation

| Design | Location in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

References

PPM Chapter

Other

Standards

Index No. 17736
Specifications
Prep & Doc Manual Chapter(s) 6, 7, 13

Struct.  639-  1- AB  ELECTRICAL POWER SERVICE (SIGNS) AS

A = Type Of Service
1 (Overhead)
2 (Underground)
B = Meter Base
1 (Furnished By Power Company)
2 (Purchased By Contractor From Power Company)
3 (Not Required)

Notes

639-  2- A  ELECTRICAL SERVICE WIRE

Unit LF; M1  Accuracy Linear Foot; 10th of a Meter  PlanQuantity? no

Notes
Details Payment shall be based on the linear foot (meter) of a single conductor.
Related Items Required Recommended
Forms Design SHTabQuant COMP 700-050-03
Construction Refer to Comp Book
Documentation Design Locate in plans. Summarize quantities by location on tabulation of
quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form
(comp book).
References PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s) 7, 13

Status
Prep & Doc Manual Chapter(s) 6, 7, 13

Struct.  639-  2- A  ELECTRICAL SERVICE WIRE LF

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)

Notes

639-  3- AB  ELECTRICAL SERVICE DISCONNECT

Unit EA; AS  Accuracy Each; Assembly  PlanQuantity? no

Notes
Details
Related Items Required Recommended
Standards Index No. 17736
Specifications

**Related Items**

**Forms**
- Design: SHTabQuant
- Construction: Refer to Comp Book

**Documentation**
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards: Index No. 17736
- Specifications

**Prep & Doc Manual Chapter(s)** 7, 13

**Status**

**Struct. 639- 3- AB**  
**ELECTRICAL SERVICE DISCONNECT**  
**EA; AS**

A = Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
B = Type Mount  
1 (Pole)  
2 (Cabinet)

**Notes**

**Related Items**

**Forms**
- Design: SHTabQuant
- Construction: Refer to Comp Book

**Documentation**
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)** 7, 13

**Status**

**Struct. 639- 4- A**  
**EMERGENCY GENERATOR (SIGNALS)**  
**AS**

A = Operation  
1 (Furnish & Install)  
2 (Modify)
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**STRAIN POLES, GUYING, CONCRETE**

### Notes

#### Details

**Related Items**

- **Required**
  - Design: SHTabQuant
  - Construction: COMP 700-050-03

- **Recommended**
  - Design: Refer to Comp Book
  - Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter: Design, Construction
- Other Standards: Index No. 17725
- Specifications
- Prep & Doc Manual Chapter(s): 7, 13

**Status**

- **Struct.** 641- 1- STRAIN POLES, GUYING, CONCRETE EA

---

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**PRESTRESSED CONCRETE POLES**

### Notes

#### Details

**Related Items**

- **Required**
  - Design: SHTabQuant
  - Construction: COMP 700-050-03

- **Recommended**
  - Design: Refer to Comp Book
  - Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter: Design, Construction
- Other Standards: Index No. 17725
- Specifications
- Prep & Doc Manual Chapter(s): 7, 13

**Status**

- **Struct.** 641- 2- AB PRESTRESSED CONCRETE POLES EA

A= Operation

---

Details and Structure: Chapters 11 to 20
1 (Furnish & Install)
2 (Furnish)
3 (Install) B=0

B = Pole Type (defined in Design Standards)
1 (Type P-II Pedestal)
2 (Type P-II Service Pole)
3 (Type P-III)
4 (Type P-IV)
5 (Type P-V)
6 (Type P-VI)
7 (Type P-VII)
8 (Type P-VIII)
9 (Custom Design)

Notes

641- AB-CDD PRESTRESSED CONCRETE POLES

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</table>

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 641- AB-CDD PRESTRESSED CONCRETE POLES EA

A =
1 (Furnish & Install - With foundation)
2 (Furnish)
3 (Install) When A=3, B=0 And CDD=blank.
4 (Furnish & Install - Direct Burial)
5 (Install - Direct Burial) When A=5, B=0 and CDD=blank.

B = Pole Type
1 (Type N-II Service Pole)
2 (Type N-III Service Pole)
3 (Type N-IV)
4 (Type N-V)
5 (Type N-VI)
6 (Type N-VII)
7 (Type N-VIII)
8 (Special Design)*
C = Pole Design Status
1 (1991 Design Change)
DD = Pole Length

Notes  * Special may require Tech Spec and/or Plan Detail

### 643- 1- STRAIN POLES, GUYING, WOOD

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

**Related Items**

<table>
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**Forms**

- **Design**
  - SHTabQuant
  - COMP 700-050-03

- **Construction**
  - Refer to Comp Book

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**

- **Standards**
  - Index No. 17356, 17727

- **Specifications**

- **Prep & Doc Manual Chapter(s)**
  - 7, 13

**Status**

**Struct.** 643- 1- STRAIN POLES, GUYING, WOOD EA

**Notes**

### 643-ABB- STRAIN POLES, WOOD

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

**Related Items**

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**Forms**

- **Design**
  - SHTabQuant
  - COMP 700-050-03

- **Construction**
  - Refer to Comp Book

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**

- **Standards**

- **Specifications**

- **Prep & Doc Manual Chapter(s)**
  - 7, 13

**Status**

**Struct.** 643-ABB- STRAIN POLES, WOOD EA

**Notes**

**Details and Structure:** Chapters 11 to 20
Status

Struct.  643-ABB- STRAIN POLES, WOOD EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)

BB = Pole Length (Specified in 5’ Increments Only)

Notes

649- 1- AB STEEL STRAIN POLES

Unit EA Accuracy Each PlanQuantity? no

Notes Effective January 2008; replaces 649- A-BCC

Details Pole description, including the type, height, and other details must be included in the signal plans.

Related Items Required Recommended

Forms Design Construction

Documentation Design Construction

References PPM Chapter

Other Standards Specifications

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s)

Status

Struct.  649- 1- AB STEEL STRAIN POLES EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) B=0

B = Pole Type (defined in Design Standards)
1 (Type PS-IV)
2 (Type PS - V)
3 (Type PS-VI)
4 (Type PS-VII)
5 (Type PS - VIII)
6 (Type PS-IX)
7 (Type PS - X)
9 (Custom)*

Notes * Custom may require Tech Spec and/or Plan Detail

649- A-BCC STRAIN POLES, STEEL
**Unit**  EA  **Accuracy**  Each  **Plan Quantity?**  no

**Notes**  Valid through December 2007; replaced by 649-1-AB.

**Details**  Refer to Index No. 17723 for details. No PPM details; no additional sheets required. Specify steel strain poles on the plan sheet. English standards may be used on metric projects. Required pole is selected by the Designer and noted in the plans.

**Related Items**

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<tbody>
<tr>
<td>Forms</td>
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<tr>
<td></td>
<td>Construction</td>
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**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards**: Index No. 17723
- **Specifications**

- *Selected Items may require Tech Spec and/or Plan Detail

**Prep & Doc Manual Chapter(s)**  7, 13

---

**Status**

**Struct.**  649- A-BCC  **STRAIN POLES, STEEL**  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)

B = Pole Type
1 (Type NS-IV)
2 (Type NS-V)
3 (Type NS-VI)
4 (Type NS-VII)
5 (Type NS-VIII)
6 (Type NS-IX)
7 (Type NS-X)
0 (Special)*

CC = Pole Height in even integers 20’ – 50’
20 = 20’
22 = 22’

**Notes**  *B=0 may require Tech Spec or Plan Detail

---

**649- 1A-BBB**  **MONOTUBE ASSEMBLIES, STEEL**

**Unit**  EA  **Accuracy**  Each  **Plan Quantity?**  no

**Notes**  Valid through December 2007.

**Details**  After December 2007: Design Standards are no longer available. Please contact the State Structures Office for assistance. Ensure that the maintaining agency and local authorities have agreed to the use of a monotube. Contact the Estimates Office to request replacement pay item(s).

NOT TO BE USED FOR ITS Projects. Refer to 780 items.
Item used for monotube structures which carry signals. Refer to Plans Preparation Manual, Vol I Chapters 7 and 29, Vol II Chapter 24 for details.
Use Monotube Tabulation Sheet (available from CADD barmenu). Structures Office will determine configuration required.
Foundation included on standard; special foundation determined by structures engineer and included in plans.
Standards available in English units only; English standards may be used on metric projects.
Special: Tech Spec and/or plan detail required. Coordinate with District Specs Office

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<td>Construction</td>
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| Documentation Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

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| Prep & Doc Manual Chapter(s) | 7, 13 |

---

**Status**

**Struct. 649-1A-BBB MONOTUBE ASSEMBLIES, STEEL EA**

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)

BBB =
001 (Special) see detail
002 (Special 2) see detail
003 (Special 3) see detail
110 (Standard 110’ span)
135 (Standard 135’ span)
160 (Standard 160’ span)
185 (Standard 185’ span)

**Notes**

- Effective January 2008; replaces 649-ABC-DEE

**Details**

Pole description, including the type, height, and other details must be included in the signal plans.

**Related Items**

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**649-3A-BCC STEEL MAST ARM ASSEMBLY**

**Unit** EA
**Accuracy** Each
**PlanQuantity?** no

**Notes**

- Effective January 2008; replaces 649-ABC-DEE

**Details**

Pole description, including the type, height, and other details must be included in the signal plans.

**Related Items**

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**Details and Structure:** Chapters 11 to 20
**Construction**  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**  
PPM Chapter  
Other  
Standards  
Specifications  

*Selected Items may require Tech Spec and/or Plan Detail*

**Prep & Doc Manual Chapter(s)**

**Status**

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<tr>
<td>99</td>
<td>Custom*</td>
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**Notes**  
*BC=99 (Custom) for non-standard designs. Verify with Roadway Design Office prior to opening.*

<table>
<thead>
<tr>
<th>649-ABC-DEE</th>
<th>MAST ARM ASSEMBLY</th>
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<td>EA</td>
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Valid through December 2007 letting; replaced by 649-3A-BCC.

Refer to Plans Preparation Manual- Vol I Chapter 29, Vol II Chapter 24, and/or Standards for details. Mast Arm Tabulation Sheet required in plans, in addition to tabulation of quantities.

If a Mast Arm assembly is required that differs from the standards, then a special design is performed and the details placed in the plans.

Mast Arms "A" to be replaced by "B".

Mast Arms "B" for 110 MPH wind w/signal backplate.

Mast Arms "C" for 90 MPH wind w/signal backplate, or 110 MPH wind, without backplate.

Arm and pole types, as noted in standards and pay item structure.

Foundation design is included on standard. Special Foundation designs to be determined by Structures Engineer and included with the plans, if needed.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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</tbody>
</table>

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

PPM Chapter Design

Other Standards Index No. 17741, 17743, and 17745

Specifications

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s) 7, 13

<table>
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<th>Status</th>
</tr>
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<tbody>
<tr>
<td>Struct. 649-ABC-DEE</td>
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A = Operation
4 (Furnish & Install / high loading)
5 (Furnish / high loading)
6 (Install / high loading)
7 (Furnish & Install / reduced loading)
8 (Furnish / reduced loading)
9 (Install / reduced loading)

B = Structure Type
1 (Single Arm Without Luminaire)
2 (Double Arm Without Luminaire)
3 (Single Arm With Luminaire)
4 (Special Design) C = 0, DEE = blank

C = First Arm Type (A=4-6)
1 (B1)
2 (B2)
3 (B3)
4 (B4)
5 (B5)
6 (B6)
7 (B7)

C = First Arm Type (A=7-9)
1 (C1)
2 (C2)
3 (C3)
4 (C4)
5 (C5)
6 (C6)
7 (C7)
D = Second Arm Type (A=4-6)
0 (No Second Arm)
1 (B1)
2 (B2)
3 (B3)
4 (B4)
5 (B5)
6 (B6)
D = Second Arm Type (A=7-9)
0 (No Second Arm)
1 (C1)
2 (C2)
3 (C3)
4 (C4)
5 (C5)
6 (C6)
EE = Upright Pole Type (A=4-6)
01 (Q1)
02 (Q2)
03 (Q3)
04 (Q4)
05 (Q5)
06 (Q6)
07 (Q21 Lum)
08 (Q22 Lum)
09 (Q23 Lum)
10 (Q24Lum)
11 (Special Design)
EE = Upright Pole Type (A=7-9)
01 (R1)
02 (R2)
03 (R3)
04 (R4)
05 (R5)
06 (R6)
07 (R21 Lum)
08 (R22 Lum)
09 (R23 Lum)
10 (R24Lum)
11 (Special Design)

Notes

650- 5A-BCD TRAFFIC SIGNAL

<table>
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<tr>
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<th>Accuracy</th>
<th>Assembly</th>
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Notes

Includes standard traffic signal, with LED indicators, and all other materials necessary for a complete and accepted installation.
Relocate item includes the removal of the signal head and installation at the location.

Details and Structure: Chapters 11 to 20
shown in the plans. This includes signal cable and all other materials necessary for a complete and accepted relocation.

Special: Tech Spec and/or plan detail required. Coordinate with District Specs Office

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| Documentation | Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|               | Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

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<tr>
<td>1 (Furnish &amp; Install)</td>
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<tr>
<td>2 (Furnish)</td>
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<tr>
<td>3 (Install) BCD=blank</td>
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<tr>
<td>4 (Relocate) BCD=blank</td>
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<tr>
<td>B = Number Of Sections On Each Face</td>
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<td>C = Number Of Directions</td>
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<td>D = Type</td>
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</tr>
<tr>
<td>1 (Standard)</td>
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<td>2 (Light Weight)</td>
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<td>3 (Special) see detail</td>
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<table>
<thead>
<tr>
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<th>653-ABC- SIGNAL, PEDESTRIAN</th>
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<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
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| Documentation | Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|               | Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

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Details and Structure: Chapters 11 to 20
### Topic No. 600-000-002

#### Basis of Estimates

**2007 Edition**

**August 27, 2007**

---

**Prep & Doc Manual Chapter(s)**: 7, 13

---

### Status

**Struct.**: 653-ABC- SIGNAL, PEDESTRIAN AS

- **A**: Operation
  - 1 (Furnish & Install)
  - 2 (Furnish)
  - 3 (Install)
  - 4 (Relocate) BC=00

- **B**: Type Signal
  - 1 (12" Incandescent)  
  - 2 (12" Fiber Optic)  
  - 3 (Optically Programmed)  
  - 4 (Neon)  
  - 5 (9" Incandescent)  
  - 6 (9" Fiber Optic)  
  - 7 (Neon International Symbol Low Wattage)  
  - 8 (LED)  
  - 9 (LED- Countdown)

- **C**: Number of Directions (Ways)

---

### Notes

**Related Items**

- **Forms**
  - **Required**: Design
    - SHTabQuant
  - **Recommended**: Construction
    - Refer to Comp Book

- **Documentation**
  - **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  
  **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

---

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s)**: 7, 13

---

### Status

**Struct.**: 659-ABB- SIGNAL HEAD AUXILIARIES EA

- **A**: Operation
  - 1 (Furnish & Install)
  - 2 (Furnish)
  - 3 (Install)

- **BB**: 01 (Back Plates, 3 Section)  
  - 02 (Back Plates, 4 Section)  
  - 03 (Disconnect Hanger)

---

Details and Structure: Chapters 11 to 20
04 (Signal Lamps 140 Watt Max.)
05 (Signal Lamps 60 Watt Max.)
06 (Tunnel Visor)
07 (Aluminum Pedestal)
08 (Steel Pedestal)
09 (Concrete Pedestal, Type II)
10 (Louvers)
11 (Back Plates, 1-Section)
12 (Mounting Brackets, 2-Way)
13 (Mounting Brackets, 3-Way)
14 (Mounting Brackets, 4-Way)
15 (12" Lens)
16 (8" Lens)
17 (Signal Frame)
18 (Back Plates, 5-Section Cluster)
20 (LED Module)

### Notes

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<thead>
<tr>
<th>660- 1-ABB LOOP DETECTOR, INDUCTIVE</th>
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**Notes**

**Details**

**Related Items**

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**Documentation**

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**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s)**

7, 13

**Status**

**Struct.**

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<td>3 (Install)</td>
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<tr>
<td>BB = Type</td>
</tr>
<tr>
<td>01 (Type 1, 1 Ch, R, S)</td>
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<tr>
<td>02 (Type 2, 1 Ch, R, S, TD)</td>
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<tr>
<td>03 (Type 3, 1 Ch, SS, S))</td>
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<td>04 (Type 4, 1 Ch, SS, S, TD)</td>
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<td>05 (Type 5, 2 Ch, SS, S)</td>
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<td>06 (Type 6, 2 Ch, SS, S, TD)</td>
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<td>07 (Type 7, 4 Ch, SS, S)</td>
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**Details and Structure:** Chapters 11 to 20

Page 266 of 428
08 (Type 8, 4 Ch, SS, S, TD)
09 (Type 9, 2 Ch, SS, RM)
10 (Type 10, 2 Ch, SS, RM, TD)
11 (Type 11, 4 Ch, SS, RM)
12 (Type 12, 4 Ch, SS, RM, TD)

Legend
Ch = Channel
R = Relay Output
S = Shelf Mounted
TD = Time Delay
RM = Rack Mounted
SS = Solid State

## Notes

### 660- 2-ABB LOOP ASSEMBLY

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**Notes**

Includes cost of loop material, labor, etc. according to specifications.

**Related Items**

**Required**

- SHTabQuant
- COMP 700-050-03

**Recommended**

- Refer to Comp Book

**Forms**

**Design**

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Documentation**

**PPM Chapter**

- Design
- Construction

**Other**

- Index No. 17781

**Specifications**

- Prep & Doc Manual Chapter(s) 6, 7, 13

**Status**

**Struct.**

- 660- 2-ABB LOOP ASSEMBLY AS

  A = Operation
  1 (Furnish & Install)
  2 (Furnish)
  3 (Install)
  BB = Type
  01 (Type A)
  02 (Type B)
  03 (Type C)
  04 (Type D)
  05 (Type E)
  06 (Type F)
  07 (Type G)
  08 (Type H)

**Notes**
663-72- A  VEHICLE DETECTOR SUPPORT APPURTENANCES

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Status

Struct. 663-72- A  VEHICLE DETECTOR SUPPORT APPURTENANCES  EA

A =
1 (Readers)
2 (Memory Modules)
3 (Software)

Notes

663-74- AB  VEHICLE DETECTOR ASSEMBLIES

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<td>Forms Design</td>
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Details and Structure: Chapters 11 to 20
663- 74- AB  VEHICLE DETECTOR ASSEMBLIES  EA

A = Operation
1 (Furnish & Install)
B = Assembly Type
1 (Optical Type)
2 (Infrared)
3 (Road Tube)

Notes

665- AB-  PEDESTRIAN DETECTOR

<table>
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<th>EA</th>
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<th>Each</th>
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Notes

Details  For Relocate, ensure that plans/specs

Related Items

Forms

Design  SHTabQuant  COMP 700-050-03

Construction  Refer to Comp Book

Documentation

Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards  Index No. 17784

Specifications

Prep & Doc Manual Chapter(s)  7, 13

Status

665- AB-  PEDESTRIAN DETECTOR  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate) B=0
B = Assembly Type
1 (Pole Or Controller Cabinet Mounted Detector Station)
2 (Detector Station With Post)
3 (Detector With Sign Only)

Notes

668- AB-  DETECTOR CABINET (SIGNALS)

<table>
<thead>
<tr>
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<th>EA</th>
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Notes

Details

Related Items

Required  Recommended

References

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s)  7, 13

Details and Structure: Chapters 11 to 20
Struct.  668- AB-  DETECTOR CABINET ( SIGNALS)  EA

A =
1 ( Furnish & Install)
2 ( Furnish)
3 ( Install)

B = Cabinet Size (Minimum)
1 ( Type I  13" X 10" X  6")
2 ( Type II  27" X 15" X 12")
3 ( Type III 32" X 20" X 14")
4 ( Type IV  48" X 29" X 16")
5 ( Type V   54" X 38" X 24")
6 ( Type Vi  74" X 38" X 24")

Notes

670- 4- A  FLASHING BEACON CONTROLLER ASSEMBLY

<table>
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Related Items

Forms

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Documentation

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References

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s) 7, 13

Statu
A =
1 (Furnish & Install)
2 (Furnish)
3 (Install)

Notes

<table>
<thead>
<tr>
<th>670-5-ABC TRAFFIC CONTROLLER ASSEMBLY</th>
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**Notes**

**Details**

**Related Items**

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<td>Specifications</td>
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*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s) 7, 13

**Status**

Struct. 670-5-ABC TRAFFIC CONTROLLER ASSEMBLY AS

A =
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Modify)
B = Type
1 (NEMA)
2 (170)
3 (Special)*
C = Special Features
0 (None)
1 (One Preemption Plan)
2 (Two Preemption Plans)

* Special may require Tech Spec and/or Plan Detail

**Notes**

<table>
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**Details**

Details and Structure: Chapters 11 to 20
Topic No. 600-000-002
Basis of Estimates

Required Recommended

Standards Specifications

Struct. 671-2-AB TRAFFIC CONTROLLER EA

A =
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Modify)

B = Type
1 (NEMA)
2 (170)
3 (Special)
4 (2070)

Notes

Related Items

Forms
Design: SHTabQuant
Construction: Refer to Comp Book

Documentation
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s): 7, 13

Status
Struct. 671-2-AB TRAFFIC CONTROLLER EA

Notes

678-1-ABB CONTROLLER ACCESSORIES

Unit EA Accuracy Each PlanQuantity? no

Details

Related Items

Forms
Design: SHTabQuant
Construction: Refer to Comp Book

Documentation
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s): 7, 13

Status
Struct. 678-1-ABB CONTROLLER ACCESSORIES EA

Details and Structure: Chapters 11 to 20
A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)

BB = Type Of Controller Accessory
01 (Type 3 Conflict Monitor)
02 (Type 6 Conflict Monitor)
03 (Type 12 Conflict Monitor)
04 (Load Switch)
05 (Type 1 Flasher)
06 (Type 3 Flasher)
07 (Type 1 Time Switch)
08 (Type 2 Time Switch)
09 (Type 3 Time Switch)
10 (Type 4 Time Switch)
11 (Power Reduction Assembly)
12 (Master Clock Unit)

---

680-ABB-
SYSTEM CONTROL EQUIPMENT

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Notes

Details
Detailed plan notes or specifications to be provided by designer.

Related Items

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Documentation
Design
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Construction
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References
PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 680-ABB-
SYSTEM CONTROL EQUIPMENT

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Modify)
BB = Item As Described
01 (CPU)
02 (Card Reader)
03 (Keyboard Printer)
04 (Line Printer)
05 (Disc Memory System)
06 (Communications Interface)
07 (Display Map Interface)
08 (Mag Type System)
09 (Keyboard CRT)
10 (Control Console)
11 (Roadside Master)
12 (Card Punch)
13 (Central Microcomputer Assembly)
14 (Central Modem Card)
15 (Autodial/Answer Ext Comm Modem)
16 (Fiber Optic, FSK Modem)

Notes

681-ABB- SYSTEM SOFTWARE

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<th>Lump Sum</th>
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Notes

Related Items

Forms

Required | Recommended
---|---
Design | SHTabQuantLS | COMP 700-050-05

Construction

Refer to Comp Book

Documentation

Design

Use a quantity of 1. No form required. Locate or define the scope of work involved on the plans.

Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 681-ABB- SYSTEM SOFTWARE LS/LS

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)

BB = Item As Described
01 (CPU Software)
02 (UTCS Fortran Routines)
03 (UTCS Assembly Language Routines)
04 (Data Base)
05 (Control Patterns)
06 (Data Base Generator)
07 (Pattern Generator)
08 (SCS Operating Software)
09 (Motorist Aid Operating Software)
10 (Weigh In Motion Operating Software)  
11 (Traffic Control System Software)

### Notes

#### 682-ABB- SYSTEM DISPLAY

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<th>Each</th>
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**Notes**

**Details**

This item requires technical information. Please coordinate notes and/or specifications with District Specifications Office.

**Related Items**

**Forms**

- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book

- **Recommended**
  - Design: COMP 700-050-03

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

7, 13

---

#### Status

**Struct.** 682-ABB- SYSTEM DISPLAY

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Modify)

BB = Item As Described
01 (CRT Display)
02 (Panel Board Map)
03 (Projected Display)

---

#### Notes

### 683-ABB- SYSTEM COMMUNICATIONS

<table>
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**Notes**

**Details**

Tabulation summary required on all projects.

**Related Items**

**Forms**

- **Required**
  - Design: SHTabQuantLS
  - Construction: Refer to Comp Book

- **Recommended**
  - Design: COMP 700-050-05

**Documentation**

- **Design**
  - Use a quantity of 1. No form required. Locate or define the scope of work involved on the plans.

---

**Details and Structure:** Chapters 11 to 20
**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

---

**Status**

**Struct.** 683-ABB-

SYSTEM COMMUNICATIONS LS/LS

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Modify)

BB= Item As Described
01 (FDM)
02 (TDM)
03 (TDM Hardware)
04 (TDM Radio)
05 (TDM Coaxial)
06 (Central Site Radio)
07 (System Communications Modems)
08 (Voice Equipment)

---

**Notes**

---

**684- AB-**

SYSTEM COMMUNICATIONS CARRIER

**Unit** LF; M1

**Accuracy** Linear Foot; 10th of a Meter

**PlanQuantity?** no

**Details**

**Related Items**

**Forms**

Required SHTabQuant

Recommended COMP 700-050-03

**Documentation**

Design Refer to Comp Book

**References**

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

---

Details and Structure: Chapters 11 to 20
### Struct. 684- AB-

**SYSTEM COMMUNICATIONS CARRIER**

- **A = Operation**
  - 1 (Furnish & Install)
  - 2 (Furnish)
  - 3 (Install)
- **B = Item As Described**
  - 1 (Multi-Pair Cable)
  - 2 (Coaxial Cable)
  - 3 (Lead Jacketed Coaxial Cable)
  - 4 (Fiber Optic Cable)

### Notes

**685-ABB-**

**SYSTEM AUXILIARIES**

<table>
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<th>Unit</th>
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<th>Accuracy</th>
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<tr>
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<td></td>
<td>Each</td>
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</table>

**Details**

NOT TO BE USED FOR ITS Projects. Refer to 780 items.

**Related Items**

**Forms**

- **Design**
  - Required: SHTabQuant
  - Recommended: COMP 700-050-03
- **Construction**
  - Refer to Comp Book

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**

**Status**

**Struct. 685-ABB-**

**SYSTEM AUXILIARIES**

- **A = Operation**
  - 1 (Furnish & Install)
  - 2 (Furnish)
  - 3 (Install)
- **BB = Item As Described**
  - 01 (Rf Modulator)
  - 02 (Multi-Plex Field Transceiver, Wire)
  - 03 (Multi-Plex Field Transceiver, Radio)
  - 04 (Data Accumulator)
  - 05 (Master Clock Unit)
  - 06 (Uninterruptible Power Source)
  - 07 (Test Equipment)
  - 08 (Equipment Cabinet, Type A)
  - 09 (Equipment Cabinet, Type B)
  - 10 (Equipment Cabinet, Type C)
  - 11 (Equipment Cabinet, Type D)

---

**Prep & Doc Manual Chapter(s)** 7, 13

---

**Details and Structure: Chapters 11 to 20**

**Page 277 of 428**
12 (Bridge Continuity Sensor)
13 (Pier Vibration Detection System-Sensors)
14 (Pier Vibration Detection System-Monitor/Controller)
15 (Weather Instrumentation)
16 (Remote Site-Radio)
17 (Citizen Band-Radio)
18 (Telemetry Transmitter)
19 (Telemetry Receiver)
20 (Telemetry Transceiver)
21 (Pre-Timed Controller Adapter)
22 (2-Phase Or Full Actuated Adapter)
23 (3/Phase Thru 8-Phase Full Actuated Adapter)
24 (Universal Adapter)
25 (Standby System Relay)
26 (Standby System Timer)
27 (Telephone Connection Box)
28 (Interface Panel)
29 (Pneumatic Transport Tube Assembly)
30 (Weigh In Motion Scale Assembly)
31 (Static Scale Assembly)
32 (Public Address System Assembly)
33 (Rf Demodulator)
34 (Dimensional Measurement Assembly)
36 (Low Band Vhf Radio)
37 (Line Amplifier)
38 (CCTV Camera Assembly)
39 (Fiber Optic Video Amplifier, Transmitter & Receiver)
40 (Fiber Optic, Modulator/Demodulator)
41 (Fiber Optic, Multiplexor/Demultiplexor)
42 (Video Central Control Equipment)
43 (Video Monitors)
44 (Video System Support Equipment)
55 (PLP FSK Card)
56 (FSK Modem, Interface Panel Wall)
57 (FSK Modem, Multiplexor Interface Panel)
58 (FSK Modem, Interface Panel Rack)
60 (Microwave Radar Detection Unit Assembly)

### Notes

<table>
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<tr>
<th>686-ABB-</th>
<th>CLOSED CIRCUIT TELEVISION EQUIPMENT</th>
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**Notes**

- **Related Items**
  - **Forms**
    - **Required**
      - Design: SHTabQuant
    - Construction: Refer to Comp Book
  - **Documentation**
    - Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
    - Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Details and Structure:** Chapters 11 to 20
Standards
Specifications

Struct. 686-ABB-
CLOSED CIRCUIT TELEVISION EQUIPMENT  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)

BB = Item As Described
01 (Camera Assembly)
02 (Monitor)
03 (Recorder)
04 (Central Controls)
05 (Camera Support)
C 06 (Cable Plant)

Notes

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<th>TRAFFIC SIGNAL HEAD ASSEMBLY, REMOVAL</th>
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<td>Quantity?  no</td>
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Details

Related Items
Required  Recommended
Forms
Design  SHTabQuant  COMP 700-050-03
Construction  Refer to Comp Book

Documentation
Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Notes

| 690-20- | SIGNAL PEDESTRIAN ASSEMBLY, REMOVE |

Details and Structure: Chapters 11 to 20
### Topic No. 600-000-002
Basis of Estimates

#### 2007 Edition
August 27, 2007

---

**Unit** | **Accuracy** | **Each** | **PlanQuantity?** | **no**
---|---|---|---|---

**Notes**

**Details**

**Related Items**

**Forms**
- Required
  - Design
    - SHTabQuant
  - Construction
    - Refer to Comp Book

**Documentation**
- Design
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications
- Prep & Doc Manual Chapter(s) 7, 13

---

**Status**

**Struct.** 690-20- SIGNAL PEDESTRIAN ASSEMBLY, REMOVE EA

---

**Notes**

---

**Related Items**

**Forms**
- Required
  - Design
    - SHTabQuant
  - Construction
    - COMP 700-050-03

**Documentation**
- Design
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications
- Prep & Doc Manual Chapter(s) 7, 13

---

**Status**

**Struct.** 690-31- SIGNAL PEDESTAL- REMOVE EA

---

**Notes**

---

**Related Items**

**Forms**
- Required
  - Design
    - SHTabQuant
  - Construction
    - COMP 700-050-03

**Documentation**
- Design
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications
- Prep & Doc Manual Chapter(s) 7, 13

---

**Status**

**Struct.** 690-32- POLE REMOVAL- SHALLOW

---

Details and Structure: Chapters 11 to 20
Separate items exist for "shallow" and "deep" pole removal.
Shallow: includes complete removal of the above ground portion of the pole, attachments, and removal of the pole foundation, including buried attachments to a depth of 4 feet (1.2 m) below existing grade, measured per each.
Deep: includes complete removal of the above ground portion of the pole and attachments, and the complete removal of the pole foundation, measured per foot (meter) from the existing grade to the deepest portion of the pole foundation actually removed.
Estimate 20 ft (6 meters) per deep pole removal.
NOTE ALL: Plans should identify locations for pole removal, and type of pole to be removed at each location. Not to be used on poles for highway lighting, unless they are jointly used to support traffic signal mast arms or span wire assemblies.
### Related Items

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<td>References</td>
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</table>

### Status

**Struct.** 690- 33- A  
**POLE REMOVAL- DEEP**  
**LF**

A =
1 (Direct Burial)  
2 (Bolt on Attachment)

### Notes

### Related Items

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<td>Standards</td>
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</table>

### Status

**Struct.** 690- 50- A  
**CONTROLLER ASSEMBLY- REMOVE**  
**EA**

A =
'Blank' = Complete Assembly  
1 (Cabinet Assembly, Less Foundation)  
2 (Controller Unit)

### Notes
### 690-60- DETECTOR VEHICLE ASSEMBLY, REMOVE

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<th>EA</th>
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**Notes**

**Details**

**Related Items**

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**References**

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**Prep & Doc Manual Chapter(s)**

| 7, 13 |

**Status**

**Struct.**

690-60- DETECTOR VEHICLE ASSEMBLY, REMOVE EA

### 690-70- DETECTOR PEDESTRIAN ASSEMBLY, REMOVE

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**Documentation**

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**Prep & Doc Manual Chapter(s)**

| 7, 13 |

**Status**

**Struct.**

690-70- DETECTOR PEDESTRIAN ASSEMBLY, REMOVE EA

### Notes
### SPAN WIRE ASSEMBLY REMOVE

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**References**

PPM Chapter

**Struct.** 690-80- SPAN WIRE ASSEMBLY REMOVE EA

---

### CONDUIT & CABLING, REMOVE

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**References**

PPM Chapter

**Struct.** 690-90- CONDUIT & CABLING, REMOVE PI

---

Details and Structure: Chapters 11 to 20
### 690-91- SIGNAL INTERCONNECT CABLE, REMOVE

| Unit         | LF; M1          | Accuracy       | Linear Foot; 10th of a Meter | PlanQuantity? | no |

| Notes Details |
|---|---|---|---|---|---|
| Related Items | Required | Recommended |
| Forms Design | SHTabQuant | COMP 700-050-03 |
| Design | Refer to Comp Book |
| Construction Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |
| References | PPM Chapter | Other |
| Standards | Specifications |  |
| Prep & Doc Manual Chapter(s) | 7, 13 |  |

| Status |
|---|---|
| Struct.  | 690-91- SIGNAL INTERCONNECT CABLE, REMOVE LF |

| Notes |

---

### 690-100- SIGNAL EQUIPMENT, MISCELLANEOUS REMOVE

| Unit         | PI          | Accuracy       | Per Intersection | PlanQuantity? | no |

| Notes Details |
|---|---|---|---|---|---|
| Related Items | Required | Recommended |
| Forms Design | SHTabQuant | COMP 700-050-03 |
| Design | Refer to Comp Book |
| Construction Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |
| References | PPM Chapter | Other |
| Standards | Specifications |  |
| Prep & Doc Manual Chapter(s) | 7, 13 |  |

| Status |
|---|---|
| Struct.  | 690-100- SIGNAL EQUIPMENT, MISCELLANEOUS REMOVE PI |

| Notes |

---

Details and Structure: Chapters 11 to 20
699-1 AB  INTERNALLY ILLUMINATED SIGN

| Unit  | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

Details

This item should be used when requested by maintaining agency.

The internally illuminated street name sign is normally attached to the signals mast arm or span wire. This item should be shown on the signals plans and loaded in the signals category.

**Related Items**

**Forms**

Required

- **Design**: SHTabQuant

Recommended

- **COMP 700-050-03**

**Construction**: Refer to Comp Book

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**

**Standards**: Index No. 17748

**Specifications**

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 699-1 AB  INTERNALLY ILLUMINATED SIGN  EA

A = Operation

B = Sign type

1 = Street Name

---

700-20 AB  SINGLE POST SIGN

| Unit  | AS | Accuracy | Assembly | PlanQuantity? | no |

**Notes**

**Effective July 2007 letting; replaces 700-40-A.**

**Details**

Includes sign panel, post, any foundation or breakaway base as required by the Design Standards or plans. Per specifications, "for the purpose of payment, a sign assembly consists of all the signs mounted on a single structure (one, two, or three posts, or overhead structure)..."

INSTALL: Install includes the installation of existing panel(s) on a new sign post.

NOTE: For signs greater than 20 SF, multi-post signs are recommended; if project conditions require a single post sign greater than 20sf, a custom (non-standard) sign may be used. Plan details will be needed.

Refer to design standards for single/multi-post requirements.

---

**Related Items**

**Required**

- **SHTabQuant**

**Recommended**

- **COMP 700-050-03**
Forms Design SHTabQuant COMP 700-050-03
Design Construction Refer to Comp Book

Documentation Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Design Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References PPM Chapter
Other Standards Specifications
Prep & Doc Manual Chapter(s) 7, 13

Status Struct. 700- 20- AB SINGLE POST SIGN AS

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate) B=0
6 (Remove) B=0
B= Sign Panel Size, Square feet
1 (less than 12)
2 (12-20)
3 (20+ back-to-back)
9 (Custom)*

Notes NOTE: Standards limit single post sign area to 20 SF.
*B=9 (Custom) for non-standard designs. Plan details will be necessary. Verify with Roadway Design Office prior to opening/using on a project.

700- 21- AB MULTI-POST SIGN

Unit AS Accuracy Assembly PlanQuantity? no
Notes Effective July 2007 letting; replaces 700-41-AA.
Details Includes sign panel, post, any foundation or breakaway base as required by the Design Standards or plans. The number and size of post and the average post length must be shown in the plans. Per specifications, “for the purpose of payment, a sign assembly consists of all the signs mounted on a single structure (one, two, or three posts, or overhead structure)…”

INSTALL: Install includes the installation of existing panel(s) on new sign posts.

Related Items Forms
Design SHTabQuant COMP 700-050-03
Construction Refer to Comp Book

Documentation Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).
### Topic No. 600-000-002

**Basis of Estimates**

2007 Edition  
August 27, 2007

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A = Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Relocate) B=0  
6 (Remove) B=0  

B = Sign Panel Size, square feet  
1 (50 or less)  
2 (51 to 100)  
3 (101 to 150)  
4 (151 to 200)  
5 (201 to 250)  
6 (251 to 300)  
7 (over 300)  
9 (Custom) non-standard sign

**Notes**  
*B=9 (Custom) for non-standard designs. Verify with Roadway Design Office prior to opening.*

### 700-22-ABC

**OVERHEAD TRUSS SPAN SIGN**

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<th>Assembly</th>
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**Notes**  
Effective January 2008 letting; replaces selected 700-42 to 700-46 items

**Details**  
Includes sign panels, overhead structure, foundations and other incidentals required for a complete assembly. Complete design and details of the structure and foundation must be shown in the plans. Includes all components listed in the Standards and all external conduit and conductors for the service. Custom (BC=99) to be used for non-standard designs.

**Related Items**

**Required**  
Design  
SHTabQuant  
COMP 700-050-03

Construction  
Refer to Comp Book

**Recommended**

Design  
Location in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction  
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter  
Other  
Standards  
Specifications

*Selected Items may require Tech Spec and/or Plan Detail*  

Prep & Doc Manual Chapter(s)  
7, 13
## Status

**Struct.** 700-22-ABC  
**OVERHEAD TRUSS SPAN SIGN**  
**AS**

A = Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install) BC=00  
4 (Relocate) BC=00  
6 (Remove) BC=00

B = Truss Span Length (feet)  
1 (50 or less)  
2 (51-100)  
3 (101-150)  
4 (151-200)  
5 (Greater than 200)  
9 (Custom) BC=99

C = Sign Panel Size (square feet)  
1 (300 or less)  
2 (301-500)  
3 (501-700)  
4 (Greater than 700)  
9 (Custom) B=99

**Notes**  
*BC=99 (Custom) for non-standard designs. Verify with Roadway Design Office prior to opening.*

### 700-23-ABC OVERHEAD TRUSS CANTILEVER SIGN

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<th>Assembly</th>
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**Notes**  
Effective January 2008 letting; replaces selected 700-42 to 700-46 items

**Details**

Includes sign panels, overhead structure, foundations and other incidentals required for a complete assembly. Complete design and details of the structure and foundation must be shown in the plans. Includes all components listed in the Standards and all external conduit and conductors for the service. Custom (BC=99) to be used for non-standard designs.

**Related Items**

**Forms**

- **Design**  
  Required: SHTabQuant  
  Recommended: COMP 700-050-03  
  Refer to Comp Book

**Documentation**

- **Design**  
  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**  
  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

*Selected Items may require Tech Spec and/or Plan Detail*

**Prep & Doc Manual Chapter(s)**  
7, 13

---

**Status**

**Struct.** 700-23-ABC  
**OVERHEAD TRUSS CANTILEVER SIGN**  
**AS**

---

Details and Structure: Chapters 11 to 20
A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) BC=00
4 (Relocate) BC=00
6 (Remove) BC=00

B= Truss Span Length (feet)
1 (30 or less)
2 (31-40)
3 (41-50)
4 (over 50)
9 (Custom) B=9*

C= Sign Panel Size (square feet)
1 (100 or less)
2 (101-200)
3 (201-300)
4 (Greater than 300)
9 (Custom) C=9*

Notes
*BC=99 (Custom) for non-standard designs. Verify with Roadway Design Office prior to opening.

### 700- 40-  A SIGN, SINGLE POST

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**Related Items**

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|--------------|--------|----------------|-----------------|--------------------|
| Construction | Refer to Comp Book | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |               |

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<th>7, 13</th>
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**Status**

**Block Pending**

**Struct.**

700- 40-  A SIGN, SINGLE POST AS

A = Square Footage Of Sign Panel
1 (Less Than 12)
2 (12 - 25)
4 (Special)

**Notes**
**700-41-AA SIGN, MULTI-POST**

- **Unit**: AS  
- **Accuracy**: Assembly  
- **Plan Quantity?**: no

**Notes**

- **Valid through 6-30-07; replaced by 700-21 items**
- **Details**
  
  Includes sign panel, post, any foundation or breakaway base as required by the Design Standards or plans. The number and size of post and the average post length must be shown in the plans. Per specifications, "for the purpose of payment, a sign assembly consists of all the signs mounted on a single structure (one, two, or three posts, or overhead structure)..."

**Related Items**

**Forms**

- **Required**: SHTabQuant  
- **Recommended**: COMP 700-050-03

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other Standards**: Index No. 11200
- **Specifications**

**Prep & Doc Manual Chapter(s)**: 7, 13

**Status**: Block Pending

**Struct. 700-41-AA SIGN, MULTI-POST AS**

AA = Square Footage Of Sign Panel

- 10 (50 Or Less)
- 11 (51 To 100)
- 12 (101 To 150)
- 13 (151 To 200)
- 14 (201 To 250)
- 15 (251 To 300)
- 16 (Greater Than 300)

**Notes**

**700-42-AAB OVERHEAD TRUSS SPAN SIGN**

- **Unit**: AS  
- **Accuracy**: Assembly  
- **Plan Quantity?**: no

**Notes**

- **Valid through December 2007; replaced by 700-22 and 700-23 items.**
- **Details**
  
  Includes sign panels, overhead structure, foundations and other incidentals required for a complete assembly. Complete design and details of the structure and foundation must be shown in the plans. Includes all components listed in the Standards and all external conduit and conductors for the service.

**Related Items**

**Forms**

- **Required**: SHTabQuant  
- **Recommended**: COMP 700-050-03

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form
Standards

Index No. 11200

Specifications

Struct. 700-42-AAB OVERHEAD TRUSS SPAN SIGN AS

AA = Length Of Sign Truss
01 (20 Or Less)
02 (21 - 40)
03 (41 - 60)
04 (61 - 80)
05 (81 - 100)
06 (101 - 120)
07 (121 - 140)
08 (141 - 160)
09 (161 - 180)
10 (181 - 200)
11 (201 - 220)
12 (221 - 240)
13 (241 - 260)
14 (261 - 280)

B = Square Footage Of Sign Panel
1 (100 Or Less)
2 (101 - 200)
3 (201 - 300)
4 (301 - 400)
5 (401 - 500)
6 (501 - 600)
7 (601 - 700)
8 (Over 700)

Notes

Valid through December 2007; replaced by 700-22 and 700-23 items.

Includes sign panels, overhead structure, foundations and other incidentals required for a complete assembly. Complete design and details of the structure and foundation must be shown in the plans. Includes all components listed in the Standards and all external conduit and conductors for the service.

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Notes

Valid through December 2007; replaced by 700-22 and 700-23 items.

Includes sign panels, overhead structure, foundations and other incidentals required for a complete assembly. Complete design and details of the structure and foundation must be shown in the plans. Includes all components listed in the Standards and all external conduit and conductors for the service.

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### Standards

Index No. 11200

### Specifications

#### Struct. 700-43-AB OVERHEAD TRUSS CANTILEVER SIGN

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<td>4 (41 - 50)</td>
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<td>5 (51 - 60)</td>
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<td>6 (61 - 70)</td>
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<td>7 (71 - 80)</td>
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<td>8 (81 - 90)</td>
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<td>4 (151 - 200)</td>
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<td>5 (201 - 250)</td>
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<td>6 (251 - 300)</td>
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<td>7 (Over 300)</td>
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### Notes

Valid through December 2007; replaced by 700-22 and 700-23 items.

Includes sign panels, overhead structure, foundations, sign luminaries, electrical enclosure and other incidentals required for a complete assembly. Conduit, conductors, pull boxes and service point equipment, if required to get power to the sign structure, are not covered by this item. Complete design and details of the structure and foundation must be shown in the plans. Includes all components listed in the Standards and all external conduit and conductors for the service.

### Related Items

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### References

PPM Chapter

Index No. 11200, 17505

### Status

PPM Chapter

Index No. 11200

Prep & Doc Manual Chapter(s) 7, 13
Topic No. 600-000-002
Basis of Estimates

Prep & Doc Manual Chapter(s)  7, 13

Status

Struct.  700- 44-AAB LIGHTED OVERHEAD TRUSS SPAN SIGN AS

AA = Length Of Sign Truss
01 (20 Or Less)
02 (21 - 40)
03 (41 - 60)
04 (61 - 80)
05 (81 - 100)
06 (101 - 120)
07 (121 - 140)
08 (141 - 160)
09 (161 - 180)
10 (181 - 200)
11 (201 - 220)
12 (Over 220)

B = Square Footage Of Sign Panel
1 (100 Or Less)
2 (101 - 200)
3 (201 - 300)
4 (301 - 400)
5 (401 - 500)
6 (501 - 600)
7 (601 - 700)
8 (Over 700)

Notes

Valid through December 2007; replaced by 700-22 and 700-23 items.
Includes sign panels, overhead structure, foundations, sign luminaries, electrical enclosure and other incidentals required for a complete assembly. Conduit, conductors, pull boxes and service point equipment, if required to get power to the sign structure, are not covered by this item. Complete design and details of the structure and foundation must be shown in the plans. Includes all components listed in the Standards and all external conduit and conductors for the service.

Related Items

Forms
Design SHTabQuant
Construction Refer to Comp Book

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other Standards Index No. 11200, 17505
Specifications
Prep & Doc Manual Chapter(s)  7, 13

Details and Structure: Chapters 11 to 20
Struct. 700-45-AB  LIGHTED OVERHEAD TRUSS CANTILEVER SIGN  AS

A = Length Of Cantilever
1 (20 Or Less)
2 (21 - 30)
3 (31 - 40)
4 (41 - 50)
5 (51 - 60)
6 (61 - 70)
7 (71 - 80)
8 (81 - 90)

B = Square Footage Of Sign Panel
1 (50 Or Less)
2 (51 - 100)
3 (101 - 150)
4 (151 - 200)
5 (201 - 250)
6 (251 - 300)
7 (Over 300)

Notes

700-46-AB  EXISTING SIGN

<table>
<thead>
<tr>
<th>Unit</th>
<th>AS</th>
<th>Accuracy</th>
<th>Assembly</th>
<th>Plan Quantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td>Selected Items blocked; B=1 &amp; 2 valid through 6-30-07; B=3 &amp; 4 valid through 12-31-07. Replaced by 700-20 to 700-23 items</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Details

The REMOVE item includes the removal of the sign panels and the complete support assembly.
The RELOCATE item includes the reinstalltion of the complete assembly at the location shown in the plans.
The INSTALL item includes the installation of the assembly, at the location shown in the plans. Includes the breakaway base and foundation, if required for installation of the new assembly. For a multi-post assembly, the number and size of the post and the average post length must be shown in the plans.

Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td>Documentation</td>
<td>Design</td>
</tr>
<tr>
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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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References

PPM Chapter | Other |
<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Standards</td>
<td>Specifications</td>
</tr>
<tr>
<td>Prep &amp; Doc Manual Chapter(s)</td>
<td>7, 13</td>
</tr>
</tbody>
</table>

Status

Struct. 700-46-AB  EXISTING SIGN  AS
A = Operation
1 (Remove)
2 (Relocate)
3 (Install)

B = Sign Assembly Type
1  (Single Post) valid through 6/07
2  (Multi-Post) valid through 6/07
3  (Overhead Truss) valid through 12/07
4  (Overhead Cantilever) valid through 12/07
5  (Span Wire)
6  (Bridge Mounted)

Notes

700- 48- AB SIGN PANEL

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

Notes

Details
This item is for the sign panel only. For posts, structures, etc, refer to other Section 700 items.
The FURNISH AND INSTALL item includes the sign panel and materials required for installation. The INSTALL item includes the materials required for installation. The sign panel will be furnished. The OVERLAY item includes the sign panel and the materials required for installation. The RELOCATE item includes the removal of the sign panel and the reinstallation at the location noted in the plans. The REPLACE item includes the new sign panel, the removal of the existing panel and the installation of the new panel. The REMOVE item includes the removal of the existing sign panel.

Related Items

Forms
Design  SHTabQuant
Construction  Refer to Comp Book

Documentation
Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s)  7, 13

Status
Struct.  700- 48- AB SIGN PANEL EA

A = Operation
1 (Furnish & Install)
2 (Install)
3 (Overlay)
4 (Relocate)
5 (Replace)
6 (Remove) B=0
7 (Furnish Only)

B = Square Footage Of Sign Panel

Details and Structure: Chapters 11 to 20
700-70-
SIGN, LIGHTED OVERHEAD- BRIDGE MOUNTED

<table>
<thead>
<tr>
<th>Unit</th>
<th>AS</th>
<th>Accuracy</th>
<th>Assembly</th>
<th>PlanQuantity?</th>
</tr>
</thead>
</table>

Notes
Details
Includes sign panels, overhead structure, sign luminaries, electrical enclosure and other incidentals required for a complete assembly. Conduit, conductors, pull boxes and service point equipment, if required to get power to the sign structure, are not covered by this item. Complete design and details of the structure and connections to the bridge must be shown in the plans. Includes all components listed in the Standards and all external conduit and conductors for the service.

Related Items
Forms
Required
Design: SHTabQuant
Construction: Refer to Comp Book

Recommended
Design: COMP 700-050-03

Documentation
Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 700-70-
SIGN, LIGHTED OVERHEAD- BRIDGE MOUNTED AS

Notes

700-82-
OVERHEAD SIGN- SPAN WIRE MOUNTED

<table>
<thead>
<tr>
<th>Unit</th>
<th>AS</th>
<th>Accuracy</th>
<th>Assembly</th>
<th>PlanQuantity?</th>
</tr>
</thead>
</table>

Notes
Details
This item includes sign panels, poles, span wire assembly and other incidentals required for a complete assembly. The type and length of the poles and the size of the span wires must be shown in the plans.

Related Items
Forms
Required
Design: SHTabQuant

Recommended
Design: COMP 700-050-03

Details and Structure: Chapters 11 to 20
<table>
<thead>
<tr>
<th>700-82-</th>
<th>OVERHEAD SIGN - SPAN WIRE MOUNTED</th>
<th>AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td>Refer to Comp Book</td>
<td></td>
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<tr>
<td></td>
<td>Locate in plans. Summarize</td>
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<td></td>
<td>tabulation of quantities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sheet in the plans, or detail</td>
<td></td>
</tr>
<tr>
<td></td>
<td>calculations in the computation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>book.</td>
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</tr>
<tr>
<td></td>
<td>Record final quantity on</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the tabulation sheet (plans) or</td>
<td></td>
</tr>
<tr>
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<td>computation form (comp book).</td>
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<td>Struct. 700-82-</td>
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<table>
<thead>
<tr>
<th>700-83-</th>
<th>OVERHEAD SIGN - BRIDGE MOUNTED</th>
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</thead>
<tbody>
<tr>
<td>Notes</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td></td>
<td>Locate in plans. Summarize</td>
</tr>
<tr>
<td></td>
<td>quantities by location on</td>
</tr>
<tr>
<td></td>
<td>tabulation of quantities</td>
</tr>
<tr>
<td></td>
<td>sheet in the plans, or detail</td>
</tr>
<tr>
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<td>calculations in the computation</td>
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<tr>
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<td>book.</td>
</tr>
<tr>
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<td>Record final quantity on</td>
</tr>
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<td>the tabulation sheet (plans) or</td>
</tr>
<tr>
<td></td>
<td>computation form (comp book).</td>
</tr>
<tr>
<td>Structure</td>
<td>700-83-</td>
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</table>

<table>
<thead>
<tr>
<th>700-89- AA</th>
<th>ELECTRIC POWERED SIGN</th>
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<tbody>
<tr>
<td>Notes</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td>Details</td>
<td>NOTE: not to be used</td>
</tr>
<tr>
<td></td>
<td>for ITS projects;</td>
</tr>
<tr>
<td></td>
<td>refer to 780 items</td>
</tr>
<tr>
<td></td>
<td>for ITS systems</td>
</tr>
<tr>
<td></td>
<td>Refer to 699 items</td>
</tr>
<tr>
<td></td>
<td>for Internally</td>
</tr>
<tr>
<td></td>
<td>Illuminated signs.</td>
</tr>
</tbody>
</table>

Details and Structure: Chapters 11 to 20
Includes the complete sign assembly, support and any foundation required. Conduit, conductors, pull boxes and service point equipment, if required to get power to the sign structure, are not covered by this item. Includes all components listed in the Standards and all external conduit and conductors for the service.

"Special" signs to be approved by Roadway Design. Plan Details and/or Tech Specs required to provide materials, construction, and payment information.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td>Documentation</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>

**Notes**
* Consider ITS (780 items) for changeable message signs
** Special requires Tech Spec and/or Plan details.

---

**Details and Structure: Chapters 11 to 20**
### Constructions

**Record final quantity on the tabulation sheet (plans) or computation form (comp book).**

### References

**PPM Chapter**

**Other**

**Standards** Index No. 17344, 17882, 17881

**Specifications**

**Prep & Doc Manual Chapter(s)** 7, 13

---

### Status

#### Struct.

<table>
<thead>
<tr>
<th>700-90-AB</th>
<th>SIGN, FLASHING BEACON</th>
<th>AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = Operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Furnish &amp; Install)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (Relocate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (Remove)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B = Sign Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Ground Mount)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (Overhead Mount)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (Bridge Mount)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (Span Wire)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes

**Plan Quantity?** no

This item for permanent installations only; for temporary installations, refer to 102 items.

Tech Spec should indicate that unit includes sign, radar unit, post, cabinet, power connection(s), and incidentals necessary for a complete unit.

### Related Items

#### Required

**Forms**

**Design** SHTabQuant

**Construction** Refer to Comp Book

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

**PPM Chapter**

**Other**

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**

---

### Status

#### Struct.

| 700-94- | RADAR SPEED DISPLAY UNIT | EA |

### Notes

**Details**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Plan Quantity?** no

This item for permanent installations only; for temporary installations, refer to 102 items.

Tech Spec should indicate that unit includes sign, radar unit, post, cabinet, power connection(s), and incidentals necessary for a complete unit.

**Required**

**Recommended**

**Forms**

**Design** SHTabQuant

**Construction** COMP 700-050-03

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

**Other**

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**

---

### Status

#### Struct.

| 700-94- | RADAR SPEED DISPLAY UNIT | EA |

### Notes
### 700-95- MOTORIST INFORMATION SIGN

<table>
<thead>
<tr>
<th><strong>Unit</strong></th>
<th>EA</th>
<th><strong>Accuracy</strong></th>
<th>Each</th>
<th><strong>PlanQuantity?</strong></th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**
Inactive structure

**Details**
Maintenance item (?) intended for blue information signs and/or logo program.

**Related Items**
- **Required**
  - Design: SHTabQuant
  - Construction: COMP 700-050-03

**Forms**
- Design: Refer to Comp Book

**Documentation**
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

**Status**
Inactive Structure

**Notes**

---

### 701-1- A RAISED RIB SHOULDER WARNING DEVICE

<table>
<thead>
<tr>
<th><strong>Unit</strong></th>
<th>NM; NK</th>
<th><strong>Accuracy</strong></th>
<th>1000th of a Net Mile; 1000th of a Net Kilometer</th>
<th><strong>PlanQuantity?</strong></th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**
Not for centerline applications.

**Details**

**Related Items**
- **Required**
  - Design: SHTabQuant
  - Construction: COMP 700-050-03

**Forms**
- Design: Refer to Comp Book

**Documentation**
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

**Status**

**Notes**

---

**A =**
1 (6“)
### 702-???

**WET WEATHER MARKINGS ?? INVERTED RIB PROFILE MARKINGS**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Mixed</th>
<th>Accuracy</th>
<th>Refer to item structure and details</th>
<th>PlanQuantity?</th>
</tr>
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</table>

**Notes**

Future Effective Date: See 906-702 items.

**Details**

**Related Items**

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
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<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Forms**

**Documentation**

<table>
<thead>
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**References**

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<th>PPM Chapter</th>
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<th>Construction</th>
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<tr>
<td></td>
<td></td>
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</table>

**Status**

**Struct. 702-???

**Notes**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

---

### 704- 1- AB

**CERAMIC PAVEMENT MARKERS**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</table>

**Notes**

**Details**

**Related Items**

<table>
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<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
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</tbody>
</table>

**Forms**

**Documentation**

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<tr>
<th>Design Construction</th>
<th>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</th>
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<tbody>
<tr>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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**References**

<table>
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<tr>
<th>PPM Chapter</th>
<th>Design</th>
<th>Construction</th>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Prep & Doc Manual Chapter(s)**

7, 13
### Status

**Struct.** 704-1-AB  
**CERAMIC PAVEMENT MARKERS** EA

A = Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
B =  
1 (Class A)  
3 (Class C)

### Notes

#### 705-1-

**DELINEATOR, SINGLE UNIT**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</tr>
</thead>
</table>

**Notes**


**Details**

**Required**

**Design** SHTabQuant  
**Construction** Refer to Comp Book

**Recommended**

**Design** COMP 700-050-03  
**Construction**

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
**Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter  
Other  
**Standards** Index No. 17345, 17346

**Specifications**

**Prep & Doc Manual Chapter(s)** 7, 13

---

### Status

**Struct.** 705-1-  
**DELINEATOR, SINGLE UNIT** EA

### Notes

#### 705-2-

**DELINEATOR, DOUBLE UNIT**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
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</thead>
</table>

**Notes**


**Details**

**Required**

**Design** SHTabQuant  
**Construction** Refer to Comp Book

**Recommended**

**Design** COMP 700-050-03  
**Construction**

**Documentation**

**Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
**Construction** Record final quantity on the tabulation sheet (plans) or computation form

**Prep & Doc Manual Chapter(s)**

Details and Structure: Chapters 11 to 20
### 705-2 - DELINEATOR, DOUBLE UNIT

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: no


**Details**

<table>
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<tr>
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<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
</tr>
</tbody>
</table>

**Related Items**

**Forms**

**Design**: SHTabQuant  
**Construction**: Refer to Comp Book

**References**

PPM Chapter  
Other  
Standards  
Specifications  
Prep & Doc Manual Chapter(s)

### 705-3 - DELINEATOR, TRIPLE UNIT

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: no


**Details**

Object Markers are to be used to mark obstructions within or adjacent to the roadway, as indicated in the Design Standards or on the plans. Additional details are available in the MUTCD, Chapter 3C.

Refer to Delineators for marking the roadway alignment

**Related Items**

**Forms**

**Design**: SHTabQuant  
**Construction**: COMP 700-050-03

**References**

PPM Chapter  
Other  
Standards  
Specifications  
Prep & Doc Manual Chapter(s)

### 705-10 - A - OBJECT MARKER

**Unit**: EA  
**Accuracy**: Each  
**PlanQuantity?**: no

**Notes**: Pending: Specification changes. New items to be effective January 2008.

**Details**

Object Markers are to be used to mark obstructions within or adjacent to the roadway, as indicated in the Design Standards or on the plans. Additional details are available in the MUTCD, Chapter 3C.

Refer to Delineators for marking the roadway alignment

**Related Items**

**Forms**

**Design**: SHTabQuant  
**Construction**: COMP 700-050-03
Standards

Index No. 17349 (Object Markers), 17345 and 17346 (Delineators), 17349 (Object Markers) 17359 (Object Markers and Delineators)

Specifications

Struct. 705-10-A OBJECT MARKER EA

A = Type*
1 (Type 1)
2 (Type 2)
3 (Type 3)
4 (Type 4)

Notes
*Note: The Type is defined in the MUTCD, Chapter 3C.


Details

Unit EA Accuracy Each PlanQuantity? no

Notes

Struct. 705-10-AB OBJECT MARKER

Unit EA Accuracy Each PlanQuantity? no

Notes


Details

Related Items Required Recommended
Forms Design SHTabQuant COMP 700-050-03
Construction Refer to Comp Book

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards Index No. 17349 (Object Markers), 17345 and 17346 (Delineators), 17349 (Object Markers) 17359 (Object Markers and Delineators)

Specifications

Struct. 705-10-AB OBJECT MARKER EA

A = Installation Type
1 (Post Mounted)
2 (Object Mounted)
### Notes

**B = Type**
1 (Type 1)  
2 (Type 2)  
3 (Type 3)  
4 (Type-End of Road)

**Notes**

**705-11- A  DELINEATOR**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Details**

Delineators are to be used along the side of the roadway to indicate the alignment of the roadway, as indicated in the Design Standards or on the plans. Additional details are available in the Plans Preparation Manual (PPM) Vol 1, Chapter 7, and the MUTCD, Chapter 3D.

***************

Refer to Object Markers to mark obstructions.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
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<td>705-10</td>
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</tbody>
</table>

**Forms**

**Design**

COMP 700-050-03

**Construction**

Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Vol 1, 7.2.9

**Other Standards**

Index No. 17349 (Object Markers), 17345 and 17346 (Delineators), 17349 (Object Markers) 17359 (Object Markers and Delineators)

**Specifications**

**Prep & Doc Manual Chapter(s)**

---

**Status**

Future Effective Date

**Struct.**

<table>
<thead>
<tr>
<th>705-11- A  DELINEATOR</th>
</tr>
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<tbody>
<tr>
<td>EA</td>
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</table>

**Notes**

A = Type  
1 (Flexible Tubular)  
2 (non-Flexible)  
3 (Flexible High Visibility Median)  
4 (Flexible High Performance)

---

**705-71-**

**DELINEATOR, TUBULAR FLEXIBLE**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
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**Notes**

Pending Specification and Item(s). Valid through 12/31/2007. Replaced by 705-10 and 705-11

**Details**

**Related Items**

<table>
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<tr>
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<th>Recommended</th>
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<tr>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
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**Forms**

**Design**

SHTabQuant

**COMP 700-050-03**

---

Details and Structure: Chapters 11 to 20
### 705-71 - DELINEATOR, TUBULAR FLEXIBLE

**Unit**: EA

**Accuracy**: Each

**Plan Quantity**: No

**Notes**

Refer to Comp Book

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter: 7, 13

**Standards**

Index No. 17345, 17346

**Specifications**

Struct. 705-71 - DELINEATOR, TUBULAR FLEXIBLE EA

**Related Items**

**Forms**

Required: SHTabQuant

Recommended: COMP 700-050-03

**Documentation**

Design: Refer to Comp Book

Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Notes**

Refer to 710-90 for final surface payment.

Use Type B, unless otherwise shown in the plans. Use Pavement markers to supplement lane lines and gore markings.

### 706-3 - MARKER PAVEMENT RETRO-REFLECTIVE

**Unit**: EA

**Notes**

Refer to 710-90 for final surface payment.

Use Type B, unless otherwise shown in the plans. Use Pavement markers to supplement lane lines and gore markings.

**Details**

Consists of paint used in areas representing final and work zone pavement markings.

**References**

PPM Chapter: 7, 13

**Standards**

Index No. 17345, 17352

**Specifications**

Struct. 706-3 - MARKER PAVEMENT RETRO-REFLECTIVE EA

**Related Items**

**Forms**

Required: SHTabQuant

Recommended: COMP 700-050-03

**Documentation**

Design: Refer to Comp Book

Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Notes**

Effective January 2007 letting. Replaces all other 709 items.

Consists of paint used in areas representing final and work zone pavement markings.
Refer to the Specification for the complete Method of Measurement. Broken (skip) stripes shall consist of a succession of solid stripes.

LINEAR FOOT ITEMS: The linear foot quantity shall be used to pay for all skip lines, except 3-9 or 10-30 skip traffic stripe sections, as indicated in the plans. Measurement will be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and it shall NOT include the unpainted intervals.

GROSS MILE ITEMS: The gross mile quantity shall be used to pay for all 3-9 or 10-30 skip traffic stripes, as indicated in the plans. Measurement will be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and shall include the unpainted intervals, subject to 9-1.3.

### Required and Recommended Standards

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<td>Structural 709-1A-BCD</td>
<td>TRAFFIC STRIPE- TWO REACTIVE COMPONENTS</td>
<td>EA, LF, GM,</td>
</tr>
<tr>
<td>A= Class</td>
<td>1 (Standard)</td>
<td>7 (Remove) SF Note: When A=7, BCD= Blank</td>
</tr>
<tr>
<td>B=Color</td>
<td>1 (White)</td>
<td>2 (Yellow)</td>
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<tr>
<td>C= Type of Marking</td>
<td>1 (Solid) NM</td>
<td>2 (Solid) LF</td>
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<tr>
<td>D= Width</td>
<td>1 (6&quot;)</td>
<td>2 (8&quot;)</td>
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### Notes

C= 6 to 9 for messages, arrows, etc are not valid for 709. Consider using preformed Thermoplastic or other material.

### Related Items

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<th>Recommended</th>
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<td>COMP 700-050-03</td>
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<td>Construction</td>
<td>700-050-52</td>
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<th>Recommended</th>
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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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### Status

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<th>EA, LF, GM,</th>
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<td>1 (White)</td>
<td>2 (Yellow)</td>
</tr>
<tr>
<td>C= Type of Marking</td>
<td>1 (Solid) NM</td>
<td>2 (Solid) LF</td>
</tr>
<tr>
<td>D= Width</td>
<td>1 (6&quot;)</td>
<td>2 (8&quot;)</td>
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</table>

### Notes

C= 6 to 9 for messages, arrows, etc are not valid for 709. Consider using preformed Thermoplastic or other material.
Effective January 2007 letting; replaces most other 710 items. 6-29-07: Updated detail and C=8 for Yield Line, LF

Consists of paint used in areas representing final and work zone pavement markings. Refer to the Specification for the complete Method of Measurement.

Broken (skip) stripes shall consist of a succession of solid stripes.

LINEAR FOOT ITEMS: The linear foot quantity shall be used to pay for all skip lines, except 3-9 or 10-30 skip traffic stripe sections, as indicated in the plans. Measurement will be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and it shall NOT include the unpainted intervals.

GROSS MILE ITEMS: The gross mile quantity shall be used to pay for all 3-9 or 10-30 skip traffic stripes, as indicated in the plans. Measurement will be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and shall include the unpainted intervals, subject to 9-1.3.

REMOVAL ITEM (A=7): The cost for removing any conflicting pavement markings is to be included in the cost of MOT Lump Sum, per Specification 710-4 and 102-5.8. Pay items 710-17 is to be used for Maintenance projects to remove non-conflicting pavement markings (i.e. removal of paint prior to applying a two-component reactive material or removal of thermo prior to applying more thermo because the maximum thickness will be exceeded if it is not removed).

YIELD LINE: Per the MUTCD, a yield line is a series of solid white isosceles triangles, used at intersection approaches controlled by a yield sign.

Related Items

<table>
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<td>Construction</td>
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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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<td>Standards</td>
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Status

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<tr>
<td>1</td>
<td>(Standard)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>(Remove) SF, BCD=blank</td>
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<tr>
<td>B</td>
<td>Color</td>
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<td></td>
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<tr>
<td>1</td>
<td>(White)</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>(Yellow) C=1, 2, 3, 4, 5, 9</td>
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<tr>
<td>3</td>
<td>(Black)</td>
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<td></td>
</tr>
<tr>
<td>4</td>
<td>(Blue)</td>
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<tr>
<td>C</td>
<td>Type of Marking</td>
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</tr>
<tr>
<td>1</td>
<td>(Solid) NM</td>
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</tr>
<tr>
<td>2</td>
<td>(Solid) LF</td>
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</tr>
<tr>
<td>3</td>
<td>(Skip) GM, D= 1 or 2</td>
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</tr>
<tr>
<td>4</td>
<td>(Skip) LF, D= 1 or 2</td>
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</tr>
<tr>
<td>5</td>
<td>(Dotted/Guideline) LF, D=1</td>
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<tr>
<td>6</td>
<td>(Message) EA, D=0 *Includes Yield message</td>
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<td></td>
</tr>
<tr>
<td>7</td>
<td>(Arrows) EA, D=0</td>
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</tbody>
</table>
8 (Yield Line) LF, D=0  
9 (Island Nose) SF, D=0  
D= Width  
1 (6")  
2 (8")  
3 (12")  
4 (18")  
5 (24")

Notes

710-90-  
PAINTED PAVEMENT MARKINGS- FINAL SURFACE  

Unit  LS/LS  Accuracy  Lump Sum  PlanQuantity?  yes

Notes

Details  
Includes payment for final surface pavement markings (2 applications), including RPMs (1 application).  
DOES NOT include pavement markings used for Maintenance of Traffic. Must continue to use other 710 items for MOT applications.  
TRNS*PORT quantities: For Category 0200, MOT, continue to use 710 and 102-78 items. For Category 0300, include 710-90 pay item for final surface; do not include other 710 or 706-3 items.

Related Items

Required  Recommended

Forms  
Design  SHTabQuantLS  COMP 700-050-05
Construction  700-050-52

Documentation

Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction  Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter  
Other  
Standards  
Specifications  
Prep & Doc Manual Chapter(s)

Status

Struct.  710-90-  
PAINTED PAVEMENT MARKINGS- FINAL SURFACE  LS/LS

Notes

711-1A-BCD  
THERMOPLASTIC

Unit  Mixed  Accuracy  Refer to item structure and details  PlanQuantity?  no

Details  
Consists of paint used in areas representing final and work zone pavement markings. Refer to the Specification for the complete Method of Measurement. Broken (skip) stripes shall consist of a succession of solid stripes. LINEAR FOOT ITEMS: The linear foot quantity shall be used to pay for all skip lines, except 3-9 or 10-30 skip traffic stripe sections, as indicated in the plans. Measurement will
be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and it shall NOT include the unpainted intervals.

GROSS MILE ITEMS: The gross mile quantity shall be used to pay for all 3-9 or 10-30 skip traffic stripes, as indicated in the plans. Measurement will be taken as the distance from the beginning of the first painted stripe to the end of the last painted stripe, and shall include the unpainted intervals, subject to 9-1.3.

YIELD LINES: Per the MUTCD, a Yield line is a series of solid white triangles pointing toward approaching vehicles, used at an intersection controlled by a yield sign.

<table>
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<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
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<td>Other</td>
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<td>Standards</td>
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<td>Prep &amp; Doc Manual Chapter(s)</td>
<td></td>
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</tbody>
</table>

Status

Struct. 711- 1A-BCD THERMOPLASTIC Mixed

A=Class
1 (Standard)
2 (Refurbishment)
3 (Hot Spray)
4 (Preformed)
7 (Remove) SF Note: When A=7, BCD=blank

B=Color
1 (White)
2 (Yellow)*
3 (Black) **
4 (Blue)***
*when B=2, C=1, 2, 3, 4 or 5
**B=3 not valid as of 12-15-05; use 710 items.
***when B=4, C=2, 6

C= Type of Marking
1 (Solid) NM
2 (Solid) LF
3 (Skip) GM*
4 (Skip) LF*
5 (Dotted/Guideline) LF**
6 (Message) EA *** Includes Yield Messages
7 (Arrows) EA ***
8 (Yield Line) LF ***
*when C=3 or 4, D=1 or 2
**when C=5, D=1
***when C= 6, 7, or 8, D=0

D= Width
1 (6*)
Notes

### 713-1AA-BCD PAVEMENT MARKING- PREFORMED TAPE

| Unit | Mixed | Accuracy | Refer to item structure and details | PlanQuantity? | no |

Related Items

**Forms**

- **Required**
  - Design: SHTabQuant
  - Construction: 700-050-52

- **Recommended**
  - Design: COMP 700-050-03

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s)**: 7, 13

Status

**Struct.** 713-1AA-BCD PAVEMENT MARKING- PREFORMED TAPE Mixed

AA= Class
- 01 (Standard)
- 02 (High Performance)
- 03 (Temporary)
- 07 (Removal) SF, BCD=blank

B= Color
- 1 (White)
- 2 (Yellow)
- 3 (Black)
- 4 (Blue)
- 5 (White w/Black Contrast)

C= Type of Marking
- 1 (Solid) NM
- 2 (Solid) LF
- 3 (Skip) GM
- 4 (Skip) LF
- 5 (Dotted / Guideline) LF
- 6 (Messages) EA, D=0
- 7 (Arrows) EA, D=0

D= Width
- 0 when C=6, 7
- 1 (6")
- 2 (8")

Notes

To be considered for use on concrete surfaces.

Details

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).
### 714- 1-ABC MOTORIST AID CALL BOX

<table>
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<th>Unit</th>
<th>AS</th>
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<th>Notes</th>
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<tr>
<td></td>
<td></td>
<td>Assembly</td>
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**Notes**

**Details**

Estimate quantity on basis of 2 per mile (1 per 804 meters) in project length for rural areas.

**Related Items**

- **Required**
  - Design: SHTabQuant
  - Construction: Refer to Comp Book

- **Recommended**
  - Design: COMP 700-050-03

**Forms**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
  - Standards: Index No. 17600
  - Specifications
  - Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

- 7, 13

**Status**

Inactive Structure

**Struct.**

714- 1-ABC MOTORIST AID CALL BOX AS

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Modify Existing Roadside Terminal)
5 (Relocate Existing Roadside Terminal)
6 (Remove)
7 (Refurnish)

B = Installation Type
1 (Roadside Call Terminal)
2 (Call Box Assembly)
3 (Central Terminal)

C = Form
1 (Coded Message, Radio)
2 (Coded Message, Wire)
3 (Voice, Radio)
4 (Voice, Wire)

**Notes**

### 714- 2- A MOTORIST AID CONSOLE

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**Details and Structure:** Chapters 11 to 20
### Notes

#### Details

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<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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#### References

- PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

---

#### Status

Inactive Structure

#### Struct.

**714- 2- A**  
MOTORIST AID CONSOLE  
EA

A = Form
1 (Coded Message, Radio)
2 (Coded Message, Wire)
3 (Voice, Radio)
4 (Voice, Wire)

---

### Notes

#### Details

<table>
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<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
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<tr>
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#### References

- PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

---

#### Status

Inactive Structure

#### Struct.

**714- 3- AB**  
MOTORIST AID COMPONENTS (F&I) CONSOLE  
EA

#### Notes
A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) Not Valid W/ B= 2, 3, & 4.

B = Form
1 (Antenna)
2 (290’ Guyed Tower)
3 (190’ Guyed Tower)
4 (190’ Self Support Tower)
5 (Console)

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<thead>
<tr>
<th>714- 4-ABB</th>
<th>MOTORIST AID MICROWAVE COMPONENT</th>
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Details

Related Items

Forms
- Required: Design
- Recommended: COMP 700-050-03

Documentation
- Design: Refer to Comp Book
- Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
- PPM Chapter
- Other

Standards
- Specifications

Prep & Doc Manual Chapter(s): 7, 13

Status: Inactive Structure

Struct. 714- 4-ABB MOTORIST AID MICROWAVE COMPONENT EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) Not Valid W/ B= 2, 3, & 4.

BB =

| 01 | (10,000 F9 Microwave 1.9 GHz) |
| 02 | (1,600 F9 Microwave 2.9 GHz) |
| 03 | (800 F9 Microwave 2.1 GHz) |
| 04 | (10,000 F9 Microwave 6.5 GHz) |
| 05 | (Master Alarm System) |
| 06 | (District Alarm System) |
| 07 | (Alarm Monitor) |
| 08 | (6’ Grid Microwave Antenna) |
| 09 | (8’ Grid Microwave Antenna) |
10 (10' Grid Microwave Antenna)
11 (10' Solid Microwave Antenna)
12 (72 MHz Antenna)
13 (150-170 MHz Antenna)
14 (40-50 MHz Antenna)
15 (450-460 MHz Antenna)
16 (CB Antenna)
17 (1/2" Foam Connectors)
18 (7/8" Air Connectors)
19 (Dehydrator And Manifold)
20 (1 5/8" Air Connectors)
21 (72 MHz Base Station)
22 (Waveguide Connectors)
23 (DTMF Call Unit)
24 (DTMF Card / Phone)
25 (Power Divider Harness)
26 (Transmitter Combiner)
27 (Receiver Multicoupler)
28 (6 GHz Digital Radio)
29 (10 GHz Digital Radio)
30 (8' Solid Microwave Antenna)
31 (6' Solid Microwave Antenna)
32 (4' Solid Microwave Antenna)
33 (72 MHz Antenna, High Gain)
34 (Phone Ringing Generator)
35 (10 GHz Waveguide Connector)
36 (Phone System)
37 (Channel Modem, Analog)
38 (Channel Modem, Digital)
39 (Pressurized Connector)

Notes

714-5-ABB  MOTORIST AID MICROWAVE TOWER

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
<th>EA</th>
<th>EA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Each</td>
<td>no</td>
<td></td>
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</tr>
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</table>

Notes

Details

Related Items

Forms
  Required
    Design  SHTabQuant
    Construction  Refer to Comp Book

Documentation
  Required
    Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
    Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
  PPM Chapter
  Other
  Standards
  Specifications

Prep & Doc Manual Chapter(s)  6, 7, 13

Details and Structure: Chapters 11 to 20
### Status
- Inactive Structure

### Struct.
- 714- 5-ABB

**MOTORIST AID MICROWAVE TOWER**

<table>
<thead>
<tr>
<th>A = Operation</th>
<th>BB = Tower Height</th>
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<tbody>
<tr>
<td>1 (Furnish &amp; Install)</td>
<td>10 (51'-75')</td>
</tr>
<tr>
<td>2 (Transport)</td>
<td>11 (76'-100')</td>
</tr>
<tr>
<td>3 (Disassemble)</td>
<td>12 (101'-125')</td>
</tr>
<tr>
<td>4 (Modify)</td>
<td>13 (126'-150')</td>
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</table>

<table>
<thead>
<tr>
<th>Structure</th>
<th>14 (151'-175')</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 (176'-200')</td>
<td>16 (201'-225')</td>
</tr>
<tr>
<td>16 (226'-250')</td>
<td>17 (251'-275')</td>
</tr>
<tr>
<td>17 (276'-300')</td>
<td>18 (301'-325')</td>
</tr>
<tr>
<td>18 (326'-350')</td>
<td>19 (351'-375')</td>
</tr>
<tr>
<td>19 (376'-400')</td>
<td>20 (401'-425')</td>
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<tr>
<td>20 (426'-450')</td>
<td>21 (451'-475')</td>
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### Notes

**714- 7- A**

**MOTORIST AID TRANSMISSION LINES**

<table>
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<th>Unit</th>
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<tr>
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### Related Items

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<td>COMP 700-050-03</td>
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<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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### Documentation

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### References

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<th>Standards</th>
<th>Specifications</th>
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</table>

### Status
- Inactive Structure

### Struct.
- 714- 7- A

**MOTORIST AID TRANSMISSION LINES**

**Unit** LF

---

Details and Structure: Chapters 11 to 20
A =
1 (1/2" Foam Transmission Line)
2 (7/8" Air Transmission Line)
3 (1 5/8" Air Transmission Line)
4 (2.01" X 1.16" Elliptic Waveguide)
5 (7/8" Foam Transmission Line)
6 (1.32" X .80" 10 GHz Elliptical Waveguide)
7 (1 5/8" Foam Transmission Line)

Notes

### 714- 8- A  MOTORIST AID MICROWAVE COMMUNICATION SHELTER

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
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**Notes**

**Details**

**Related Items**

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</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
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</table>

**Forms**

- Design: SHTabQuant
- Construction: COMP 700-050-03

**Documentation**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications

- Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

- 7, 13

**Status**

- Inactive Structure

**Struct.**

- 714- 8- A  MOTORIST AID MICROWAVE COMMUNICATION SHELTER

A = Area In Square Feet
1 ( <100 Sq. Ft. Shelter)
2 (100-125 Sq. Ft. Shelter)
3 (126-150 Sq. Ft. Shelter)
4 (151-175 Sq. Ft. Shelter)
5 (176-200 Sq. Ft. Shelter)
6 (201-250 Sq. Ft. Shelter)
7 (251-300 Sq. Ft. Shelter)
8 (301-400 Sq. Ft. Shelter)
9 ( >400 Sq. Ft. Shelter)

Notes

### 714- 9- A  MOTORIST AID TECHNICAL SUPPORT

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
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**Details**

**Related Items**

- Design: SHTabQuant
- Construction: COMP 700-050-03

**Forms**

- Design: SHTabQuant
- Construction: COMP 700-050-03

**Documentation**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications

- Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

- 7, 13

**Status**

- Inactive Structure

**Struct.**

- 714- 9- A  MOTORIST AID TECHNICAL SUPPORT

A = Area In Square Feet
1 ( <100 Sq. Ft. Shelter)
2 (100-125 Sq. Ft. Shelter)
3 (126-150 Sq. Ft. Shelter)
4 (151-175 Sq. Ft. Shelter)
5 (176-200 Sq. Ft. Shelter)
6 (201-250 Sq. Ft. Shelter)
7 (251-300 Sq. Ft. Shelter)
8 (301-400 Sq. Ft. Shelter)
9 ( >400 Sq. Ft. Shelter)

Notes
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<th>Related Items</th>
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<td>Design</td>
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<td>Specifications</td>
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Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

Status  Inactive Structure

Struct. 714- 9- A MOTORIST AID TECHNICAL SUPPORT EA

A =
1 (Training Session Number 1)
2 (Training Session Number 2)
3 (Training Session Number 3)
4 (Testing Callboxes)
5 (Control Console)

---

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Design</td>
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<td>Construction</td>
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<td>PPM Chapter</td>
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<td>Specifications</td>
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</table>

Prep & Doc Manual Chapter(s)

Status  Inactive Structure

Struct. 714- 73- RELAY STATION COMMUNICATION ASSEMBLY AS

Unit AS  Accuracy Assembly PlanQuantity? no

Notes
### CONTROL STATION COMMUNICATION ASSEMBLY

<table>
<thead>
<tr>
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<th>AS</th>
<th>Accuracy</th>
<th>Assembly</th>
<th>PlanQuantity?</th>
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**Notes**

**Related Items**
- Required Design: SHTabQuant
- Recommended Design: COMP 700-050-03

**Forms**
- Design: Refer to Comp Book

**Documentation**
- Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**: 6, 7, 13

**Status**
- Inactive Structure

**Struct.** 714-74- CONTROL STATION COMMUNICATION ASSEMBLY

---

### MOTORIST AID MICROWAVE

<table>
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<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

**Related Items**
- Required Design: SHTabQuant
- Recommended Design: COMP 700-050-03

**Forms**
- Design: Refer to Comp Book

**Documentation**
- Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**: 6, 7, 13

**Status**
- Inactive Structure

**Struct.** 714-75-ABB MOTORIST AID MICROWAVE

A =
1 (Spares)
2 (Test Equipment)

BB =
01 (Transmitter Baseband Combiner Card)
02 (Transmitter Baseband Amplifier Card)
03 (Transmitter Logic Card)
04 (Receiver Splitter Card)
05 (Receiver Baseband Amplifier Card)
06 (Receiver Logic Card)
07 (4w/4w Baseband Bridge)
08 (Alarm Card)
09 (Ringing Generator 5w)
10 (Hybrid Term Set)
11 (FXO Signaling Adaptor)
12 (FXS Signaling Adaptor)
13 (Bypass Card W/Attenuators)
14 (Line Pilot Sync Unit)
15 (Two-Step Group Translator)
16 (Dual Hybrid Card Kit)
17 (Equalizer / Timer For Battery Charger)
18 (RF Power Meter)
19 (RF Power Sensor)
20 (Tracking Generator)
21 (Selective Level Meter)
22 (Frequency Counter)
23 (RF Attenuator 20w, 30 Db)
24 (Variable Attenuator, 6-66 Db)
25 (Trans, Impairment Measurement Set -TIMS)
26 (Digital Multimeter)
27 (4w/4w DTMF Bridge)
28 (Test Fixtures)
29 (Transmitter Power Amplifier)
30 (Receiver Rf Amplifier)
31 (Transmitter Oscillator)
32 (Transmitter Modulator)
33 (Receiver Local Oscillator)
34 (Receiver If Amplifier)
35 (Remote Alarm Terminal)
36 (Selective Call Unit)
37 (Channel Modem)
38 (HF Combiner) S)
39 (DTMF Orderwire Unit)
40 (72 MHz Base Transmitter Unit)
41 (72 MHz Base Receiver Unit)
42 (72 MHz Base Bridge)
43 (Phone Ringing Generator)
44 (Digital Channel/Codec)
45 (Spectrum Analyzer)
46 (Signal Generator)
47 (Bit Error Rate Test Set)

Notes

<table>
<thead>
<tr>
<th>715-1-AB</th>
<th>Lighting- Conductors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>LF; M1</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td><strong>PlanQuantity?</strong></td>
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</tr>
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</table>

Details and Structure: Chapters 11 to 20
Notes  
Effective for projects let January 2007; replaces 715-1-ABC and 2715-11A-BCC.

Details  
Includes conductors as per the plans and standard indexes. Design quantity shall be based on the length of single conductor in horizontal measurement.

Related Items  
Required  
Recommended  
Forms  
Design  SBTBLT  COMP 700-050-03  
Construction  Refer to Comp Book  

Documentation  
Design  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction  
Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References  
PPM Chapter  
Other  
Standards  Index No. 17500, 17501, 17502  
Specifications  
*Selected Items may require Tech Spec and/or Plan Detail  

Prep & Doc Manual Chapter(s)  6, 7, 13  

Status  
Struct.  
715-1-AB  Lighting- Conductors  LF  
A= Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)*  
4 (Relocate)*  
5 (Adjust /Modify)*  
6 (Remove & Dispose)* Note: Contractor takes ownership  
7 (Remove & Stockpile/Salvage)* Note: DOT/maintaining agency retains ownership  
8 (Place out of Service)*  
9 OPEN Note: May be defined in item structure as Special, Rehab, etc.  
* When A=3-9, B=0  
B= Size  
1 (No. 10 or smaller)  
2 (No 8 to No. 6)  
3 (No. 4 to No. 2)  
4 (No. 1 to No. 0)  
5 (No. 1/0 to No. 3/0)  
6 (No. 4/0 or larger)  
9 (Special)

Notes  

715-2-AB  LIGHTING CONDUIT  
Unit  LF; M1  Accuracy  Linear Foot; 10th of a Meter  
Plan Quantity?  no  
Notes  
Effective 1-1-2007; Replaces 715-2-ABC  
Details  
For highway lighting applications only. Includes conduit, elbows, sweeps, connecting hardware, trenching and backfill as per the plans and standard indexes. Also includes the cost of restoring cut pavement, sidewalks, sod, etc. to its original condition. Use
'Underground' in locations where the placement of the conduit will not necessitate saw-cutting of pavement. Most conduit placed on new construction projects will be placed underground prior to the placement of pavement, and should be paid for as Underground. Underpavement should be used when it is necessary to saw-cut and backfill the pavement in order to place the conduit, i.e. under EXISTING PAVEMENT. Additional conduit placed for future use should be detailed in the plans; tabulate quantity as furnished & installed conduit.

When Furnish item is used, plans or specs should detail location (maintenance yard or other) for delivery of product.

<table>
<thead>
<tr>
<th>Related Items</th>
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<th>Recommended</th>
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<tbody>
<tr>
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<td>7, 13</td>
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Status

Struct. 715-2-AB LIGHTING CONDUIT LF

A= Operation
1 (Furnish & Install)
2 (Furnish) B=0 plan detail or specification required
3 (Install)
B = Location
0
1 (Underground)
2 (Underpavement Sawcut) Note: Only when sawcutting is necessary for locations under EXISTING PAVEMENT
3 (Surface Mount)

Notes
See details above for furnish item

715-4-ABC LIGHT POLE COMPLETE

Unit EA Accuracy Each PlanQuantity? no

Notes Effective January 2008; replaces 715-4A-BCC

Details For standard light pole designs.
Use C=Custom only when the pole height is non-standard. Remaining design standards apply.
If a special foundation is needed, select the pay item based on the pole type; detail the special foundation in the plans.

**************
For Special Design (non-standard) light poles, refer to 715-5AB-CDD.

Related Items

<table>
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<tr>
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<th>Recommended</th>
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<td>Design</td>
<td>SBTBLT</td>
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Details and Structure: Chapters 11 to 20
**Construction**

Refer to Comp Book

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### Documentation

**PPM Chapter**

Design

Construction

**Other**

**Standards**

Structures Manual, Vol 9

**Specifications**

### References

PPM Chapter

Design

Construction

Other

### Status

**Struct.** 715-4-ABC

LIGHT POLE COMPLETE

**EA**

A= Operation

1 (Furnish & Install)

2 (Furnish)

3 (Install) BC=00

4 (Relocate) BC=00

6 (Remove) BC=00

B= Wind Speed (mph)

1 (150)

2 (130)

3 (110)

C= Pole Height (feet)

1 (40)

2 (45)

3 (50)

9 (Custom height)

### Notes

Includes the bracket arm, luminaire with lamp and all necessary mounting hardware as per the plans and indexes.

### Related Items

**Forms**

 Required

Design  SBTBLT

Construction

Refer to Comp Book

**Documentation**

 Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

PPM Chapter

Design

Construction

Other

**Standards**

Index No. 17500, 17501

**Specifications**
### 715- 5- AB  LUMINAIRE & BRACKET ARM  EA

A = Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Relocate)  
5 (Remove)  

Code B = 0 If A = 3, 4, Or 5  
B = Material Type  
1 (Aluminum)  
2 (Galvanized Steel)

### Notes

Includes all components listed in the Standards and all external and internal conduit and conductors for the service.

### Related Items

**Forms**  
**Design**  SBTBLT  
**Construction**  Refer to Comp Book

**Documentation**  
**Design**  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
**Construction**  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

**PPM Chapter**  
**Other**  
**Standards**  Index No. 17504  
**Specifications**  

### Status

Prep & Doc Manual Chapter(s)  7, 13

### Details

Includes all components listed in the Standards and all external and internal conduit and conductors for the service.

### Related Items

**Forms**  
**Design**  SBTBLT  
**Construction**  Refer to Comp Book

**Documentation**  
**Design**  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
**Construction**  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

**PPM Chapter**  
**Other**  
**Standards**  Index No. 17504  
**Specifications**  

### Status

Prep & Doc Manual Chapter(s)  7, 13
### 715-10- A  LIGHT POLE FOUNDATION

<table>
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<th>Each</th>
<th>PlanQuantity?</th>
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</tr>
</thead>
</table>

#### Notes

**Details**
Includes the foundation and anchor bolts with lock nuts and washers as per the plans and standard indexes. Includes all components listed in the Standards and all external conduit and conductors for the service.

#### Related Items

<table>
<thead>
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<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
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</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
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</tbody>
</table>

#### Forms

**Design**
Refer to Comp Book

**Construction**
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

**PPM Chapter**

**Design**

**Construction**

**Other**

**PPM Chapter**

**Design**

**Construction**

**Other**

**Prep & Doc Manual Chapter(s)**

7, 13

#### Status

**Struct.** 715-10- A  LIGHT POLE FOUNDATION  EA

A = Operation
1 (Open)
2 (Furnish & Install)
3 (Repair)
4 (Straighten Existing Foundation)
5 (Remove)
6 (Relocate)
7 (Furnish)
8 (Install)

### 715-11-ABC  LUMINAIRE

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<tr>
<th>Unit</th>
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<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</thead>
</table>

#### Notes

**Details**
Includes the luminaire with lamp and necessary mounting hardware as per the plans and standard indexes.

#### Related Items

<table>
<thead>
<tr>
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<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
<td>SBTBLT</td>
</tr>
<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
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</table>

#### Forms

**Design**
Refer to Comp Book

**Construction**
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

**PPM Chapter**

**Design**

**Construction**

**Other**

**PPM Chapter**

**Design**

**Construction**

**Other**

**Prep & Doc Manual Chapter(s)**

7, 13
Standards  Index No. 17500, 17501, 17502, 17505
Specifications
Prep & Doc Manual Chapter(s)  7, 13

Status
Struct.  715-11-ABC LUMINAIRE EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Remove)
6 (Repair & Reinstall)
B = Classification
1 (Roadway)
2 (Underdeck)
3 (Sign)
C = Type
1 (Cobra Head)
2 (High Mast)
3 (Pole Top)
4 (Shoe Box)
5 (Wall Mount)
6 (Pendant Hung)
7 (Sign Mount)
8 (Flood)
9 (Special)

Notes
715-14-AB LIGHTING- PULL BOX

Unit  EA  Accuracy  Each  PlanQuantity?  no

Notes
Details
Includes the pull box and cover as per plans and standard indexes.

Related Items
Forms
Required  SBTBLT
Recommended  COMP 700-050-03

Construction  Refer to Comp Book

Documentation
Design  Locate in plans. Summarize quantities by location on tabulation of
        quantities sheet in the plans, or detail calculations in the computation book.
Construction  Record final quantity on the tabulation sheet (plans) or computation form
              (comp book).

References
PPM Chapter
Other
Standards  Index No. 17500, 17503
Specifications
Prep & Doc Manual Chapter(s)  7, 13

Details and Structure: Chapters 11 to 20
A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Remove)
6 (Furnish & Install Cover Only)
7 (Repair)

B = Placement
1 (Roadside) - Moulded
2 (Sidewalk)
3 (Embedded) - Bridge
4 (Surface Mount)

Notes

715-19- A  LIGHTING- SURGE PROTECTOR

<table>
<thead>
<tr>
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<th>EA</th>
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<th>Each</th>
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Notes

Details

Related Items
Forms
Design  SBTBLT
Construction  Refer to Comp Book

Documentation
Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Specifications
Prep & Doc Manual Chapter(s)  7, 13

Status
Struct.  715-19- A  LIGHTING- SURGE PROTECTOR  EA

A =
1 (Pole Base)
2 (Install Only)

Notes

715-19-ABC  HIGH MAST LIGHT POLE, COMPLETE

<table>
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<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</thead>
</table>

Notes

Effective January 2008; replaces 715-19A-BBB

Related Items
Forms
Design  SBTBLT
Standards
Specifications

Struct.  715- 19-ABC HIGH MAST LIGHT POLE, COMPLETE EA

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) BC=00
6 (Remove) BC=00

B= Wind Speed (mph)
1 (150)
2 (130)
3 (110)

C = Pole Height (feet)
1 (80)
2 (100)
3 (120)
9 (Custom)

Notes

715- 20- A LIGHTING- SCHEDULED CLEANING

Unit LU Accuracy Luminaire PlanQuantity? no

Notes
Details
Related Items
Forms

Required Recommended
Design SBTBLT COMP 700-050-03
Construction Refer to Comp Book

Documentation

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status

Prep & Doc Manual Chapter(s) 7, 13
### Struct. 715-20- A

**LIGHTING- SCHEDULED CLEANING**

- **A:**
  - 1 (Pole Mounted <50')
  - 2 (Underdeck)
  - 3 (Sign Luminaire)
  - 4 (High Mast)

### Notes

#### 715-21-1 LUMINAIRE STARTER BOARD

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
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#### Notes

**Details**

**Related Items**

- **Required**
  - **Design**: SBTBLT
  - **Construction**: Refer to Comp Book

**Forms**

- **Design**: SBTBLT
- **Construction**: Refer to Comp Book

**Documentations**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### Status

**Struct. 715-21-1 LUMINAIRE STARTER BOARD**

<p>| | |</p>
<table>
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<tr>
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<th></th>
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</thead>
<tbody>
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</table>

#### Notes

**Related Items**

- **Required**
  - **Design**: SBTBLT
  - **Construction**: Refer to Comp Book

**Forms**

- **Design**: SBTBLT
- **Construction**: Refer to Comp Book

**Documentations**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**
- **Prep & Doc Manual Chapter(s)**
- **SBTBLT COMP 700-050-03**

#### Related Items

- **Forms**
  - **Design**: SBTBLT
  - **Construction**: Refer to Comp Book

**Details**

**Related Items**

- **Required**
  - **Design**: SBTBLT
  - **Construction**: Refer to Comp Book

**Forms**

- **Design**: SBTBLT
- **Construction**: Refer to Comp Book

**Documentations**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards**

---

Details and Structure: Chapters 11 to 20
### 715-26- A QUICK DISCONNECT PLUG

**Unit:** EA  
**Specifications:**

- **A =**
  1. (Switch Boxing - For Sign Structure)
  2. (Plug Pole Base - High Mast)

### 715-30- AA GROUP RELAMPING (LIGHTING)

**Unit:** LU  
**Accuracy:** Luminaire  
**PlanQuantity?** no

**Related Items**

- **Forms**
  - **Required:** SBTBLT
  - **Recommended:** COMP 700-050-03

**Documentation**

- **Design:**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction:**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s):** 7, 13

### 715-31- AA LIGHTING - ROUTINE MAINTENANCE

**Unit:** LO  
**PlanQuantity?** no

**Related Items**

- **Forms**
  - **Required:**
  - **Recommended:**

**Documentation**

- **Design:**
- **Construction:**

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s):**
Struct. 715-31- AA  
LIGHTING - ROUTINE MAINTENANCE  
LO

AA =
1 (Shoulder, Single Arm)
2 (Shoulder, Double Arm)
3 (Median, Single Arm, Wall Mtd.)
4 (Median, Double Arm, Wall Mtd.)
5 (Bridge Mounted)
6 (Underdeck)
7 (Load Center)
8 (High Mast Pole)
9 (Overhead Sign Assembly)

Notes
This is a Maintenance item. Coordinate with District Maintenance Office.

Details
Unit EA Accuracy Each Plan Quantity? no

Related Items
Required SBTBLT
Recommended COMP 700-050-03

Forms
Design Refer to Comp Book

Documentation
Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s) 7, 13
### Status

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<th>Struct.</th>
<th>715-34- A</th>
<th>LIGHT POLE (FURNISH NEW POLE)</th>
<th>EA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td>A =</td>
<td>1 (Furnish New Pole)</td>
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<tr>
<td></td>
<td></td>
<td>2 (Repair A Pole And Furnish For Reuse)</td>
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### Notes

<table>
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<th>715-35- A</th>
<th>MAST ARM</th>
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<td>Unit</td>
<td>EA</td>
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<tr>
<td>Accuracy</td>
<td>Each</td>
</tr>
<tr>
<td>PlanQuantity?</td>
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### Details

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<th>Details</th>
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<td>Prep &amp; Doc Manual Chapter(s)</td>
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### Status

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<th>MAST ARM</th>
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<tr>
<td>Notes</td>
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<td>Operation</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>1 (Furnish &amp; Install)</td>
<td></td>
</tr>
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<td></td>
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<td>2 (Furnish)</td>
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<tr>
<td></td>
<td></td>
<td>3 (Install)</td>
<td></td>
</tr>
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<td></td>
<td>4 (Repair)</td>
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### Notes

<table>
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<th>715-36- AB</th>
<th>LIGHT POLE FRANGIBLE BASE</th>
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<td>Unit</td>
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<td>Accuracy</td>
<td>Each</td>
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<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

### Details

| Notes     | Includes the frangible base, attachments, bolts and washers as per the plans and standard indexes. |
| Related Items | Required | Recommended |
| Forms      | Design | SBTBLT | COMP 700-050-03 |
| Documentation | Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
|            | Construction | Refer to Comp Book |
|            | Construction | Record final quantity on the tabulation sheet (plans) or computation form |

Details and Structure: Chapters 11 to 20
Standards
Index No. 17501
Specifications
Prep & Doc Manual Chapter(s) 7, 13

Status
Struct.  715- 36- AB   LIGHT POLE FRANGIBLE BASE   EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Leveling In-Place Pole)

B = Type
1 (Shoe Base)
2 (Transformer Base)
3 (Frangible Insert)
4 (Door Assembly)

Notes
Includes the photo electric control, transformer, conduit and conductors as per the plans and standard indexes.

Required
Design
SBTBLT

Recommended
Construction
COMP 700-050-03

Related Items
Forms
Design
Refer to Comp Book

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

PPM Chapter
SBTBLT COMP 700-050-03

Other
Details
Notes
Includes the photo electric control, transformer, conduit and conductors as per the plans and standard indexes.

References
PPM Chapter
Other
Standards
Index No. 17504
Specifications
Prep & Doc Manual Chapter(s) 7, 13

Status
Inactive Structure

Struct.  715- 37- A   PHOTO ELECTRIC CONTROL ASSEMBLY   EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
**715- 4A-BCC**  **ALUMINUM LIGHT POLE, COMPLETE**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
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<th>Each</th>
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<tr>
<td>Details</td>
<td>To be used in accordance with Index. Verify case number on standard. For special designs, refer to pay item 715-5AB-CDD.</td>
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<td>Related Items</td>
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<td>Recommended</td>
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<td>Forms</td>
<td>Design</td>
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<td>Design</td>
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<td>Construction</td>
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<td>Prep &amp; Doc Manual Chapter(s)</td>
<td>7, 13</td>
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</tbody>
</table>

**Status**

**Struct.  715- 4A-BCC**  **ALUMINUM LIGHT POLE, COMPLETE**  **EA**

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)
6 (Remove & Dispose) Note: Contractor takes ownership
7 (Remove & Stockpile/Salvage) Note: DOT/maintaining agency retains ownership

B= Structure Height
1 (Up to 25’)
2 (26’-39’)
3 (40’-49’)
4 (50’ and greater)

CC= Case Number defined on standards

**Notes**

715- 50-  **LIGHTING- INSIDE BOX GIRDER**

<table>
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<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
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<tr>
<td>Details</td>
<td>Intended for lighting system within box girder structures. Coordinate the use of this item with the Mechanical/Electrical Section of the State Structures Office. All work must be</td>
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Details and Structure: Chapters 11 to 20
detailed in the plans/specifications, including a tabulation of materials.

<table>
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<th>Related Items</th>
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<tr>
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<td>Documentation</td>
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<tr>
<td></td>
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**Structure**

715-50- LIGHTING- INSIDE BOX GIRDER  LS/LS

**Notes**

715-19A-BBB  HIGH MAST LIGHT POLE, COMPLETE

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<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</table>

**Notes**

Valid through December 2007; replaced by 715-19A-BBB

**Details**

Includes the pole, luminaire ring and lowering assembly, luminaires with lamps, anchor bolts with lock nuts and washers, and base plate assembly.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
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<td>Documentation</td>
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<tr>
<td></td>
<td>Construction</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</table>

**References**

PPM Chapter

Other

Specifications

Index No. 17500, 17501, 17503

**Prep & Doc Manual Chapter(s)**  7, 13

**Status**

715-19A-BBB  HIGH MAST LIGHT POLE, COMPLETE  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4
5 (Remove)
### 715-500- A  LIGHT POLE CABLE DISTRIBUTION SYSTEM

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Details**
Includes the surge protector, fuse holders with fuses, waterproof connectors and waterproof wiring connection to the luminaire. Refer to Section 992 of the Specifications for details.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SBTBLT</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

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**References**

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<tr>
<td>Other</td>
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<tr>
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<td>Prep &amp; Doc Manual Chapter(s)</td>
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**Status**

<table>
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<tr>
<th>Struct.</th>
<th>715-500- A</th>
<th>LIGHT POLE CABLE DISTRIBUTION SYSTEM</th>
<th>EA</th>
</tr>
</thead>
</table>

A = Type
1 = (Conventional)
2 = (High Mast)
3 = (Wall Mounted)

### 715-5AB-CDD  LIGHT POLE COMPLETE, SPECIAL DESIGN

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Details**
Used for Specially Designed Poles, including decorative or non-standard aluminum. Requires shop drawings.
Includes the pole, bracket arm, luminaire with lamp, anchor bolts with lock nuts and washers, frangible base and foundation.

***************
For special foundations, select pay item based on pole type; detail foundation in the plans.
For standard aluminum poles, use item 715-4A-BCC (through 12/07) or 715-4-ABC (effective 1/2008)

***************
For Turnpike Projects, Top Mount light specs/details may be available.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
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**Prep & Doc Manual Chapter(s)**

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**Details and Structure:** Chapters 11 to 20
**Construction**  Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**

**Other**

**Standards**

Index No. 17500, 17501, 17503

**Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)** 7, 13

---

**Status**

**Struct.** 715-5AB-CDD LIGHT POLE COMPLETE, SPECIAL DESIGN EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate) B-CDD = 0-000
5 (Remove) B-CDD = 0-000
6 (Repair & Reinstall) B-CDD = 0-000
7 (Furnish & Install With Internal Vibration Damper)

B = No. Arms & Location
1 (Single Arm Shoulder Mount)
2 (Double Arm Shoulder Mount)
3 (Single Arm Wall Mount)
4 (Double Arm Wall Mount)
5 (Single Arm Bridge Mount)
6 (Pole Top Mount)*
7 (Double Arm Bridge Mount)
8 (Double Arm, Pole Top Mount)*

C = Material Type
1 (Aluminum) non-standard designs
2 (Galvanized Steel)
3 (Concrete)
4 (Fiberglass)
5 (Wood)
6 (Cast Iron)

DD = Mounting Height (Open In Five Foot Increments

**Notes**

*Turnpike has adopted the Top Mount as a standard for some applications; specs/details may be available from District Design

---

**721- 70- AB** PASSENGER SHELTER- ALUMINUM, PREFABRICATED

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<thead>
<tr>
<th><strong>Unit</strong></th>
<th>EA</th>
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<th><strong>PlanQuantity?</strong></th>
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**Notes**

**Details**

**Related Items**

**Required**

**Recommended**

**Forms**

**Design**  SHTabQuant

COMP 700-050-03

---

Details and Structure: Chapters 11 to 20
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<td>B = 1 (Pre-Fabricated)</td>
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**Details and Structure:** Chapters 11 to 20
Notes

### 721-75- A  BENCHES

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| Construction  | Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances. |

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### 721-77-  BICYCLE PARKING RACK

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| Construction  | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

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Details and Structure: Chapters 11 to 20
Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

Status
Struct.  721-77-  BICYCLE PARKING RACK  EA

Notes

721-80-  PEDESTRIAN PLAZA

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<th>Lump Sum</th>
<th>PlanQuantity?</th>
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Notes
Details
May include pedestrian banners, drinking fountains, kiosk, and other items, as detailed in the plans. Tabulation summary required on all projects.

Related Items
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References
PPM Chapter
Other
Standards
Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

Status
Struct.  721-80-  PEDESTRIAN PLAZA  LS/LS

Notes

730-76-ABB   STEEL CASING, OPEN TRENCH

<table>
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Notes
Details
a=1, 4, 5 valid for open cut trench applications only. For Jack & Bore, Directional Bore, and/or vibratory plowing, refer to Items 555, 556, and/or 557.

Related Items
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### References

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Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 6, 7, 13

---

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<th>LF</th>
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</table>

- A = Operation
  - 1 (Furnish & Install)
  - 4 (Remove)
  - 5 (Install)

- BB = Size
  - 01 (2")
  - 02 (3")
  - 03 (4")
  - 04 (6")
  - 05 (8")
  - 06 (10")
  - 07 (12")
  - 08 (14")
  - 09 (16")
  - 10 (18")
  - 11 (20")
  - 12 (22")
  - 13 (24")
  - 14 (26")
  - 15 (28")
  - 16 (30")
  - 17 (32")
  - 18 (34")
  - 19 (36")
  - 20 (38")
  - 21 (40")
  - 22 (42")
  - 23 (48")
  - 24 (54")
  - 25 (60")
  - 26 (66")
  - 27 (64")
  - 28 (78")
  - 29 (84")
  - 30 (72")
  - 31 (90")
  - 32 (108")
  - 33 ("")
  - 34 ("")

---

### Notes

730-77-AA CASING SPACERS

---

Details and Structure: Chapters 11 to 20
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</table>

AA = Carrier Size

01 ( 2")
02 ( 3")
03 ( 4")
04 ( 6")
05 ( 8")
06 (10")
07 (12")
08 (14")
09 (16")
10 (18")
11 (20")
12 (22")
13 (24")
14 (26")
15 (28")
16 (30")
17 (32")
18 (34")
19 (36")
20 (38")
21 (40")
22 (42")
23 (48")
24 (54")
25 (60")
26 (66")
27 (64")
28 (78")
29(84")
30(72")
**Notes**

### 730-83- A WELL

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<td>PW; EA; LF; M1</td>
<td>Per Well; Each; Linear Foot; 10th of a Meter</td>
<td>no</td>
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#### Details

Final Measure:
- For Per Each/Well Items: Final tabulation of quantities must be recorded on proper form in computation book by location.
- For Length Measurements: Record final measurements on proper form in computation book or field book. When measurements have been recorded in the field book, transfer final quantities to computation book.

#### Related Items

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#### References

- PPM Chapter
- Other
- Standards
- Specifications

- Plan Detail and/or Tech Spec Required
- Prep & Doc Manual Chapter(s) 7, 13

#### Status

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<tr>
<td>730-83- A WELL</td>
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A = 4 (4" Casing) 6 (6" Casing)

---

**Notes**

### 730-84- A WELL (IN EXCESS OF 250 FEET DEPTH)

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#### Details

#### Related Items

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#### References

- PPM Chapter
- Other
- Standards
- Specifications

- Plan Detail and/or Tech Spec Required
- Prep & Doc Manual Chapter(s) 7, 13

---

Details and Structure: Chapters 11 to 20
### Structure 730-84- A

**WELL (IN EXCESS OF 250 FEET DEPTH)**

**LF**

\[ A = 4 (4" Casing) \]
\[ 6 (6" Casing) \]

### Notes

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

### Status

**Struct.** 730-84- A

**WELL (IN EXCESS OF 250 FEET DEPTH)**

\[ A = 4 (4" Casing) \]
\[ 6 (6" Casing) \]

### Notes

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

### References

PPM Chapter

Other

Standards

Specifications

### Plan Quantity?

No

### Details

#### PUMPING SYSTEM

| Unit | Accuracy | PlanQuantity?
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<tbody>
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#### Related Items

**Required**

**Recommended**

##### Forms

**Design**

SHTabQuant

COMP 700-050-03

**Construction**

Refer to Comp Book

##### Documentation

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### Notes

Tabulation summary required on all projects.

### References

PPM Chapter

Other

Standards

Specifications

### Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

### Status

**Struct.** 730-88-

**PUMPING SYSTEM**

**EA**

### Notes

Tabulation summary required on all projects.

### Related Items

**Required**

**Recommended**

##### Forms

**Design**

SHTabQuantLS

COMP 700-050-05
Standards
Specifications

Struct.  735- 74- AA TOLL PLAZA LS/LS

AA =
blank (single location)
1 (Location 1)
2 (Location 2)
3 (Location 3)
4 (Location 4)
5 (Location 5)
6 (Location 6)
7 (Location 7)
8 (Location 8)
9 (Location 9)
10 (Location 10)
11 (Location 11)
12 (Location 12)

Notes

735- 79- SEWAGE AND WATER MODIFICATIONS

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Notes

Details

Related Items

Forms

Documentation

Design

Use a quantity of 1. No form required. Locate or define the scope of work involved on the plans.

Construction

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other
Standards
Specifications
Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)  6, 7, 13

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</tr>
<tr>
<td>Notes</td>
<td>SEWAGE AND WATER MODIFICATIONS LS/LS</td>
</tr>
</tbody>
</table>

Notes

735- 80- SERVICE PLAZA RENOVATION

| Unit       | LS/LS | Accuracy | Lump Sum | PlanQuantity? | yes |
|------------|-------|----------|----------|---------------|

Notes

Details

Related Items

Forms

Design

SHTabQuantLS

COMP 700-050-05

Construction

Refer to Comp Book

Documentation

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

References

PPM Chapter

Other

Standards

Specifications

Prep & Doc Manual Chapter(s)  6, 7, 13

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<td>SERVICE PLAZA RENOVATION LS/LS</td>
</tr>
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</table>

Notes

735- 82- A TOLL PLAZA CANOPY

| Unit       | SF; M2 | Accuracy | Square Foot; 10th of a Square Meter | PlanQuantity? | yes |
|------------|--------|----------|------------------------------------|---------------|

Notes

Details

Related Items

Forms

Design

SHTabQuant

COMP 700-050-01

Construction

Refer to Comp Book

Documentation

Design

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.
<table>
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<td>Specifications</td>
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Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**: 7, 13

**Status**: Inactive Structure

**Struct**.: 735-82- A  
**TOLL PLAZA CANOPY**  
**SF**

A =
1 (Concrete)
2 (Aluminum)
3 (Steel)

**Notes**

---

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**735-84- A**  
**TOLL PLAZA ISLAND**

**Related Items**

**Required**

**Design**  
SHTabQuant

**Construction**  
Refer to Comp Book

**Documentation**

**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**  
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter  
Other  
Standards  
Specifications

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**: 7, 13

**Status**: Inactive Structure

**Struct**.: 735-84- A  
**TOLL PLAZA ISLAND**  
**EA**

A =
1 (New)
2 (Modify)
3 (Remove)
4 (New With Stairwell)

**Notes**

---

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**735-86- A**  
**DETECTORS VEHICLE- TREADLE FRAME**

**Related Items**

**Required**

**Design**  
SHTabQuant

**Construction**  
COMP 700-050-03

**Documentation**

**Design**  
Refer to Comp Book

**Construction**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**References**

PPM Chapter  
Other  
Standards  
Specifications

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**: 7, 13

**Status**: Inactive Structure

**Struct**.: 735-86- A  
**DETECTORS VEHICLE- TREADLE FRAME**  
**EA**

A =
1 (New)
2 (Modify)
3 (Remove)
4 (New With Stairwell)

**Notes**

---
### Notes

**Details**

#### Related Items

**Forms**

- **Design Required**: SHTabQuant
- **Construction Required**: Refer to Comp Book

**Documentation**

- **Design Required**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction Required**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**: Design, Construction
- **Other**: Standards, Specifications

---

**Status**

**Struct. 735-86- A**

**DETECTORS VEHICLE- TREADLE FRAME**

- **EA**

- **A =**
  1 (Existing Concrete Pavement)
  2 (New Concrete Pavement)

---

**Notes**

**Details**

#### Related Items

**Forms**

- **Design Required**: SHTabQuant
- **Construction Required**: COMP 700-050-03

**Documentation**

- **Design Required**: Refer to Comp Book

**References**

- **PPM Chapter**: Design, Construction

---

**Status**

**Struct. 735-87- A**

**UTILITY TUNNEL**

- **Unit**: LF; M1
- **Accuracy**: Linear Foot; 10th of a Meter
- **PlanQuantity?**: no

---

**Notes**

**Details**

#### Related Items

**Forms**

- **Design Required**: SHTabQuant
- **Construction Required**: COMP 700-050-03

**Documentation**

- **Design Required**: Refer to Comp Book

**References**

- **PPM Chapter**: Design, Construction

---

**Status**

**Inactive Structure**

**Struct. 735-87- A**

**UTILITY TUNNEL**

- **LF**

---

Details and Structure: Chapters 11 to 20
A =
1 (7' X 7')
2 (6' X 8')
3 (7' X 8')

Notes

735-88-  TOLL PLAZA MODIFY EXISTING

<table>
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<tr>
<th>Unit</th>
<th>LS/LS</th>
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<th>PlanQuantity?</th>
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Notes

Details

Tabulation summary required on all projects.

Related Items

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<th>Recommended</th>
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<td>SHTabQuantLS</td>
<td>COMP 700-050-05</td>
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<td>Construction</td>
<td>Refer to Comp Book</td>
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Documentation

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<tr>
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<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
</tr>
</tbody>
</table>

References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct.  735-88-  TOLL PLAZA MODIFY EXISTING  LS/LS

Notes

735-89-  AUTOMATIC WINDSHIELD WASHER

<table>
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<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</thead>
</table>

Notes

Details

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

Details and Structure: Chapters 11 to 20
Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 7, 13

<table>
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Notes

**736- 72- AA**  
**UTILITY RELOCATION- WATER**

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<th>PlanQuantity?</th>
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Details

**Related Items**

**Forms**

- **Design**
  - Required: SHTabQuantLS
  - Recommended: COMP 700-050-05

- **Construction**
  - Refer to Comp Book

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

- **Construction**
  - Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Prep & Doc Manual Chapter(s)** 7, 13

Status

<table>
<thead>
<tr>
<th>Struct.</th>
<th>UTILITY RELOCATION- WATER</th>
<th>LS/LS</th>
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</thead>
</table>

AA =
11 (Permanent)
12 (Temporary)

Notes

**736- 73- 1**  
**RAILROAD TRACK WORK**

<table>
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<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
<th>Lump Sum</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

Details

- Tabulation summary required on all projects.

**Related Items**

**Forms**

- **Design**
  - Required: SHTabQuantLS
  - Recommended: COMP 700-050-05

- **Construction**
  - Refer to Comp Book

**Documentation**

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).
### 736-73-1 RAILROAD TRACK WORK

| Unit       | EA | Accuracy | Each | PlanQuantity? | no |

#### Notes
- **Related Items**: Required
- **Related Items**: Recommended

#### Status
- **Struct.**: 736-73-1
- **Reference**: LS/LS

#### Details
- **Notes**: Plan Detail and/or Tech Spec Required
- **Prep & Doc Manual Chapter(s)**: 7, 13

---

### 736-74- A RAILROAD TURNOUT AND CROSSOVER

| Unit       | EA | Accuracy | Each | PlanQuantity? | no |

#### Notes
- **Related Items**: Required
- **Related Items**: Recommended

#### Details
- **Forms**
  - **Design**: SHTabQuant
  - **Construction**: Refer to Comp Book
- **Documentation**
  - **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### Status
- **Struct.**: 736-74- A
- **Reference**: EA

#### Notes
- **References**: PPM Chapter
- **Other Standards**: SHTabQuant
- **Specifications**: COMP 700-050-03

---

### 736-75- RAILROAD CROSSING SIGNAL (CLASS II, TYPE 1)

| Unit       | EA | Accuracy | Each | PlanQuantity? | no |

#### Notes
- **Related Items**: Required
- **Related Items**: Recommended

#### Details
- **Forms**
  - **Design**: SHTabQuant
  - **Construction**: Refer to Comp Book
- **Documentation**
  - **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

---

*Details and Structure: Chapters 11 to 20*
quantities sheet in the plans, or detail calculations in the computation book.

### Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References
- PPM Chapter
- Other
- Standards
- Specifications

### Notes
Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s)

---

<table>
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<th>Status</th>
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<th>UTILITY LOCATE</th>
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</table>

<table>
<thead>
<tr>
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<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
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</table>

**Details**
This item is intended to be used for verification of utility locations designated in the plans, when necessary to specifically identify a location. This item is not to be used for incidental work covered by 7-11 of the specifications.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
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<tbody>
<tr>
<td>Forms</td>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COMP 700-050-03</td>
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<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
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<td>Documentation</td>
<td>Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
</tr>
<tr>
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<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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**References**
- PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 6, 7, 13

---

<table>
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<tr>
<th>Status</th>
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</tr>
</tbody>
</table>

A =
1 (Underground)
2 (Under Pavement)
3 (Electronic - Horizontal)
4 (Underwater)

**Notes**

---

### Related Items

**Forms**
- Design
- SHTabQuant

**Construction**
- Refer to Comp Book

**Documentation**
- Design
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

---

**References**
- PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required
Prep & Doc Manual Chapter(s) 6, 7, 13

---

### Notes

---

**Details and Structure:** Chapters 11 to 20
| Unit          | LF; M1 | Accuracy         | Linear Foot; 10th of a Meter | PlanQuantity? | no |

**Notes**

**Details**

This item is intended to be used for verification/designating/marking of utility locations designated in the plans. Marker requirements to be provided by designer for specifications. Pay item not intended for searching unknown conditions. This item is not to be used for incidental work covered by 7-11 of the specifications.

**Related Items**

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<td>COMP 700-050-03</td>
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<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
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</table>

**Documentation**

| Design     | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**: 6, 7, 13

**Status**

**Struct.** 737- 71- A  

**ELECTRONIC UTILITY DESIGNATE LF**

A =
1 (Underground)
2 (Under Pavement)
3 (Electronic - Horizontal)
4 (Underwater)

**Notes**

---

| Unit          | LF; M1 | Accuracy         | Linear Foot; 10th of a Meter | PlanQuantity? | no |

**Notes**

**Details**

**Related Items**

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<td>COMP 700-050-03</td>
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<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

| Design     | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- PPM Chapter
- Other
- Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 740-71-ABC WALL LF

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Removal)
5 (Rehab) LS, BC=00

B = Material
1 (Drywall)
2 (Panel Wall)
3 (Block Wall)
4 (Other)

C = Height
1 (8')
2 (10')
3 (12')
4 (Other)

Notes

Refer to Specifications for use and application.

Related Items

Forms Required Recommended
Design SHTabQuant COMP 700-050-03
Construction Refer to Comp Book

Documentation

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 741-70-ABC TRAFFIC MONITORING SITE, VEHICLE SENSOR-CLASS II

Notes

Details Refer to Specifications for use and application.

Other

Details and Structure: Chapters 11 to 20
4 (Modify)
B = Vehicle Sensor Type
1 (Type I)
2 (Type II)
C = Sensor Length
1 (Half Lane Width)
2 (Full Lane Width)
3 (Non-Intrusive)

Notes

742-70-AB TRAFFIC MONITORING SITE, WEIGH-IN-MOTION ELECTRONICS ASSEMBLY

<table>
<thead>
<tr>
<th>Unit</th>
<th>AS</th>
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Notes

Details
Refer to Specifications for use and application.

Related Items

Forms
- Design Required SHTabQuant
- Construction Recommended COMP 700-050-03

Documentation
- Design
  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction
  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
- PPM Chapter
- Other
- Standards
- Specifications
  Plan Detail and/or Tech Spec Required
  Prep & Doc Manual Chapter(s) 7, 13

Status

Struct. 742-70-AB TRAFFIC MONITORING SITE, WEIGH-IN-MOTION ELECTRONICS ASSEMBLY

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
B = Weight Sensor Type
1 (Bending Plate)
2 (Piezoelectric)
3 (Capacitance)
4 (Combined Types)
5 (Other)

Notes

743-70-AB TRAFFIC MONITORING SITE, VEHICLE SPEED/CLASSIFICATION UNIT

<table>
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<th>AS</th>
<th>Accuracy</th>
<th>Assembly</th>
<th>PlanQuantity?</th>
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Details and Structure: Chapters 11 to 20
**Topic No. 600-000-002**  
**Basis of Estimates**  
2007 Edition  
August 27, 2007

---

### Notes

**Details**  
Refer to Specifications for use and application.

**Related Items**  
**Required**  
**Recommended**

**Forms**  
**Design**  
SHTabQuant  
COMP 700-050-03

**Construction**  
Refer to Comp Book

**Documentation**  
**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**  
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter
Other
Standards
Specifications

**Prep & Doc Manual Chapter(s)** 7, 13

---

### Status

**Struct.** 743- 70- AB  
TRAFFIC MONITORING SITE, VEHICLE SPEED/CLASSIFICATION UNIT

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Modify)

B = Assembly Component
1 (Electronics Unit With Equipment Cable)
2 (Electronics Unit Only)

---

### Notes

**744- 70- AB**  
TRAFFIC MONITORING SITE, SOLAR POWER UNIT

**Unit**  AS  
**Accuracy**  Assembly  
**PlanQuantity?**  no

**Notes**  
Refer to Specifications for use and application.

**Related Items**  
**Required**  
**Recommended**

**Forms**  
**Design**  
SHTabQuant  
COMP 700-050-03

**Construction**  
Refer to Comp Book

**Documentation**  
**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**  
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter
Other
Standards
Specifications

**Prep & Doc Manual Chapter(s)** 7, 13

---

Details and Structure: Chapters 11 to 20
### Status

**Struct.** 744-70-AB

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<td>1 (Furnish &amp; Install)</td>
<td>1 (New Pole)</td>
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<tr>
<td>2 (Furnish)</td>
<td>2 (Existing Pole)</td>
</tr>
<tr>
<td>3 (Install)</td>
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**Notes**

Refer to Specifications for use and application.

### Status

**Struct.** 745-70-AB

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<tr>
<td>2 (Furnish)</td>
<td>2 (Two)</td>
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<tr>
<td>3 (Install)</td>
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**Notes**

Refer to Specifications for use and application.

### Status

**Struct.** 746-7A-BCD

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<th>Mounting</th>
</tr>
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<td>2 (Furnish)</td>
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<tr>
<td>3 (Install)</td>
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**Notes**

Refer to Specifications for use and application.
### Forms and Documentation

**Design**
- SHTabQuant
- COMP 700-050-03

**Construction**
- Refer to Comp Book

**Design**
- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

**PPM Chapter**
- Design: 7, 13

**Other**

### Standards and Specifications

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**
- 7, 13

### Status

**Struct.**
- 746-7A-BCD
- TRAFFIC MONITORING SITE, CABINET
- EA

**A = Operation**
- 1 (Furnish & Install)
- 2 (Furnish)
- 3 (Install)
- 4 (Modify)

**B = Size**
- 1 (Type III)
- 2 (Type IV)
- 3 (Type V)

**C = Mounting**
- 1 (Base)
- 2 (Pole)
- 3 (Pedestal)

**D = Backplane**
- 1 (One)
- 2 (Two)
- 3 (None)

**Notes**
- Existing Specs apply for A=1-3; Plan Detail and/or Tech Spec Required for A=4

### 747-70-AB TRAFFIC MONITORING SITE, MODEM

<table>
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<tr>
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**Notes**
- Refer to Specifications for use and application.

**Details**
- Related Items

**Forms**
- **Required**
  - Design: SHTabQuant
  - COMP 700-050-03

**Construction**
- Refer to Comp Book

**Documentation**
- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**PPM Chapter**
- Design: 7, 13

**Other**
### Standards

**Specifications**

**Prep & Doc Manual Chapter(s)** 7, 13

---

### Status

**Struct.** 747-70-AB  
**TRAFFIC MONITORING SITE, MODEM**  
**AS**

A = Operation  
1. (Furnish & Install)  
2. (Furnish)  
3. (Install)  
4. (Modify)  

B = Item  
1. (Modem)

---

### Notes

- **Effective January 2007; replaces several Architectural Items.**
- **Details**
  - For all new/major rehab Architectural work. Includes all work (building, plumbing, electrical, water, HVAC, etc.) for a complete building. Tech Specs must detail all items, construction, and materials.
  - For limited incidental work, see 751 items.
  - Do not use for movable bridge structures; see 508 items and/or contact Movable Bridge Section. Do not use for Signing, Lighting, ITS, or Signalization.

---

### Related Items

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<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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### Status

**Struct.** 750-1-AB  
**ARCHITECTURAL, BUILDING**  
**LS/SF**

A= Operation  
1. (New)  
5. (Rehab)  
6. (Remove)  

B= Facility

---

**Details and Structure:** Chapters 11 to 20
1 (Rest Area)
2 (Welcome Center)
3 (Weigh Station)
4 (Maintenance Facility Building)
5 (Office)
6 (Parking Garage)
7 (Storage/Mechanical)
8 (Uncovered Storage)
9 (Other building)*

*Contact Architectural Section for approval

### 751-2- ARCHITECTURAL, ELECTRICAL/POWER

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<td>For use on Architectural projects only. Not to be used with 750-1 (New/Rehab building) item. Includes all work, hardware (lighting fixtures, generator, etc.), and materials for a complete electrical system, as detailed in the plans and/or tech specs. Do not use for Signing, Lighting, ITS, or Signalization.</td>
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**Related Items**

**Forms**

- **Design:** SHTabQuantLS
- **Construction:** Refer to Comp Book

**Documentation**

- **Design:** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction:** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Standards**

- **PPM Chapter**
- **Other**

**Specifications**

- **Plan Detail and/or Tech Spec Required**
- **Prep & Doc Manual Chapter(s)**

### Status

**Struct.** 751-2- ARCHITECTURAL, ELECTRICAL/POWER LS/LS

---

### 751-3- ARCHITECTURAL, TELEPHONE/COMMUNICATION

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<td>For use on Architectural projects only. Not to be used with 750-1 (New/Rehab building) item. Includes all work, hardware, and materials for a complete Telephone/Communication system, as detailed in the plans and/or tech specs. Communications may include cable and/or fiber optic connections necessary for a complete system. Do not use for Signing, Lighting, ITS, or Signalization.</td>
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### Documentation

| Design | Location in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

### References

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### Related Items

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### Documentation

| Design | Location in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

### References

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<th>ARCHITECTURAL, WATER/SEWER INTERIOR LS/LS</th>
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**Notes**

**751- 4- ARCHITECTURAL, WATER/SEWER INTERIOR**

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**Effective January 2007**

**Details**

For use on Architectural projects only. Not to be used with 750-1 (New/Rehab building) item.

Includes all work, hardware (sinks, toilets, water fountains), and materials for a complete water/sewer system for the interior of a building, as detailed in the plans and/or tech specs.
### 751- 5- ARCHITECTURAL, SANITARY SEWER/SEWAGE TREATMENT

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#### Notes
- **Effective January 2007**
- For use on Architectural projects only. May be used with 750-1 (New/Rehab building) item for major items of work. For minor water/sewer work associated with building, include with 750-1 item.
- Includes all work, hardware (lift station, treatment plant, etc.) for a complete water/sewer system for the exterior of a building, as detailed in the plans and/or tech specs.

#### Details
- Related Items
  - **Required**: SHTabQuantLS
  - **Recommended**: COMP 700-050-05

- **Design**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, and detail calculations in the computation book.

- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References
- PPM Chapter
- Other
- Standards
- Specifications

- **Plan Detail and/or Tech Spec Required**
- **Prep & Doc Manual Chapter(s)**

#### Status
- **Struct. 751- 5-**
- **ARCHITECTURAL, SANITARY SEWER/SEWAGE TREATMENT**
- **LS/LS**

---

### 751- 6- ARCHITECTURAL, HVAC

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#### Notes
- **Effective January 2007**
- For use on Architectural projects only. Not to be used with 750-1 (New/Rehab building) item.
- Includes all work, hardware (AC, ventilation, and/or heating units), and materials for a complete HVAC system, as detailed in the plans and/or tech specs.

#### Details
- Related Items
  - **Required**: SHTabQuantLS
  - **Recommended**: COMP 700-050-05

- **Design**
  - Refer to Comp Book

- **Construction**
  - Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, and detail calculations in the computation book.

- **Construction**
  - Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References
- PPM Chapter
- Other
- Standards
- Specifications

- **Prep & Doc Manual Chapter(s)**

---

Details and Structure: Chapters 11 to 20
### 751-10- ARCHITECTURAL, ASBESTOS ABATEMENT

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</table>

#### Notes
- Effective January 2007; contact Architectural Section before opening, due to possible CARS contract.
- Check for possible CARS contract prior to using this item.
- For use on Architectural projects only. Not to be used with 750-1 (New/Rehab building) item.
- Includes all work, hardware, and materials for Asbestos Abatement, as detailed in the plans and/or tech specs.

#### Related Items
- **Forms**
  - Design: SHTabQuantLS
  - Construction: Refer to Comp Book
- **Documentation**
  - Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References
- PPM Chapter
- Other
- Standards
- Specifications

---

### 751-20- A ARCHITECTURAL, LIGHTNING PROTECTION SYSTEM

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#### Notes
- Effective January 2007
- For use on Architectural projects only. Not to be used with 750-1 (New/Rehab building) item.
- For movable bridge structures, refer to Section 508 items. For all other applications, lightning protection is incidental to the item being protected.
- Do not use for Signing, Lighting, ITS, or Signalization.

#### Details
- Includes all work, hardware, and materials for a complete lightning protection system, as
<table>
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**Details**

**Unit**

600-000-002

**Basis of Estimates**

**2007 Edition**

**August 27, 2007**

detailed in the plans and/or tech specs.

<table>
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<tr>
<td>A</td>
<td>751-20-</td>
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</table>

A= Type of System
1 (Point Discharge)
2 (Static Charge Dissipation)
3 (Surge Supression)

**Notes**

Effective January 2007

For use on Architectural projects only.
Size (small/large) and details as shown on Design Standards.
Non-standard sizes must be approved by the Architectural Section, with a new pay item request.

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**Details and Structure:** Chapters 11 to 20
### Struct. 751-30- A

**ARCHITECTURAL, PICNIC PAVILION**

A= Size, per index
1 (Small)
2 (Large)

### Notes

### 764-1- BOAT DOCK- FLOATING

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<th>Accuracy</th>
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#### Notes

#### Details

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#### Documentation

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

#### References

- PPM Chapter
- Other
- Standards
- Specifications

- Plan Detail and/or Tech Spec Required
- Prep & Doc Manual Chapter(s) 7, 13

#### Status

### Struct. 764-2- BOAT DOCK- GANGWAY

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#### Notes

#### Details

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#### Documentation

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

#### References

- PPM Chapter
- Other
### Standards & Specifications

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s):** 7, 13

---

**Status**

**Struct.:** 764-2  
**BOAT DOCK- GANGWAY**  
**SF**

---

**Notes**

#### 770-75- A  
**PRE-PASS SENSOR**

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<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
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</table>

**Details**

For use at weigh/inspection stations only.

**Related Items**

**Required**  
- Design: SHTabQuant  
- Construction: Refer to Comp Book

**Recommended**  
- Design: SHTabQuant  
- Construction: COMP 700-050-03

**References**

- PPM Chapter
- Other

---

**Status**

**Struct.:** 770-75- A  
**PRE-PASS SENSOR**  
**EA**

**Notes**

A= Location  
1(Asphalt Embedded)

---

#### 770-78-  
**STATIC/WEIGH-IN-MOTION SCALE SYSTEM**

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<th>Unit</th>
<th>EA</th>
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</table>

**Details**

The designer should detail all requirements and components to be included in the system.

**Related Items**

**Required**  
- Design: SHTabQuant  
- Construction: Refer to Comp Book

**Recommended**  
- Design: SHTabQuant  
- Construction: COMP 700-050-03

**Documentation**

- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Construction: Record final quantity on the tabulation sheet (plans) or computation form.

---

**Details and Structure:** Chapters 11 to 20
### Static/Weigh-In-Motion Scale System

**EA**

#### Notes

- Plan Detail and/or Tech Spec Required
- Prep & Doc Manual Chapter(s) 7, 13

**Struct.** 770-78-  

<table>
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#### Plan Quantity?

- yes

**Related Items**

**Forms**

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**Construction**

Refer to Comp Book

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

**Construction**

- Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

---

### Weigh Station

**LS/LS**

#### Notes

- Plan Detail and/or Tech Spec Required
- Prep & Doc Manual Chapter(s) 7, 13

**Struct.** 770-79-  

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#### Plan Quantity?

- yes

**Related Items**

**Forms**

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**Documentation**

**Design**

Refer to Comp Book

---

### Scale Pit Structures

**EA**

#### Notes

- Plan Detail and/or Tech Spec Required
- Prep & Doc Manual Chapter(s) 7, 13

**Struct.** 775-70-  

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#### Plan Quantity?

- no

**Related Items**

**Forms**

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Details and Structure: Chapters 11 to 20
### 775-70- SCALE PIT STRUCTURES

**Unit**: EA  
**Accuracy**: Each  
**Plan Quantity**: no

**Notes**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter  
Other  
Standards  
Specifications

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

**Status**: Inactive Structure

**Struct.**: 775-70-

**Documentation**

**Construction**  
Refer to Comp Book

**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**  
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### 775-72- SCALE FOUNDATION

**Unit**: EA  
**Accuracy**: Each  
**Plan Quantity**: no

**Notes**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter  
Other  
Standards  
Specifications

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

**Status**: Inactive Structure

**Struct.**: 775-72-

**Documentation**

**Construction**  
Refer to Comp Book

**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**  
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### 780-1-AB ITS ELECTRICAL POWER

**Unit**: Mixed  
**Accuracy**: Refer to item structure and details  
**Plan Quantity**: no

**Notes**

For use in providing electrical power service to ITS devices in the field. Installations of
service assemblies can be either for overhead or underground service, in accordance with the details in the plans, or in Index 17736 of the Design Standards. A service assembly may include a weatherhead, conduit, service wire, a meter base, service disconnect, and a transient protection device.

### Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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<tr>
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<td>COMP 700-050-03</td>
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### Documentation

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</table>

### References

- **PPM Chapter**: Vol 1, Chapter 7
- **Other**
  - **Standards**
  - **Specifications**

### Prep & Doc Manual Chapter(s)

### Status

#### Struct.

**780- 1- AB**

**ITS ELECTRICAL POWER**

**Mixed**

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust & Modify)
6 (Remove and Dispose- Contractor takes ownership)

B= Type
1 (Service) AS
2 (Service Wire) LF
3 (Service Disconnect) EA

### Notes

Refer to Comp Book

### Related Items

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<tr>
<td>Construction</td>
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</table>

### Notes

**Details**

For installation along the roadway for the purpose of broadcasting traffic advisories to vehicle radios. The HAR installation consists of a radio antenna mounted on a pole, a control cabinet containing the transmitter, power supply, communication hardware, and conduit. The system includes a roadside HAR sign with flashing beacons to alert motorists that a message is being broadcast.

Transmitter wattage, siting information, and installation details should be noted in the plans.

For temporary MAS systems during construction, refer to Maintenance Of Traffic, Section 102 items.

Refer to Comp Book

### Related Items

<table>
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<td>Construction</td>
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### Notes

**Details**

For installation along the roadway for the purpose of broadcasting traffic advisories to vehicle radios. The HAR installation consists of a radio antenna mounted on a pole, a control cabinet containing the transmitter, power supply, communication hardware, and conduit. The system includes a roadside HAR sign with flashing beacons to alert motorists that a message is being broadcast.

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Refer to Comp Book

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<tr>
<td>Construction</td>
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### Notes

**Details**

For installation along the roadway for the purpose of broadcasting traffic advisories to vehicle radios. The HAR installation consists of a radio antenna mounted on a pole, a control cabinet containing the transmitter, power supply, communication hardware, and conduit. The system includes a roadside HAR sign with flashing beacons to alert motorists that a message is being broadcast.

Transmitter wattage, siting information, and installation details should be noted in the plans.

For temporary MAS systems during construction, refer to Maintenance Of Traffic, Section 102 items.
Struct.  781- 2- AB

ITS HIGHWAY ADVISORY RADIO

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)

B= Power Type
1 (Solar)
2 (AC)

Notes

Construct. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter Vol 1, Chapter 7

Other

Standards

Specifications

Prep & Doc Manual Chapter(s)

Status

Struct. 781- 3-ABC

ITS ROAD WEATHER INFORMATION SYSTEM

<table>
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<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</tr>
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</table>

Notes

Effective July 07 Letting.

Details

For installation at the roadside, on bridges or other new or existing structures to provide realtime weather data on temperature, humidity, precipitation, wind speed, and direction, and visibility. The RWIS is furnished with the weather instruments necessary to produce the readings desired and collects, stores, and processes the data for transmittal to the transportation management center (TMS). An RWIS with one central monitoring site can serve multiple field installations. The weather sensors are typically mounted on either a dedicated RWIS tower or existing structures.

Related Items

Forms

Required
Design SHTabQuant
Construction Refer to Comp Book

Recommended
Design COMP 700-050-03

Documentation

Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter Vol 1, Chapter 7

Other

Standards

Specifications

Prep & Doc Manual Chapter(s)

Status

Struct. 781- 3-ABC

ITS ROAD WEATHER INFORMATION SYSTEM

Details and Structure: Chapters 11 to 20
A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) BC=00
4 (Relocate) BC=00
5 (Adjust /Modify) BC=00

B= Equipment Type
1 (Field Hardware)
2 (Central Monitoring/Processing Equipment)

C= Sensor Mounting
1 (New Tower Included)
2 (Mounted to Existing Structure)

Notes

781- 1A-BCD  ITS DYNAMIC MESSAGE SIGN

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td>no</td>
</tr>
</tbody>
</table>

Notes

For installation along interstate, expressway, or limited access corridors for communicating traffic advisories to motorists.

Structure Types: Mid-span- across one direction of travel, full span- across all lanes, or cantilever- at the roadside.

Sign Type: Front display surface, with either line matrix- pixels arranged in rows, or full matrix- pixels fully covering the surface.

Designer should note the size of sign, structure, and installation details in the plans.

NOTE:
Furnish & Install: includes the furnishing of both the truss and sign
Furnish: Furnish the sign only (Signs are available on State purchase contracts)
Install: Install sign on existing structure
Furnish & Install Truss, Install Sign: When sign is provided by FDOT (may have been purchased on state contract, or relocated from another location). Contractor must provide/construct truss, install sign.

Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
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<tbody>
<tr>
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<tr>
<td>Construction</td>
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Documentation

Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Vol 1, Chapter 7

Other Standards
Specifications

Prep & Doc Manual Chapter(s)

Status

Struct.  781- 1A-BCD  ITS DYNAMIC MESSAGE SIGN  EA
A= Operation
1 (Furnish & Install)
2 (Furnish) *
3 (Install) *Sign on existing truss
4 (Relocate) *Sign to another existing truss
5 (Adjust /Modify)
9 (Furnish & Install Truss; Install Sign)
B=Sign Type
1 (LED Line Matrix)
2 (LED Full Matrix)
C=Sign Support Structure
1 (Mid-span)
2 (Full Span)
3 (Cantilever) D=1, 2, or 3 only
4 (Sign Only) no structure; D=0
D= Horizontal Truss Length
0 (No Structure) when C=4
1 (0' to 40')
2 (41' to 60')
3 (61' to 80')
4 (81' to 100')
5 (101' to 120')
6 (121 to 140')
7 (141 to 161')
8 (161 to 180')
9 (greater than 180')

Notes: See detail for Furnish/Install options

<table>
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<tr>
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**ITS CCTV CAMERA**

For installations along the roadway or intersections, to provide video of traffic movements. Includes mounting hardware, cabling, and power supply. Cameras can be dome style enclosures, or "barrel type" units with external positioners. Either unit can be pressurized to reduce the effects of moisture, dust, and other contaminants.

**Required**

- **Design**
  - SHTabQuant
- **Construction**
  - Refer to Comp Book

**Recommended**

- **Design**
  - COMP 700-050-03
- **Construction**
  - Vol 1, Chapter 7

**Prep & Doc Manual Chapter(s)**

**Notes**

- Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Status**

| Struct. | 782- 1- AB | ITS CCTV CAMERA | EA |

Details and Structure: Chapters 11 to 20
A= Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Relocate)  
5 (Adjust /Modify)  
B= Type  
1 (Dome enclosure, pressurized)  
2 (External positioner, pressurized)  
3 (Dome enclosure, non-pressurized)  
4 (External positioner, non-pressurized)  

Notes

782- 2-ABC  ITS VIDEO DISPLAY

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<tr>
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</tr>
</tbody>
</table>

Details

For use in the Transportation Management Center (TMC) to display video from the CCTV cameras in the field, and for displaying maps, graphics, traffic counts, and other visuals. Video Display cubes can be stacked to form a wall display. Other monitors are positioned in the room or on the operator's desktops for control purposes. The video controller receives the incoming video signals and arranges them on the various displays. Display types, room layout, and installation details must be noted in the plans.

Related Items

Forms

Design  SHTabQuant  COMP 700-050-03
Construction  Refer to Comp Book

Documentation

Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s)

Status

Struct.  782- 2-ABC  ITS VIDEO DISPLAY  EA

A= Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Relocate)  
5 (Adjust /Modify)  
B= Component  
1 (Cube for video wall) C=2  
2 (Workstation) C=1 or 3  
3 (Monitor)  
4 (Controller) C=0

Details and Structure: Chapters 11 to 20
C= Technology
1 (LCD- Liquid Crystal Display)
2 (Rear Projection)
3 (CRT- Cathode Ray Tube)
4 (Special)

Notes

782- 3- A ITS REST AREA INFORMATION SYSTEMS

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<th>Unit</th>
<th>EA</th>
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</table>

Notes

Details
For use in highway rest areas for the display of traffic conditions and other information for the traveling public. The system is rack mounted and has the necessary processing power, memory, network connection, and video output capability to provide images for LCD displays in the lobby or concourse area of rest plazas.

Related Items
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<td>COMP 700-050-03</td>
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Documentation

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<tr>
<td>Construction</td>
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Prep & Doc Manual Chapter(s)

Status

Struct. 782- 3- A ITS REST AREA INFORMATION SYSTEMS EA

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust & Modify)

Notes

783- 1-ABC ITS FIBER OPTIC CABLE

<table>
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<tr>
<th>Unit</th>
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Notes

Details
For use in fiber optic networks that support ITS devices and their connection to communication hubs, transportation management centers, and related facilities. Use "overhead" for installations involving bridges and other aboveground structures. Use "underground" for cable placed in buried conduit along the roadside.

Related Items

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Details and Structure: Chapters 11 to 20
**Construction**  Refer to Comp Book

**Design**  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
  - Vol 1, Chapter 7

- **Other**

- **Standards**

- **Specifications**

- **Prep & Doc Manual Chapter(s)**

**Status**

**Struct.**  783-1-ABC  **ITS FIBER OPTIC CABLE**  **LF**

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)

B= Location
1 (Overhead)
2 (Underground)

C= Number of Fibers in Cable
1 (2 to 12)
2 (13 to 48)
3 (49 to 96)
4 (97 to 144)

**Notes**

For use in fiber optic networks where segments of fiber optic cable must be spliced together, or when cables must be terminated at the end of a segment. Note that each connection involves the fusing of individual optical fibers in a cable. Payment "each" is for each FIBER to be connected.

Type of connection must be noted in the plans.

**Related Items**

- **Required**
  - Design  SHTabQuant
  - Construction  Refer to Comp Book

- **Recommended**
  - Design  COMP 700-050-03
  - Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Forms**

**Documentation**

**Prep & Doc Manual Chapter(s)**

- **PPM Chapter**
- **Other**
- **Standards**

**Details**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Record final quantity on the tabulation sheet (plans) or computation form (comp book).
# Specifications

**Prep & Doc Manual Chapter(s)**

<table>
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<th>ITS FIBER OPTIC CONNECTION</th>
<th>EA</th>
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<tbody>
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<td>4 (Relocate)</td>
<td>5 (Adjust /Modify)</td>
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<tr>
<td>B= Type</td>
<td>1 (Splice)</td>
<td>2 (Termination)</td>
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## Notes

**Specifications**

**Prep & Doc Manual Chapter(s)**

### Status

**Struct.** 783- 2- AB  
**ITS FIBER OPTIC CONNECTION**  
**EA**

A= Operation  
3 (Install)  
4 (Relocate)  
5 (Adjust /Modify)

B= Type  
1 (Splice)  
2 (Termination)

**Notes**

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<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</tr>
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**Details**

For use in fiber optic networks, where segments of cable must be spliced together. This item includes hardware and incidental materials for splices; payment for splicing individual fibers is made under 783-2.

### Related Items

**Required**  
**Recommended**  
783-2

### Forms

**Design**  
SHTabQuant  
COMP 700-050-03

**Construction**  
Refer to Comp Book

### Documentation

**Design**  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**  
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

### References

**PPM Chapter**

**Other**

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**

### Status

**Struct.** 783- 3- AB  
**ITS FIBER OPTIC CONNECTION HARDWARE**  
**EA**

A= Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Relocate)  
5 (Adjust /Modify)

B=Component  
1 (Splice Enclosure)  
2 (Splice Tray)  
3 (Preterminated Connector Assembly)  
4 (Buffer Tube Fan Out Kit)  
5 (Patch Panel, Preterminated)

---

**Details and Structure:** Chapters 11 to 20
### 783-4-AB ITS CONDUIT

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**Notes**

For fiber optic cable and ITS devices only. Underground: to be used when conduit is installed prior to placement of pavement, or where it does not interfere with existing pavement. Underpavement Sawcut: to be used only when sawcutting is necessary for location under EXISTING PAVEMENT.

**Related Items**

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**Documentation**

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**References**

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<tr>
<td>Prep &amp; Doc Manual Chapter(s)</td>
<td></td>
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**Status**

**Struct.** 783-4-AB ITS CONDUIT LF

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)

B= Location
1 (Aboveground)
2 (Underground)
3 (Underpavement Sawcut) Note: to be used only when sawcutting is necessary
9 (Special)*

**Notes**

*Special to be used only with approval of the ITS Office

---

### 783-5-A ITS PULL BOX FOR FIBER OPTIC

<table>
<thead>
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<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>EA</td>
<td>Each</td>
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</table>

**Notes**

For use in fiber optic networks as an access point for moving cable into position during installation.
### Related Items

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### Status

<table>
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<th>ITS SPLICE BOX FOR FIBER OPTIC</th>
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</thead>
</table>

**Notes**

For use in fiber optic networks as a housing for the connection or termination of cable segments.

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
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<td>Specifications</td>
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### Notes

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<th>Each</th>
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**783- 6- A**  
**ITS SPLICE BOX FOR FIBER OPTIC**

**Details**

For use in fiber optic networks as a housing for the connection or termination of cable segments.

<table>
<thead>
<tr>
<th>Struct.</th>
<th>783- 6- A</th>
<th>ITS SPLICE BOX FOR FIBER OPTIC</th>
<th>EA</th>
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</table>

**Notes**

For use in fiber optic networks as a housing for the connection or termination of cable segments.

### Status

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<th>783- 6- A</th>
<th>ITS SPLICE BOX FOR FIBER OPTIC</th>
<th>EA</th>
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</thead>
</table>

**Notes**

For use in fiber optic networks as a housing for the connection or termination of cable segments.
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)

Notes

<table>
<thead>
<tr>
<th>783- 7- A</th>
<th>ITS PULL AND JUNCTION BOX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>EA</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Each</td>
</tr>
<tr>
<td>Plan</td>
<td>Quantity? no</td>
</tr>
</tbody>
</table>

Notes
Details
For use on ITS projects. Specs may refer to section 635 for requirements.

Required
Recommended

Forms
Design
SHTabQuant
COMP 700-050-03

Construction
Refer to Comp Book

Documentation
Design
Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s)
SHTabQuant COMP 700-050-03
Refer to Comp Book

Status
Struct. 783- 7- A ITS PULL AND JUNCTION BOX EA

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)

Notes

<table>
<thead>
<tr>
<th>783- 8- A</th>
<th>ITS MULTI-CONDUCTOR COMMUNICATION CABLE</th>
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<tr>
<td>Plan</td>
<td>Quantity? no</td>
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</table>

Notes
Details
For use on ITS projects. Tech Spec and/or plan detail needed to specify material requirements and/or number of conductors. Primarily for communications, may carry incidental low voltage device power.

Required
Recommended

Forms
Design
SHTabQuant
COMP 700-050-03

Construction

Details and Structure: Chapters 11 to 20
### ITS MULTI-CONDUCTOR COMMUNICATION CABLE

**A= Operation**
1. Furnish & Install
2. Furnish
3. Install
4. Relocate
5. Adjust /Modify

### ITS MANAGED FIELD ETHERNET SWITCH

**Unit** EA  **Accuracy** Each  **PlanQuantity?** no

**Notes**
For use in ITS communication networks to provide wire-speed fast Ethernet connections for ITS field devices. The Ethernet switch is hardened to withstand harsh environments and provides transmission rates of 100 megabits per second from the remote ITS device installation location to the ITS network trunk interconnection point.

**Related Items**

**Forms**
- **Design** Required: SHTabQuant  Recommended: COMP 700-050-03
- **Construction** Refer to Comp Book

**Documentation**
- **Design** Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction** Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Status**

**Struct.** 784- 1- A  **ITS MANAGED FIELD ETHERNET SWITCH**  **EA**

A= Operation
1. Furnish & Install
2. Furnish
3. Install
4. Relocate
5. Adjust /Modify
6. Remove and Dispose) Contractor takes ownership
For use when an ITS field device must connect to an Ethernet network but the device is only equipped with serial communication ports (i.e. EIA-232, EIA-422, or EIA-485 connections). Field devices that may require use of device servers include highway advisory radio field assemblies, microwave vehicle detection system devices, magnetic traffic detection systems, road weather information system stations, and other low-speed data output devices.

FOR USE WHEN ANALOG VIDEO AND DATA SIGNALS OBTAINED IN THE FIELD MUST BE CONVERTED TO DIGITAL SIGNALS FOR TRANSMISSION ACROSS IP NETWORKS. THE ENCODER AND DECODER ARE INDEPENDENT, NETWORK-BASED DEVICES THAT UTILIZE MPEG-2 AND OTHER VIDEO COMPRESSION ALGORITHMS FOR TRANSMISSION OF HIGH-BANDWIDTH SIGNALS. ENCODERS MAY BE HARDENED DEVICES AND ARE INSTALLED IN THE FIELD. DECODERS ARE HOUSED IN TRANSPORTATION MANAGEMENT CENTERS AND CAN BE EITHER A HARDWARE DEVICE OR A DECODER SOFTWARE PROGRAM RUNNING ON A COMPUTER.

NOTE: SOFTWARE BASED DECODER IS INCIDENTAL TO THE DIGITAL VIDEO ENCODER, PER SPECIFICATIONS.
### Required and Recommended Standards

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
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<tr>
<td></td>
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<td>Documentation</td>
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<td>Standards</td>
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<tr>
<td></td>
<td>Prep &amp; Doc Manual Chapter(s)</td>
<td></td>
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</table>

### Status

**Struct. 784-3-AB**

**ITS DIGITAL VIDEO ENCODER WITH SOFTWARE DECODER**

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)
6 (Remove and Dispose) Contractor takes ownership

B= Component
1 (Hardened Encoder)

### Notes

**784-4-AB**

**ITS DIGITAL VIDEO DECODER**

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

DO NOT USE with Digital Video Encoder; see details with 784-3 item.
This item to be used only when a hardware-based decoder, or additional copies of the software-based decoder are needed.
Contact ITS Section prior to opening.

**Related Items**

<table>
<thead>
<tr>
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<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
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<td>Construction</td>
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<tr>
<td>Documentation</td>
<td>Design</td>
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<td>Construction</td>
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<td>References</td>
<td>PPM Chapter</td>
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<td>Standards</td>
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<td>Specifications</td>
</tr>
<tr>
<td></td>
<td>Prep &amp; Doc Manual Chapter(s)</td>
</tr>
</tbody>
</table>
Status

Struct.  784-  4- AB  ITS DIGITAL VIDEO DECODER  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)
6 (Remove and Dispose) Contractor takes ownership

B = Component*
1 (Hardware-based decoder)
2 (Software-based decoder)
*See details and/or specifications

Notes
Contact ITS Section prior to opening.

---

784-  5- AB  ITS MANAGER ETHERNET HUB SWITCH  EA

Unit EA Accuracy Each PlanQuantity? no

Notes

Details
For use in ITS communication networks to provide centralized Ethernet connections for ITS field devices utilizing field or edge switches. The ethernet hub switch is hardened to withstand harsh environments and installation at remote locations. "Long haul" and "short haul" are common terms applied to telecommunication equipment in order to generally describe a device's ability to transmit information over various distances.

Related Items

Forms

Required Recommended
Design SHTabQuant COMP 700-050-03

Construction Refer to Comp Book

Documentation

Design

Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s)

---

Status

Struct.  784-  5- AB  ITS MANAGER ETHERNET HUB SWITCH  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)
6 (Remove and Dispose) Contractor takes ownership

B = Type
1 (Long Haul)
2 (Short Haul)
### ITS WIRELESS COMMUNICATION DEVICE

**Unit:** EA  
**Accuracy:** Each  
**PlanQuantity:** no

**Notes**
For use in transmitting and receiving data in ITS networks, especially between remotely located field devices and the mainline communications infrastructure that serves them. Devices include radion transmitter-receivers and antennas, power-over-ethernet (PoE) injectors, serial cable, power supplies and mounting hardware. Access points and subscriber units are typically associated with ethernet systems.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
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<td>Design</td>
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<td>Construction</td>
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**References**
PPM Chapter  
Other  
Standards  
Specifications  
Prep & Doc Manual Chapter(s)

**Status**

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<th>ITS WIRELESS COMMUNICATION DEVICE</th>
<th>EA</th>
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</thead>
</table>
| A       | 1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Relocate))  
5 (Adjust /Modify)  
6 (Remove and Dispose) Contractor takes ownership |
| B= Type | 1 (Ethernet Access Point)  
2 (Ethernet Subscriber Unit)  
3 (Serial Data Unit) |

**Notes**

### ITS POLE

**Unit:** EA  
**Accuracy:** Each  
**PlanQuantity:** no

**Notes**
Use a lowering device in field locations where a CCTV camera or other ITS device is mounted on a pole, but the height precludes easy access to the equipment for maintenance or repair. The lowering device is provided along with a steel or concrete pole. Retrofit: to be used where a pole is already provided, to include furnishing & installation of lowering device.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
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</thead>
</table>

**Details and Structure:** Chapters 11 to 20
Forms

Design: SHTabQuant
Construction: Refer to Comp Book

Documentation

Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s)

Status

Struct. 785-1-AB ITS POLE EA

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)
9 (Retrofit lowering device on existing pole)
B= Type
1 (Concrete Pole w/ lowering device)
2 (Steel Pole w/ lowering device)
3 (Concrete Pole w/o lowering device)
4 (Steel Pole w/o lowering device)

Notes

Valid through June 2007; replaced by 785-2-ABC

For use on ITS project. Refer to Specification for cabinets covered by Section 785. (Items listed in other sections may have cabinets incidental to item being installed.) Detail in plans whether pole or base mount.

Related Items

Forms

Design: SHTabQuant
Construction: Refer to Comp Book

Documentation

Design
Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter
Other
Standards
Specifications
Prep & Doc Manual Chapter(s)
**Status**  Block Pending

**Struct.**  785- 2- AB  ITS CABINET  EA

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) B=0
4 (Relocate) B=0
5 (Adjust/Modify) B=0
6 (Remove and Dispose) Contractor takes ownership B=0

B= Type
1 (Type 336)
2 (Type 332)
3 (Special)

---

**Notes**

**785- 2-ABC**  ITS FIELD CABINET

<table>
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<th>Unit</th>
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<th>Accuracy</th>
<th>Each</th>
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**Notes**

Effective July 2007 letting; replaces 785-2-AB

**Details**

For use on ITS project. Refer to Specification for cabinets covered by Section 785.

For Operations = Install, relocate, or adjust/modify, detail mounting requirements in the plans and/or specifications.

NOTE: Items listed in other sections may have cabinets incidental to item being installed.

**Related Items**

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**Forms**

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**Construction**

Refer to Comp Book

**Documentation**

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Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other Standards Specifications

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s)

---

**Status**

**Struct.**  785- 2-ABC  ITS FIELD CABINET  EA

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) BC=00
4 (Relocate) BC=00
5 (Adjust/Modify) BC=00
6 (Remove and Dispose) Contractor takes ownership BC=00

B= Type
1 (Type 336)
2 (Type 336 w/ sunshields)
3 (Type 336S)  
4 (Type 336S w/ sunshields)  
5 (Type 332)  
6 (Type 332 w/ sunshields)  
9 (Special)*  

C= Mounting  
1 (Pole Mount)  
2 (Ground Mount)  

Notes  
* Special may require Tech Spec and/or Plan Detail

### 785-3-AB

**ITS EQUIPMENT SHELTER**

<table>
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<tr>
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<td>Details</td>
<td>For use on ITS Projects. Refer to Specification for cabinets/shelter covered by Section 785. (Items listed in other sections may have cabinets incidental to item being installed.) All shelter/building incidentals must be detailed in the plans or specifications, including electrical, mechanical, and/or HVAC.</td>
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#### Related Items

**Forms**

- Required Design SHTabQuant COMP 700-050-03  
- Recommend Construction Refer to Comp Book

**Documentation**

- Design Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References

- PPM Chapter  
- Other Standards Specifications  
- Prep & Doc Manual Chapter(s)

#### Status

Block Pending

#### Struct.

785-3-AB ITS EQUIPMENT SHELTER EA

- A= Operation  
- 1 (Furnish & Install)  
- 2 (Furnish)  
- 3 (Install) B=0  
- 4 (Relocate) B=0  
- 5 (Adjust /Modify) B=0  
- 6 (Remove and Dispose) Contractor takes ownership  
- B= Size  
- 9 (Special)

#### Notes

- Effective July 2007 letting; replaces 785-3-AB  
- For use on ITS Projects. Refer to Specification for cabinets/shelter covered by Section
785. All shelter/building incidentals must be detailed in the plans or specifications, including electrical, mechanical, and/or HVAC.

DO NOT Use 750 Architectural Items with this item.

<table>
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<td>Standards</td>
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<td></td>
<td>Specifications</td>
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</table>

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s) |  

Status

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<tr>
<td>1 (Furnish &amp; Install)</td>
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<td>2 (Furnish)*</td>
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</tr>
<tr>
<td>3 (Install) BC=00*</td>
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<tr>
<td>4 (Relocate) BC=00*</td>
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<td></td>
</tr>
<tr>
<td>5 (Adjust /Modify) BC=00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 (Remove and Dispose) Contractor takes ownership</td>
<td></td>
<td></td>
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<tr>
<td>B= Size (from exterior dimensions)</td>
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</tr>
<tr>
<td>1 (up to 120 ft2)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2 (121 to 170 ft2)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3 (171 to 250 ft2)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9 (Special)*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C= Interior Ceiling Height</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (8 ft)</td>
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<tr>
<td>2 (9 ft)</td>
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Notes

*A=2, 3, 4 verify with ITS Office prior to opening
*B=9 may require Tech Spec or Plan Detail

786- 1- AB | ITS VEHICLE DETECTION SYSTEM

<table>
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<th>Accuracy</th>
<th>Each</th>
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Notes

Details

Related Items

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<th>Recommended</th>
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<td>Design</td>
<td>SHTabQuart</td>
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<td>Refer to Comp Book</td>
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<td>Design</td>
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<td></td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
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</table>

Details and Structure: Chapters 11 to 20
### Standards

```
Struct.  786- 1- AB  ITS VEHICLE DETECTION SYSTEM  EA

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify)
9 (Retrofit lowering device on existing pole) B=0

B = Detector Type
1 (Microwave)
2 (Video)
3 (Magnetic)
4 (Acoustic)
9 (Special) * Note: Requires prior approval of the ITS Office
```

### Notes

* Special may require Tech Spec and/or Plan Detail

---

### 823-1A-BBB  SUBBALLAST

<table>
<thead>
<tr>
<th>Unit</th>
<th>SF; M2</th>
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<th>Square Foot; 10th of a Square Meter</th>
<th>PlanQuantity?</th>
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**Notes**

This item is to be used for railroad applications only.

**Related Items**

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**Documentation**

| Design      | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction| Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

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<th>Other</th>
<th>Standards</th>
<th>Specifications</th>
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<tr>
<td>Prep &amp; Doc Manual Chapter(s)</td>
<td>6, 7, 13</td>
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**Status**

```
Struct.  823- 1A-BBB  SUBBALLAST  SF
A =Operation
```

---

*Selected Items may require Tech Spec and/or Plan Detail*
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Modify)

BBB =
075 (3 in.)
100 (4 in.)
125 (5 in.)
150 (6 in.)

Notes
NOTE: Open in one inch increments only (Mass Transit Item)

<table>
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<th>825-1AB-CDE TRACK, STANDARD</th>
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Notes
Details
This item is to be used for railroad applications only.

Related Items
Required
Forms
Design
SHTabQuant

Recommended
Construction
Refer to Comp Book

Documentation
Design
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other
Standards
Specifications
Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

Status
Struct. 825-1AB-CDE TRACK, STANDARD LF

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Modify)

B = Rail Size
1 (100 lb/yd)
2 (115 lb/yd)
3 (119 lb/yd)
4 (132 lb/yd)
5 (133 lb/yd)
6 (136 lb/yd)
7 (140 lb/yd)
8 (Special)
C = Joint Type  
1 (Continuous Welded Rail, CWR)  
2 (Jointed Rail, JR)  
D = Tie Type  
1 (Timber)  
2 (Concrete)  
3 (Steel)  
E = Rail Head Hardening  
0 (Standard Rail Head)  
1 (Hardened Rail Head)

### Notes

**825-2AB-CCC TRACK UNDERCUTTING**

| Unit | LF; M1 | Accuracy | Linear Foot; 10th of a Meter | Plan Quantity? | no |

**Notes**

**Details**

**Related Items**

- **Forms**
  - Required Design: SHTabQuant
  - Recommended Design: COMP 700-050-03
  - Construction: Refer to Comp Book

- **Documentation**
  - Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**

**Status**

**Struct.** 825-2AB-CCC TRACK UNDERCUTTING LF

A = Joint Type  
1 (Continuous Welded Rail, CWR)  
2 (Jointed Rail, JR)  
B = Tie Type  
1 (Timber)  
2 (Concrete)  
3 (Steel)  
CCC = 075 (3 in.)  
100 (4 in.)  
125 (5 in.)  
150 (6 in.)

**Notes**

- NOTE: Open in one inch increments only. (Mass Transit Item)
### Topic No. 600-000-002

**Basis of Estimates**

**2007 Edition**

**August 27, 2007**

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**Notes**

**Details**

This item is to be used for railroad applications only

**Related Items**

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**Forms**

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

PPM Chapter

Other

**Standards**

**Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)** 7, 13

**Status**

**Struct. 825-3AB-CCC**

**TRACK RAISING**

**Unit** LF

**Accuracy** Linear Foot; 10th of a Meter

**Notes**

NOTE: Open in one inch increments only. (Mass Transit Item)

---

### Topic No. 600-000-002

**Basis of Estimates**

**2007 Edition**

**August 27, 2007**

<table>
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**Notes**

**Details**

This item is to be used for railroad applications only

**Related Items**

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**Forms**

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

**Standards**

**Specifications**

**Prep & Doc Manual Chapter(s)**

7, 13

---

**825-4AB- C**

**LINE & SURFACE**

**Notes**

**Details**

This item is to be used for railroad applications only

**Related Items**

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**Forms**

**Documentation**

**Design**

Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**

Record final quantity on the tabulation sheet (plans) or computation form (comp book).

---

**Details and Structure: Chapters 11 to 20**

Page 393 of 428
**Struct. 825-4AB-C** LINE & SURFACE

- **A = Rail Size**
  - 1 (100 lb/yd)
  - 2 (115 lb/yd)
  - 3 (119 lb/yd)
  - 4 (132 lb/yd)
  - 5 (133 lb/yd)
  - 6 (136 lb/yd)
  - 7 (140 lb/yd)
  - 8 (Special)
- **B = Joint Type**
  - 1 (Continuous Welded Rail, CWR)
  - 2 (Jointed Rail, JR)
- **C = Tie Type**
  - 1 (Timber)
  - 2 (Concrete)
  - 3 (Steel)

**Notes**

This item is to be used for railroad applications only.

**825-5AB-CDE** TURNOUT

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<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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**Details**

This item is to be used for railroad applications only.

**Related Items**

- **Forms**
  - **Required**
    - Design: SHTabQuant
  - **Recommended**
    - Construction: COMP 700-050-03

- **Documentation**
  - **Design**
    - Design: Refer to Comp Book
  - **Construction**
    - Construction: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**Prep & Doc Manual Chapter(s)** 7, 13

**Status**

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<td>TURNOUT</td>
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</table>
A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Modify)

B = Rail Size
1 (100 lb/yd)
2 (115 lb/yd)
3 (119 lb/yd)
4 (132 lb/yd)
5 (133 lb/yd)
6 (136 lb/yd)
7 (140 lb/yd)
8 (Special)

C = 1 (Right Hand)
2 (Left Hand)

D = Turnout Size
1 (No. 08)
2 (No. 10)
3 (No. 12)
4 (No. 14)
5 (No. 15)
6 (No. 16)
7 (No. 18)
8 (No. 20)

E = Tie Type
1 (Timber)
2 (Concrete)
3 (Steel)

### Notes

**825-6AB-CDE**  Crossover

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<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Plan Quantity?</th>
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**Notes**  
This item is to be used for railroad applications only.

**Related Items**  
Required  Recommended

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**Documentation**  
Design  
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction  
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**  
PPM Chapter
Other Standards Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13
### Status

**Struct.** 825-6AB-CDE  
**CROSSOVER**  
**EA**

A = Operation  
1 (Furnish & Install)  
2 (Furnish)  
3 (Install)  
4 (Remove)  
5 (Modify)  

B = Rail Size  
1 (100 lb/yd)  
2 (115 lb/yd)  
3 (119 lb/yd)  
4 (132 lb/yd)  
5 (133 lb/yd)  
6 (136 lb/yd)  
7 (140 lb/yd)  
8 (Special)  

C = 1 (Right Hand)  
2 (Left Hand)  

D = Crossover Size  
1 (No. 08)  
2 (No. 10)  
3 (No. 12)  
4 (No. 14)  
5 (No. 15)  
6 (No. 16)  
7 (No. 18)  
8 (No. 20)  

E = Tie Type  
1 (Timber)  
2 (Concrete)  
3 (Steel)

### Notes

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
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**Notes**

This item is to be used for railroad applications only.

**Related Items**

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| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

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Details and Structure: Chapters 11 to 20
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)  7, 13

Status

Struct.  827-  1-ABC  DERAIL  EA

A = Operation
  1 (Furnish & Install)
  2 (Furnish)
  3 (Install)
  4 (Remove)
  5 (Modify)

B = Rail Size
  1 (100 lb/yd)
  2 (115 lb/yd)
  3 (119 lb/yd)
  4 (132 lb/yd)
  5 (133 lb/yd)
  6 (136 lb/yd)
  7 (140 lb/yd)
  8 (Special)

C = Type of Derail
  1 (Manual)
  2 (Electric)

Notes

827-  2-ABC  BUMPING POST

Unit  EA  Accuracy  Each  PlanQuantity?  no

Notes

Details

This item is to be used for railroad applications only.

Related Items

Forms

Required  Recommended

Design  SHTabQuant  COMP 700-050-03

Construction  Refer to Comp Book

Documentation

Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

Construction  Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)  6, 7, 13

Status

Struct.  827-  2-ABC  BUMPING POST  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Modify)

B = Rail Size
1 (100 lb/yd)
2 (115 lb/yd)
3 (119 lb/yd)
4 (132 lb/yd)
5 (133 lb/yd)
6 (136 lb/yd)
7 (140 lb/yd)
8 (Special)

C = Type of Head
1 (Solid)
2 (Spring)
3 (Hydraulic)
4 (Buffer)

Notes

830-1AB-CDE  GRADE CROSSING

Unit LF; M1  Accuracy Linear Foot; 10th of a Meter
PlanQuantity? no

Details
This item is to be used for railroad applications only.

Related Items

Required  Recommended
Forms  Design SHTabQuant  COMP 700-050-03
Construction  Refer to Comp Book

Documentation

Design  Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References
PPM Chapter
Other

Standards
Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s) 7, 13

Status
Struct.  830-1AB-CDE  GRADE CROSSING  LF

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Remove)
5 (Modify)

B = Grade Crossing Type
### Notes

**832- 1- A  WELDS, ELECTRIC FLASH-BUTT/THERMITE**

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**Notes**

- **Details**: This item is to be used for railroad applications only.

**Related Items**

- **Forms**: Required | Recommended | SHTabQuant | COMP 700-050-03
- **Design**
- **Construction** | Refer to Comp Book

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**: 7, 13

**Status**

**Struct.** 832- 1- A  WELDS, ELECTRIC FLASH-BUTT/THERMITE  EA

- **A = Rail Size**
- 1 (100 lb/yd)
2 (115 lb/yd)
3 (119 lb/yd)
4 (132 lb/yd)
5 (133 lb/yd)
6 (136 lb/yd)
7 (140 lb/yd)
8 (Special)

### 832-2- A THERMITE WELD

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#### Notes

**Related Items**

Required: SHTabQuant
Recommended: COMP 700-050-03

**Forms**

- **Design**: PPMP Chapter
- **Construction**: Refer to Comp Book

**Documentation**

- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

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<th>Standards</th>
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**Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

#### Status

**Struct.** 832-2- A

**THERMITE WELD**

A = Rail Size
1 (100 lb/yd)
2 (115 lb/yd)
3 (119 lb/yd)
4 (132 lb/yd)
5 (133 lb/yd)
6 (136 lb/yd)
7 (140 lb/yd)
8 (Special)

### 836-1AB-CDE INSULATED JOINTS

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#### Notes

**Details**

This item is to be used for railroad applications only.

**Related Items**

Required: SHTabQuant
Recommended: COMP 700-050-03

**Forms**

- **Design**: PPMP Chapter

**Documentation**

**References**

**Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**
### Construction
Refer to Comp Book

### Documentation
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

### References
Plan Detail and/or Tech Spec Required

PPM Chapter
Other
Standards
Specifications

Prep & Doc Manual Chapter(s) 6, 7, 13

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### Status

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<td>8</td>
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### Notes

**900-576-1**

**GRASSING COMPLETE**

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<th>Unit</th>
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<th>10th of an Acre; 10th of a Hectare</th>
<th>PlanQuantity?</th>
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**Notes**

This is a trial item; contact the Monitor prior to use. Monitor: Jeff Caster

**Details**

Compare with 902-576 items.

**Related Items**

Required

Recommended
**901-337-8** BONDED ASPHALT CONCRETE FRICTION COURSE

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Notes: Contact - Emmanuel Uwaibi for use

Related Items:
- **Required**
  - Design: SHTabQuant COMP 700-050-06
  - Construction: Refer to Comp Book

- **Recommended**
  - Design: SHTabQuant COMP 700-050-06
  - Construction: Refer to Comp Book

Status:
- Struct. 901-337-8 BONDED ASPHALT CONCRETE FRICTION COURSE TN

Notes:

**902-576-3** PERFORMANCE TURF

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Status:
- Struct. 902-576-3 PERFORMANCE TURF TN
### PERFORMANCE TURF

**Pay Item associated with turf areas under the Performance Turf specification (end result specification).**

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>SHTabQuantLS</td>
<td>COMP 700-050-05</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
<tr>
<td><strong>Documentation</strong></td>
<td><strong>Design</strong></td>
<td></td>
</tr>
<tr>
<td>Use a quantity of 1, but calculations and documentation must be to the second unit of measure. Locate or define the scope of work involved on the plans.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

This is a trial item; contact the Monitor prior to use. Monitor: Jeff Caster, David Sadler

**References**

- **PPM Chapter**
- **Other Standards**
- **Specifications**

### EMBEDDED DATA COLLECTOR

<table>
<thead>
<tr>
<th>Unit</th>
<th>EA</th>
<th>Accuracy</th>
<th>Each</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

This is a trial item; contact the Monitor prior to use. Monitor: Robert Robertson

**Details**

This item is used for the work associated with casting and installation of the data collector system in the piling. Coordinate use of this item with the State Construction Office and State Structures Design Office. Total assembly of embedded data collector system in each piling.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Forms</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>SHTabQuant</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td><strong>Documentation</strong></td>
<td><strong>Design</strong></td>
</tr>
<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
</tbody>
</table>

**References**

- **PPM Chapter**
- **Other Standards**
- **Specifications**

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**
### 904-439- A SYNTHETIC SUBSURFACE DRAINAGE LAYER

<table>
<thead>
<tr>
<th>Unit</th>
<th>SY; M²</th>
<th>Accuracy</th>
<th>Square Yard; Square Meter</th>
<th>Plan Quantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**
- Monitor: Larry Jones, State Structures Office
- Required: A
- Recommended: A

**Details**
- **Related Items**
  - **Forms**
    - Design: SHTabQuant
    - Construction: Refer to Comp Book
  - **Documentation**
    - Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
    - Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Status**
- **Prep & Doc Manual Chapter(s)**
  - Plan Detail and/or Tech Spec Required

**Notes**
- A= sides covered by geotextile
  - 1 (single sided)
  - 2 (double sided)
  - Note: Standard is double sided

### 904-540- A HIGH TENSION CABLE BARRIER SYSTEM

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
<th>Accuracy</th>
<th>Linear Foot; 10th of a Meter</th>
<th>Plan Quantity?</th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**
- This is a trial item; contact the Monitor prior to use
- Monitor: Andy Keel through 12/05: A=1 complete system included anchors.
- Effective 1/2006: A=2 or 3 defines type of post system, to be used with A=4 end terminal.

**Details**
- Monitor: Andy Keel through 12/05: A=1 complete system included anchors.
- Effective 1/2006: A=2 or 3 defines type of post system, to be used with A=4 end terminal.

**Related Items**
- **Forms**
  - Design: SHTabQuant
  - Construction: COMP 700-050-01

**Notes**
- THE MONITOR WILL SELECT WHICH ITEM(S) are to be used on a given project, as well as advise when specific notes and/or details are to be added to the plans.
Details and Structure: Chapters 11 to 20
1 (white)  
2 (yellow)  
B = type  
1 (solid), per NM or NK Note: C = 1 or 2  
2 (skip), per GM or GK Note: C = 1 or 2  
3 (solid), per LF or M1  
4 (skip), per LF or M1  
5 (guidelines), per LF or M1  
6 (messages), EA Note: C = 0  
C = width  
0 (blank- used for B = 6)  
1 (6")  
2 (8")  
3 (10")  
4 (12")  
5 (16")  
6 (18")  
7 (24")

Notes: Note: Mile (kilometer) units only valid with 6" or 8" stripes

### 905-707- 1 STRIPING & MARKING- ASPHALT RESISTANT

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Notes: This is a developmental item; contact the monitor prior to use. Valid for projects let March 2005 through June 2006. Date may be extended only by Monitor.

Details: Monitor: Ananth Prasad

Related Items

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<tr>
<td>Construction</td>
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</table>

Documentation

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

References

<table>
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<th>PPM Chapter</th>
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<tr>
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Prep & Doc Manual Chapter(s)

Status

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<th>905-707- 1 STRIPING &amp; MARKING- ASPHALT RESISTANT LS/LS</th>
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Notes

### 906-102- 1 AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

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<th>PlanQuantity?</th>
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Notes: This is a developmental item; designers must get approval from the monitor prior to use.
### Monitoring:
- Cheryl Adams
- Limited Use - When approved, Construction must document effectiveness for FHWA evaluation of this experimental item.
- Coordinate all reports with the monitor.

### Required and Recommended Forms

<table>
<thead>
<tr>
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<tbody>
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### Documentation

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### Notes

This is a limited use item. Please contact the State Estimates Office prior to use. Must be coordinated with the Specifications and Structures Offices.

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<tr>
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<td>Refer to Comp Book</td>
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<tr>
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### Status

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</thead>
<tbody>
<tr>
<td>Prep &amp; Doc Manual Chapter(s)</td>
<td></td>
<td></td>
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</tbody>
</table>

### Notes

This is a limited use item. Please contact the State Estimates Office prior to use. Must be coordinated with the Specifications and Structures Offices.
2 (Fiber Mesh Composite w/ Polyester Fabric)
3 (Steel Reinforced Mesh w/ mechanical fastening)

### Notes

<table>
<thead>
<tr>
<th>906-334-1</th>
<th>FUEL RESISTANT SUPERPAVE ASPHALT CONCRETE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>TN; MT</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>10th of a Ton; 10th of a Metric Ton</td>
</tr>
<tr>
<td><strong>PlanQuantity?</strong></td>
<td>no</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>This is a trial item; contact the Monitor prior to use</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Monitor: Greg Sholar. To be used only with approval of Asphalt Materials and/or Pavement Office. Intended for Agricultural Inspection and Weigh stations</td>
</tr>
<tr>
<td><strong>Related Items</strong></td>
<td>Required</td>
</tr>
<tr>
<td><strong>Forms</strong></td>
<td>Design</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td>Refer to Comp Book</td>
</tr>
<tr>
<td><strong>Documentation</strong></td>
<td>Design</td>
</tr>
<tr>
<td><strong>Construction</strong></td>
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<tr>
<td><strong>References</strong></td>
<td>PPM Chapter</td>
</tr>
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<tr>
<td><strong>Standards</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Specifications</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Plan Detail and/or Tech Spec Required</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prep &amp; Doc Manual Chapter(s)</strong></td>
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### Status

<table>
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<tr>
<th>Struct.</th>
<th>906-334-1</th>
<th>FUEL RESISTANT SUPERPAVE ASPHALT CONCRETE</th>
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### Notes

<table>
<thead>
<tr>
<th>906-340-1</th>
<th>OPEN GRADED CRACK RELIEF LAYER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>TN; MT</td>
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<tr>
<td><strong>Accuracy</strong></td>
<td>10th of a Ton; 10th of a Metric Ton</td>
</tr>
<tr>
<td><strong>PlanQuantity?</strong></td>
<td>no</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>HOLD for Future Development; refer to 906-340- item for use with developmental specification</td>
</tr>
<tr>
<td><strong>Details</strong></td>
<td>Contact the State Materials Office for assistance with this office. Developmental Specification required.</td>
</tr>
<tr>
<td><strong>Related Items</strong></td>
<td>Required</td>
</tr>
<tr>
<td><strong>Forms</strong></td>
<td>Design</td>
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<tr>
<td><strong>Construction</strong></td>
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<tr>
<td><strong>References</strong></td>
<td>PPM Chapter</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Details and Structure:** Chapters 11 to 20
### COMPOSITE SHEET PILING

**Unit**: SF; M2  
**Accuracy**: Square Foot; 10th of a Square Meter  
**PlanQuantity?**: yes

**Notes**: This is a trial item; contact the Monitor prior to use  
Monitor: Larry Jones

**Details**: Low height sheet pile for shoreline protection. Polyurethane resin/glass fiber matrix pultruded material. Experimental use only.

**Related Items**

**Forms**
- Required: SHTabQuant  
- Recommended: COMP 700-050-01  
- Construction: Refer to Comp Book

**Documentation**
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter  
- Other  
- Standards  
- Specifications  
- Prep & Doc Manual Chapter(s)

---

### TEMPORARY RAISED RUMBLE STRIPS

**Unit**: PS  
**Accuracy**: Per Set  
**PlanQuantity?**: yes

**Notes**: This is a trial item; contact the Monitor prior to use  
Monitor: Cheryl Adams

**Details**: For use with flagging operations on a two-lane, two way roadway. Four Sets are to be used, in each direction of the roadway, in advance of the flagging station. Refer to the specification for details.

**Related Items**

**Forms**
- Required: SHTabQuant  
- Recommended: COMP 700-050-03  
- Construction: Refer to Comp Book

**Documentation**
- Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
**Construction**

Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

**Status**

**Struct.** 906-546-1 TEMPORARY RAISED RUMBLE STRIPS PS

**Notes**

Plan Detail and/or Tech Spec Required

**Related Items**

- Required SHTabQuant
- Recommended COMP 700-050-03

**Forms**

- Design Refer to Comp Book
- Construction

**Documentation**

Design Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

**Notes**

This is a trial item; contact the Monitor prior to use

**Details**

Monitor: Karen Byram

**Related Items**

- Required 906-609-100
- Recommended

**Forms**

- Design
- Construction

**Documentation**

Design Refer to Comp Book

Construction

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)**

**Notes**

This is a trial item; contact the Monitor prior to use

**Details**

Monitor: Chester Henson

This is a developmental item; contact the monitor prior to use.

Intended for the payment of traffic signal systems, per intersection. Refer to the specifications for detailed list of items included/excluded for payment under this item.

**Related Items**

- Required 906-609-100
- Recommended

**Details and Structure:** Chapters 11 to 20
### 906-609-100 INTERCONNECT CABLE ASSEMBLY - TRAFFIC SIGNAL SYSTEM

<table>
<thead>
<tr>
<th><strong>Unit</strong></th>
<th>LF; M1</th>
<th><strong>Accuracy</strong></th>
<th>Linear Foot; 10th of a Meter</th>
<th><strong>PlanQuantity?</strong></th>
<th>no</th>
</tr>
</thead>
</table>

**Notes**

- This is a trial item; contact the Monitor prior to use
- Monitor: Chester Henson

**Details**

This is a developmental item; contact the monitor prior to use.

For use only with Traffic Signal System, per intersection. Includes cable, conduit, pull boxes, and other signals materials/items between intersections which are not included under per intersection item. Refer to the specifications for additional information.

**Related Items**

<table>
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<tr>
<th><strong>Forms</strong></th>
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<th><strong>Recommended</strong></th>
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<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
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**Documentation**

| **Design** | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
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**References**

- PPM Chapter
- Other
- Standards
- Specifications

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 906-609-100 INTERCONNECT CABLE ASSEMBLY - TRAFFIC SIGNAL SYSTEM LF
### SIGNAL SYSTEM

**Notes**

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<td>Accuracy</td>
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<td>PlanQuantity?</td>
<td>no</td>
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<tr>
<td>Notes</td>
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<tr>
<td>Details</td>
<td>New item for one-time use in district 5. Future use requires approval of Design and Specifications</td>
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Plan Details and/or Tech Spec required

Prep & Doc Manual Chapter(s)

**Status**

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<th>FIBER OPTIC AERIAL SPLICE ENCLOSURE</th>
<th>EA</th>
</tr>
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</table>

**Notes**

<table>
<thead>
<tr>
<th>906-701- AA</th>
<th>AUDIBLE STRIPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>Mixed</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Refer to item structure and details</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td>This is a Developmental item; contact the Monitor prior to use</td>
</tr>
<tr>
<td>Details</td>
<td>Monitor: Chester Henson</td>
</tr>
<tr>
<td></td>
<td>This is a developmental item; contact the monitor prior to use.</td>
</tr>
<tr>
<td>Related Items</td>
<td>Required</td>
</tr>
<tr>
<td>Forms</td>
<td>Design</td>
</tr>
<tr>
<td></td>
<td>SBTBSP</td>
</tr>
<tr>
<td>Documentation</td>
<td>Design</td>
</tr>
<tr>
<td>References</td>
<td>PPM Chapter</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
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<td>Standards</td>
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<td>Specifications</td>
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Prep & Doc Manual Chapter(s)

**Status**

<table>
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<tr>
<th>Struct. 906-701- AA</th>
<th>AUDIBLE STRIPE</th>
<th>EA</th>
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</thead>
</table>

**Notes**

**Details and Structure**: Chapters 11 to 20
### Status

**Struct.** 906-701- AA  
**AUDIBLE STRIPE**  
**Mixed**

Verify structure with Monitor prior to opening items.

AA=
- 32 (Yellow, Skip, 6", GM)
- 35 (Yellow, Skip, 6", LF)
- 37
- 38
- others, per specification.

### Notes

#### 906-702- AA  
**INVERTED PROFILE MARKINGS**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Mixed</th>
<th>Accuracy</th>
<th>Refer to item structure and details</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details</td>
<td>Contact Chester Henson for information. Pay Item structure updated with 9-8-06 developmental specification</td>
<td></td>
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</tr>
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<td>Related Items</td>
<td>Required</td>
<td>Recommended</td>
<td></td>
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<tr>
<td>Forms</td>
<td>Design</td>
<td>SBTBSP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
<td></td>
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<td>Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construction</td>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>References</td>
<td>PPM Chapter</td>
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<td>Standards</td>
<td>Specifications</td>
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<td></td>
<td>Prep &amp; Doc Manual Chapter(s)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Status

**Struct.** 906-702- AA  
**INVERTED PROFILE MARKINGS**  
**Mixed**

Verify structure with Monitor prior to opening items.

AA=
- 31 (White, Skip, 6", GM)
- 32 (Yellow, Skip, 6", GM)
- 33 (White, Skip, 6", LF)
- 34(Yellow, Skip, 6", LF)
- 35 (White, Solid, 6", LF)
- 36 (Yellow, Solid, 6", LF)
- 37 (White, Solid, 6", NM)
- 38 (Yellow, Solid, 6", NM)
- others, per specification.

### Notes

#### 999- 2-  
**LUMP SUM CONTRACT (ALTERNATIVE BIDDING)**

Details and Structure: Chapters 11 to 20
### LUMP SUM CONTRACT (ALTERNATIVE BIDDING)

<table>
<thead>
<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
<th>Lump Sum</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

#### Notes
- See latest guidelines for Innovative Bidding practices.

#### Related Items
**Forms**
- **Design**: Required
- **Construction**: Recommended

**Construction Documentation**
- **Design**: Refer to Comp Book

#### References
- **PPM Chapter**: Design, Construction
- **Other Standards Specifications**: Design, Construction

#### Prep & Doc Manual Chapter(s)
- 11, 13

### LANE RENTAL DAYS (TIME BID)

<table>
<thead>
<tr>
<th>Unit</th>
<th>DD</th>
<th>Accuracy</th>
<th>Dollars per day</th>
<th>PlanQuantity?</th>
<th>no</th>
</tr>
</thead>
</table>

#### Notes
- See latest guidelines for Innovative Bidding Practices.

#### Related Items
**Forms**
- **Design**: Required
- **Construction**: Recommended

**Construction Documentation**
- **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

#### References
- **PPM Chapter**: Design, Construction
- **Other Standards Specifications**: Design, Construction

#### Prep & Doc Manual Chapter(s)
- 11, 13

### PARTNERING (DO NOT BID)

<table>
<thead>
<tr>
<th>Unit</th>
<th>LS/LS</th>
<th>Accuracy</th>
<th>Lump Sum</th>
<th>PlanQuantity?</th>
<th>yes</th>
</tr>
</thead>
</table>

#### Notes
- Refer to Comp Book

#### Related Items
**Forms**
- **Design**: Required
- **Construction**: Recommended

**Construction Documentation**
- **Design**: Refer to Comp Book

#### References
- **PPM Chapter**: Design, Construction
- **Other Standards Specifications**: Design, Construction

#### Prep & Doc Manual Chapter(s)
- 11, 13

---

Details and Structure: Chapters 11 to 20
The use of this pay item will be initiated by the District Construction Office. The purpose is to provide an amount of money to the contractor to pay for the cost of a partnering session(s). Designers will load the pay item and provide the cost to be overrun to the District Estimates Coordinator.

NOTE: Construction will advise the designer when to use this item. They will also provide the designer with the number of days and the cost per day.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>SHTabQuantLS</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

| Documentation |             |
| Construction  | Computation book form or documentation from Construction required. |

### References

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)** 11, 13

### Status

**Struct.** 999-16- PARTNERING (DO NOT BID) LS/LS

### Notes

The use of this pay item will be initiated by the District Construction Office. The purpose is to require a Dispute Resolution Board to be established for the project and to provide the contractor a specific amount of money to pay for the services of each of the three Board members. Designers will load the pay item and the number of days (meetings). NOTE: Construction will advise the designer when to use this item. They will also provide the designer with the number of days (meetings), based on 1 meeting per month for the length of the contract. The cost has been hard coded at $3,300.00* as the unit price for this item. Only the Director of Construction can approve a change to this amount.

*Verify current amount with specification.

### Related Items

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
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</tr>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
</tr>
</tbody>
</table>

| Documentation |             |
| Construction  | Computation book form or documentation from Construction required. |

### References

- PPM Chapter
- Other
- Standards
- Specifications

**Prep & Doc Manual Chapter(s)** 11, 13

### Status

**Struct.** 999-20- DISPUTE REVIEW BOARD (DO NOT BID) LS/LS

### Notes

The use of this pay item will be initiated by the District Construction Office. The purpose is to require a Dispute Resolution Board to be established for the project and to provide the contractor a specific amount of money to pay for the services of each of the three Board members. Designers will load the pay item and the number of days (meetings). NOTE: Construction will advise the designer when to use this item. They will also provide the designer with the number of days (meetings), based on 1 meeting per month for the length of the contract. The cost has been hard coded at $3,300.00* as the unit price for this item. Only the Director of Construction can approve a change to this amount.

*Verify current amount with specification.
### Notes

**999-25- INITIAL CONTINGENCY AMOUNT (DO NOT BID)**

<table>
<thead>
<tr>
<th>Unit</th>
<th>$</th>
<th>Accuracy</th>
<th>Dollars</th>
<th>PlanQuantity?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
<td>IMPORTANT: INITIAL CONTINGENCY TOTAL IS BASED ON PROPOSAL TOTAL, not individual project totals.</td>
</tr>
</tbody>
</table>

**Details**

Use when requested by Construction, in accordance with the CPAM. The item will be loaded as FA Participating and the cost will be input by the District Estimates Coordinator. When a contract contains multiple projects, this item may be used on each project within the contract, if recommended by construction. Note that the totals listed in the CPAM are per PROPOSAL/CONTRACT, not per project. Department Policy (per F. Simmons, 10-1-02): Include Initial Contingency Amount on all Design-Build Contracts.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
</tbody>
</table>

**Forms**

*Design*, Refer to Comp Book

**Documentation**

*Design*, See Detail

**References**

PPM Chapter, Other Standards, Specifications

**Prep & Doc Manual Chapter(s)** Contact Final Estimates

**Notes**

### Notes

**999-102- A SPEED AND LAW ENFORCEMENT OFFICER (DO NOT BID)**

<table>
<thead>
<tr>
<th>Unit</th>
<th>MH</th>
<th>Accuracy</th>
<th>Hour</th>
<th>PlanQuantity?</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no</td>
<td>Monitor: Cheryl Adams A=Contract Type refer to contract between FDOT and Law enforcement, NOT type of Construction Contract.</td>
</tr>
</tbody>
</table>

**Details**

This item is used to provide uniformed traffic control officers, including marked law enforcement vehicles, to assist in controlling speed and enforcing traffic laws in the work zone. Officers should be actively involved in either directing traffic or reducing speeding and traffic violations present in our work zones.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
</tr>
</tbody>
</table>

**Forms**

*Design*, Refer to Comp Book

**Documentation**

*Design*, Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
### Structural 999-102- A

**Speed and Law Enforcement Officer (Do Not Bid)**

A =
1 = Central Office Statewide Contract
2 = District Contract

### Notes

*Details and Structure: Chapters 11 to 20*
### 999-715- A HURRICANE REPAIRS- LIGHTING EA

A= Sequential Order of Items; may be expanded upon request.

1 (Ballast) EA  
2 (Lamp, HPS) EA  
3 (Lamp, Mercury Vapor) EA  
4 (Lamp, Metal Halide) EA  

### Status

<table>
<thead>
<tr>
<th>Struct.</th>
<th>Required Forms</th>
<th>Recommended Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

#### Documentation

| Design | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.  |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book).  |

### Notes

- **Required**: SHTabQuant  
- **Recommended**: COMP 700-050-03

### Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

### References

- PPM Chapter  
- Other  
- Standards  
- Specifications  

#### Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

---

### 9AA-BBB- CC TRIAL PAY ITEMS (Monitor’s Name)

#### Unit Accuracy Plan

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
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<tbody>
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</tbody>
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### Notes

- **Related Items**: Required  
- **Recommended**: |

### Details

<table>
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<th>Required</th>
<th>Recommended</th>
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</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

#### Documentation

| Design | See Detail  |
| Construction | see detail |

### References

- PPM Chapter  
- Other  
- Standards  
- Specifications  

#### Prep & Doc Manual Chapter(s)

---

### Status

<table>
<thead>
<tr>
<th>Struct.</th>
<th>Required Forms</th>
<th>Recommended Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>9AA-BBB- CC</td>
<td>TRIAL PAY ITEMS (Monitor’s Name)</td>
<td></td>
</tr>
</tbody>
</table>

### Notes

- **AA = Year of Development**  
- **BBB = Spec Book Section**  
- **CC = Sequence of New Item in Spec Book Section**  
- **01 = (First Trial Item for Year)**
02 = (Second Trial Item for Year) Etc.

<table>
<thead>
<tr>
<th>1000- AA-</th>
<th>UTILITY WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>LS/LS</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Lump Sum</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>yes</td>
</tr>
</tbody>
</table>

**Notes**

HOLD pending approvals

**Details**

HOLD pending approval of the State Roadway Design Engineer. Specification and/or PPM guidance details to be determined.

Coordinate the use of this item with District Utilities Office. This item not to be used with detailed pay items for given utility. Payment covers all work and materials for specified utility.

**Related Items**

**Forms**

Required: SHTabQuantLS

Recommended: COMP 700-050-05

**Documentation**

Design: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. PLAN QUANTITY will be basis of payment to the Contractor.

Construction: Final pay quantity will be PLAN QUANTITY with proper consideration for Specification tolerances.

**References**

PPM Chapter

Other

Standards

Specifications

Plan Detail and/or Tech Spec Required

Prep & Doc Manual Chapter(s)

**Status**

**Struct. 1000- AA-**

| LS/LS |

AA =

5 (Sewer)

6 (Water)

7 (Power)

8 (Communications)

9 (Fuel)

**Notes**

**1050- 1A-BCD | UTILITY PIPE**

<table>
<thead>
<tr>
<th>Unit</th>
<th>LF; M1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

For new pipe, payment includes anchors & incidentals, as well as connections to existing systems; detail all work in the plans or specifications. HISTORICAL PRICES vary considerably based on location, depth, installation length, specification requirements (sanitizing, leak detection) and other factors. Consult the maintaining agency for guidance on unit prices.

For pipe up to 7.9" diameter, payment includes all fittings.

Material requirements and pressure ratings must be included in the specifications.
Pressure values shown next to the application are for common operating pressures, and are not included in the pay item description. (Design and Material pressure ratings are considerably higher than normal operating pressure, to allow for factor of safety.) Select the application based on the type of utility work to be completed. For Casings, payment includes vents/air release valves.

Note: Place out of service included under "remove"

<table>
<thead>
<tr>
<th>Related Items</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
<tr>
<td>Documentation Design</td>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td>Construction Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
</tr>
<tr>
<td>References PPM Chapter</td>
<td>Other</td>
<td>Standards Specifications</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Selected Items may require Tech Spec and/or Plan Detail

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 1050-1A-BCD

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install) BC=00
4 (Relocate) BC=00
5 (Adjust /Modify) BC=00
6 (Remove & Dispose) BC=00, Note: Contractor takes ownership
7 (Remove & Stockpile/Salvage) BC=00, Note: DOT/maintaining agency retains ownership
8 (Plug & Place out of Service) BC=00 Note: Utility Retains Ownership
9 (Temporary Pipe)

B=Material
1 (Concrete)
2 (PVC)
3 (PE)
4 (DI/CI)
5 (Steel)
9 (Special)*

C= Application
1 (Casing/Conduit)
2 (Water/Sewer)
3 (Gas)
4 (Fuel Transmission)

D= Size or Equivalent Diameter
1 (0 - 1.9")*
2 (2.0 - 4.9")*
3 (5.0 - 7.9")*
4 (8.0 - 19.9")
5 (20.0 - 49.9")
6 (50.0" or larger)
*Sizes up to 7.9” includes the cost of all fittings

**Notes**
- * Special may require Tech Spec and/or Plan Detail

<table>
<thead>
<tr>
<th>1055-1A-BCD</th>
<th>UTILITY FITTINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td><strong>EA</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Details**
For pipe up to 7.9” diameter, payment includes all fittings. Material requirements and pressure ratings to be included in the specifications.

**Related Items**

<table>
<thead>
<tr>
<th><strong>Forms</strong></th>
<th><strong>Required</strong></th>
<th><strong>Recommended</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

**Documentation**

| **Design** | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**References**

- PPM Chapter
- Other

**Standards**

- Specifications

*Selected Items may require Tech Spec and/or Plan Detail

**Status**

<table>
<thead>
<tr>
<th><strong>Struct.</strong></th>
<th><strong>1055-1A-BCD</strong></th>
<th><strong>UTILITY FITTINGS</strong></th>
<th><strong>EA</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A= Operation</td>
<td>1 (Furnish &amp; Install)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (Furnish)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (Install) BCD=blank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (Relocate) BCD=blank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 (Adjust/Modify) BCD=blank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 (Remove &amp; Dispose) BCD=blank, Note: Contractor takes ownership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 (Remove &amp; Stockpile/Salvage) BCD=blank, Note: DOT/maintaining agency retains ownership</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 OPEN Note: May be defined in item structure as Special, Rehab, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B=Material</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1 (Concrete)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (PVC)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (PE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (DI/CI)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5 (Steel)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 (Special)*</td>
<td></td>
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</tr>
<tr>
<td>C= Fitting Type</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 (Elbow)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (Tee)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 (Reducer)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 (Union)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 (Cap/Plug)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 (Y)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 (Cleanout)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Prep & Doc Manual Chapter(s)**

- Refer to Comp Book

**Details and Structure:** Chapters 11 to 20
9 (Special)*
D= Size or Equivalent Diameter

4 (8.0 -19.9")
5 (20.0 - 49.9")
6 (50.0" or larger)
*Sizes up to 7.9" includes the cost of all fittings

Notes  * Special may require Tech Spec and/or Plan Detail

<table>
<thead>
<tr>
<th>1060- 1A-BCD</th>
<th>UTILITY STRUCTURE- BELOW GROUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>EA</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Each</td>
</tr>
<tr>
<td>PlanQuantity</td>
<td>no</td>
</tr>
</tbody>
</table>

Notes

Details
DO NOT USE for Milling adjustments; see 425 items for adjusting manholes & utility valves For Utility Structures BELOW ground.

Related Items

<table>
<thead>
<tr>
<th>Forms</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
<td>COMP 700-050-03</td>
</tr>
<tr>
<td>Construction</td>
<td>Refer to Comp Book</td>
<td></td>
</tr>
</tbody>
</table>

Documentation

<table>
<thead>
<tr>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.</td>
<td></td>
</tr>
<tr>
<td>Record final quantity on the tabulation sheet (plans) or computation form (comp book).</td>
<td></td>
</tr>
</tbody>
</table>

References

| PPM Chapter |
| Other       |
| Standards   |
| Specifications |

*Selected Items may require Tech Spec and/or Plan Detail

Prep & Doc Manual Chapter(s)

Status

Struct. 1060- 1A-BCD UTILITY STRUCTURE- BELOW GROUND EA

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust /Modify) BCD= blank See detail information for milling adjustments
6 (Remove & Dispose) BCD= blank Note: Contractor takes ownership
7 (Remove & Stockpile/Salvage) BCD= blank Note: DOT/maintaining agency retains ownership

B=Utility
1 (Electrical /Communications)
2 (Water/Sewer)
3 (Other)*

C= Volume
1 (0-80 FT3)
2 (>80 FT3)

D=Depth
1 (0-6')
2 (6.1-12')
### 1060-2A-BC  
**UTILITY STRUCTURE - ABOVE GROUND**

| Unit  | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

*Special/"other" may require Tech Spec and/or Plan Detail

For Utility Structures ABOVE ground. Calculate pad volume as the length x width x depth of concrete. Covers are for non-electrical applications, aesthetic or weather enclosures. Material requirements to be included in the specifications.

**Related Items**

**Required**

- **Design**: SHTabQuant
- **Construction**: Refer to Comp Book

**Recommended**

- **Design**: COMP 700-050-03
- **Construction**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**References**

- **PPM Chapter**
- **Other Standards**
- **Specifications**

*Selected Items may require Tech Spec and/or Plan Detail

**Prep & Doc Manual Chapter(s)**

- PPM Chapter
- Other

---

**Status**

**Struct.** 1060-2A-BC  
**UTILITY STRUCTURE - ABOVE GROUND**  
**EA**

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Relocate)
5 (Adjust/Modify) BCD= blank
6 (Remove & Dispose) BCD= blank  Note: Contractor takes ownership
7 (Remove & Stockpile/Salvage) BCD= blank  Note: DOT/maintaining agency retains ownership

B=Pad Volume
1 (0-1 YD3)
2 (1.1-3 YD3)
3 (>3 YD3)

C=Cover
0 (without cover)
1 (with cover)

---

### 1080-1A-BCC  
**UTILITY FIXTURES**

| Unit  | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

Details and Structure: Chapters 11 to 20
Details

Item to be used for any utility application.
Additional fixtures to be added as needed. Submit Request through District Estimates Office.
Tabulate all items in the plans.

Related Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Struct. 1080-1A-BCC</strong></td>
<td><strong>UTILITY FIXTURES</strong></td>
<td><strong>EA</strong></td>
</tr>
</tbody>
</table>

**Notes:***Selected Items may require Tech Spec and/or Plan Detail
Prep & Doc Manual Chapter(s)

Status

- **Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.**
- **Record final quantity on the tabulation sheet (plans) or computation form (comp book).**

Related Items

- **Forms**
  - **Design**: SHTabQuant
  - **Construction**: Refer to Comp Book

- **Documentation**
  - **Design**: Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.
  - **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

References

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

- **SHTabQuant COMP 700-050-03**
  - Refer to Comp Book

Details and Structure: Chapters 11 to 20
1135- A  GUYS AND ANCHORS- ABOVE GROUND

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

**Details**

Item to be used for any utility application- NEW installations only. Protection of existing structures during construction is incidental to the work being performed. For ABOVE GROUND installations only.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>SHTabQuant</td>
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<td>Construction</td>
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</table>

| Documentation |
| Design   | Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book. |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form (comp book). |

**Status**

Inactive Structure

**Struct.**

1135- A  GUYS AND ANCHORS- ABOVE GROUND  EA

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Salvage & Store/Reuse)
5 (Adjust & Modify Or Relocate)
9 (Remove)

**Notes**

1501- 1-  UTILITY LIFT STATION, SANITARY SEWER

| Unit | EA | Accuracy | Each | PlanQuantity? | no |

**Notes**

**Details**

Item to be used for Utility (JPA/UWHC) projects. Includes pump(s), power, internal piping, housing, and incidentals associated with the station.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forms</td>
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<tr>
<td>Construction</td>
<td>Ref to Comp Book</td>
</tr>
</tbody>
</table>

| Documentation |
| Design   |         |
| Construction | Record final quantity on the tabulation sheet (plans) or computation form |

---

Details and Structure: Chapters 11 to 20
(comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**

**Status**

**Struct.** 1501-1
**UTILITY LIFT STATION, SANITARY SEWER**
**EA**

**Notes**

<table>
<thead>
<tr>
<th>1644-ABC-DEE</th>
<th>FIRE HYDRANT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit</strong></td>
<td>EA</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>Each</td>
</tr>
<tr>
<td><strong>Plan Quantity?</strong></td>
<td>no</td>
</tr>
</tbody>
</table>

**Details**

Items to be used for Water Main & Service Applications.

**Related Items**

<table>
<thead>
<tr>
<th>Required</th>
<th>Recommended</th>
</tr>
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<tbody>
<tr>
<td>Design</td>
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<tr>
<td>Construction</td>
<td>COMP 700-050-03</td>
</tr>
</tbody>
</table>

**Forms**

Refer to Comp Book

**Documentation**

**Design**
Locate in plans. Summarize quantities by location on tabulation of quantities sheet in the plans, or detail calculations in the computation book.

**Construction**
Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**
- PPM Chapter
- Other
- Standards
- Specifications

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)** 7, 13

**Status**

**Struct.** 1644-ABC-DEE
**FIRE HYDRANT**
**EA**

A = Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
4 (Salvage & Store)
5 (Salvage & Reuse)
6 (Plug & Placed Out Of Service)
7 (Adjust & Modify)
8 (Relocate)
9 (Remove)
(When A = 3, 6, 7, 8, 9 Then BC = 00, DEE = Blank)

B = Type Of Hydrant
1 (Standard)
2 (Airport)
3 (Traffic)
C = Number Of Ways
1 (Hose)
2 (Two Hose)
3 (Two Hose, One Pumper)
4 (2 Way, Flush Type, One Hose, One Pumper)
5 (4 Way, Three Hose, One Pumper)
6 (3 Way, Two Hose, One Pumper)
D = (Open Leave Blank)
EE = Size (Breakout On Table A)

Notes: Do Not Code Leading Zeros.

<table>
<thead>
<tr>
<th>1820- 1- AB</th>
<th>UTILITY CABLE, TELEPHONE/COMMUNICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>LF; M1</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Linear Foot; 10th of a Meter</td>
</tr>
<tr>
<td>PlanQuantity?</td>
<td>no</td>
</tr>
</tbody>
</table>

**Notes**

**Details**

**Related Items**

- **Forms**
  - **Required**
    - Design: SHTabQuant
  - **Recommended**
    - Construction: COMP 700-050-03

**Documentation**

- Design
- Construction: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- PPM Chapter
- Other
- Standards
- Specifications

**Plan Detail and/or Tech Spec Required**

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 1820- 1- AB: UTILITY CABLE, TELEPHONE/COMMUNICATIONS LF

A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)*
4 (Relocate)*
5 (Adjust /Modify)*
6 (Remove & Dispose)* Note: Contractor takes ownership
7 (Remove & Stockpile/Salvage)* Note: DOT/maintaining agency retains ownership
8 (Place out of Service)*
9 OPEN Note: May be defined in item structure as Special, Rehab, etc.
* When A=3-9, B=0

B= # of pairs
1 (up to 10 pair)
2 (11-50 pair)
3 (50-100 pair)
4 (greater than 100 pair)
### Notes

**1820- 2- AB**  
**UTILITY FIBER OPTIC, TELEPHONE/COMMUNICATIONS**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Accuracy</th>
<th>PlanQuantity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF; M1</td>
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#### Details

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<tr>
<td>Construction</td>
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</tbody>
</table>

**Documentation**

- **Construction**: Record final quantity on the tabulation sheet (plans) or computation form (comp book).

**References**

- **PPM Chapter**
- **Other**
- **Standards**
- **Specifications**

Plan Detail and/or Tech Spec Required

**Prep & Doc Manual Chapter(s)**

---

**Status**

**Struct.** 1820- 2- AB  
**UTILITY FIBER OPTIC, TELEPHONE/COMMUNICATIONS**  
**LF**

#### Notes