NOTES:
1. Critical Root Zone: Extends in all directions from trunk of tree to a distance equal to one foot per inch of trunk diameter at breast height.
2. Staging, storage, dumping, washing and operation of equipment is not permitted within the limits of the tree protection barrier, including during barrier installation.
3. Install all tree protection prior to commencement of construction and remove when directed by the Engineer. Maintain protection at all times.
4. For closely spaced groups of trees, place the tree protection barrier around the entire group.
5. Inspect trunk protection and tree quarterly to prevent girdling. Adjust bands to allow tree growth as needed.
6. See plans for any additional requirements or modifications within the tree protection area.
7. Place weather resistant sign every 50’ along the barrier, with 6” minimum text height and provide text in English and Spanish. Sign should read “Keep Out Tree Protection Area”.
8. Alternate tree protection systems approved by the Engineer may be used in lieu of the tree protection barrier detailed on this index as long as the critical root zone is protected.
9. The Critical Root Zone may be reduced, in the field, by a certified Arborist or Landscape Architect.

TRUNK PROTECTION

1. Trunk protection may be used when Tree Protection Barrier can not be reasonably erected when approved by Engineer.
2. See Selective Clearing and Grubbing Plan for location of trunk protection, when applicable.
3. Adjust bands to allow tree growth (inspect quarterly to prevent girding).

NOTEs:
1. Critical Root Zone: Extends in all directions from trunk of tree to a distance equal to one foot per inch of trunk diameter at breast height.
2. Staging, storage, dumping, washing and operation of equipment is not permitted within the limits of the tree protection barrier, including during barrier installation.
3. Install all tree protection prior to commencement of construction and remove when directed by the Engineer. Maintain protection at all times.
4. For closely spaced groups of trees, place the tree protection barrier around the entire group.
5. Inspect trunk protection and tree quarterly to prevent girdling. Adjust bands to allow tree growth as needed.
6. See plans for any additional requirements or modifications within the tree protection area.
7. Place weather resistant sign every 50’ along the barrier, with 6” minimum text height and provide text in English and Spanish. Sign should read “Keep Out Tree Protection Area”.
8. Alternate tree protection systems approved by the Engineer may be used in lieu of the tree protection barrier detailed on this index as long as the critical root zone is protected.
9. The Critical Root Zone may be reduced, in the field, by a certified Arborist or Landscape Architect.
GENERAL NOTES

1. The location and construction of mailboxes shall conform to the rules and regulations of the United States Postal Service as modified by this Index.

2. Mailboxes will not be permitted on Interstate highways, freeways, or other highways where prohibited by law or regulation.

3. The contractor shall give the Postmaster of the delivery route(s) written notice of project construction 7 days prior to the beginning of work, with Saturdays, Sundays and Holidays excluded.

The contractor shall furnish and install one mailbox in accordance with this Index at each mail patron delivery location and maintain the box throughout the contract period.

4. Mailboxes shall be light sheet metal or plastic construction, in traditional style. Mailboxes on rural highways shall be set with the roadside face of the box 8 feet from the edge of the traveled way a minimum distance of the greater of the following:
   a. Shoulder width plus 8" to 12".
   b. 10' for ADT over 10,000 vpd.
   c. 10' for ADT 100 to 10,000 vpd.
   d. 6' for ADT under 100 vpd.

5. Mailboxes shall be located on the right-hand side of the roadway in the direction of the delivery route, except on one-way roads and streets where they may be placed on the left-hand side.

6. Mailboxes on rural highways shall be set with the roadside face of the box 2'-6" for low speed and ADT under 100 vpd.

7. Mailboxes on curved highways, roads, and streets shall be set with the face of the box between 6' and 12' behind the face of curb. If the sidewalk abuts the curb or if an unusual condition exists which makes it difficult or impractical to install or serve boxes at the curb, the contractor, with concurrence of the local postal authority, may be permitted to install all mailboxes at the back edge of the sidewalk, where they can be served by the carrier from the sidewalk.

8. Mailboxes shall be set with the bottom of the box between 42" and 48" above the mail stop surface, unless the U.S. Postal Service establishes other height restrictions.

9. Mailboxes shall be located on the right-hand side of the roadway in the direction of the delivery route, except on one-way roads and streets where they may be placed on the left-hand side.

10. Support posts shall not be fitted nor installed with surface mount base plates.

11. Mailboxes on rural highways shall be set with the roadside face of the box 2'-6" for low speed and ADT under 100 vpd.

12. Mailboxes on curved highways, roads, and streets shall be set with the face of the box between 6' and 12' behind the face of curb. If the sidewalk abuts the curb or if an unusual condition exists which makes it difficult or impractical to install or serve boxes at the curb, the contractor, with concurrence of the local postal authority, may be permitted to install all mailboxes at the back edge of the sidewalk, where they can be served by the carrier from the sidewalk.

13. Pay is due for the full contract price for Mailboxes. Each payment shall be limited to one mailbox per patron address whether the mailbox is new, reused, salvaged, reset or relocated. Payment shall be per box regardless of the number of mailboxes per support or grouping arrangement.

The above compensation shall include any work and cost incurred by the contractor for removal and disposal of existing mailboxes.

Payment shall be limited to one mailbox per patron address whether the mailbox is new, reused, salvaged, reset or relocated. Payment shall be per mailbox regardless of the number of mailboxes per support or grouping arrangement.

The above compensation shall include any work and cost incurred by the contractor for removal and disposal of existing mailboxes.

There shall be no payment participation for NDCBU furnishing, assembly, installation, resetting or relocation.
**STEEL PIPE AND WOOD SUPPORT POSTS**

**DESCRIPTION:**
- **REVISION:** FY 2019-20
- **STANDARD PLANS**
- **MAILBOXES**

**Index:** 110-200

**Sheet:** 3 of 3

---

**Front View:**
- 2" Ø Pipe Post
- 4" x 4" Wood Post
- 6" Nominal 2" Ø (2.375 in. d.) Steel Pipe
- **Note:** See General Notes for finish requirements

**Side View:**
- Single or Combined Wood, Flanged Channel
- Or Pipe Post Types Shown on This Index

**Top View:**
- Steel Shelf
- Steel Anti-Twist Plate
- Steel Clamp

**End View:**
- Bottom View
- Steel Bracket

**Elevation:**
- Post Spacing
- 24" Min. See General Notes

---

**General Notes:**
- Nominal 2" Ø (2.375 in.) Steel Pipe Schedule 40 or Resistance Welded, ASTM A569 & A669. Min. 30,000 psi Yield Strength. Yield Strength. See General Notes For Finish Requirements.
GENERAL NOTES:

1. Roadway dimensions are representative. Subgrade dimensions and control lines are standard. The details shown on this Index do not supersede the details shown in the Plans or Indexes 120-002 and 160-001.

2. Plastic (P) soils may be placed above the existing water level at the time of construction to within 4 feet of the proposed base. Stabilization by the Plans or otherwise specified in the Plans, provided they can be compacted sufficiently to sustain a drivable surface for operational vehicles as approved by the Engineer. Determine average organic content from the test results from a minimum of three randomly selected samples from each stratum or stockpile of a particular material. Perform tests in accordance with AASHTO T 267 on the portion of a sample passing the No. 4 sieve. A-2-4 material placed below the existing water level must be nonplastic and contain less than 15% passing the No. 200 U.S. Standard sieve.

3. High Plastic (H) soils excavated within the project limits may be used in embankment construction as indicated on this Index. High Plastic soils are not to be used for embankment construction when obtained from outside the project limits.

4. Select (S) soils having an average organic content of more than two and one-half (2.5) percent, or having an individual test value which exceeds four (4) percent, are not permitted in the subgrade portion of the roadway. Select (S), Plastic (P), or High Plastic (H) soils having an average organic content of more than five (5) percent, or an organic content individual test result which exceeds seven (7) percent, are not permitted in the portion of embankment inside the control line, unless written authorization is provided by the District Geotechnical Engineer; these soils may be used for embankment construction outside the control line, unless restricted by the Plans or otherwise specified in the Plans, provided they can be compacted sufficiently to sustain a drivable surface for operational vehicles. Additionally, any stratum or stockpile of soil which contains pockets of highly organic material may be designated as Muck (M). Highly organic soils, composed primarily of partially decayed organic matter, often dark brown or black in color with an odor of decay, and sometimes fibrous, are designated as muck. Further, any stratum or stockpile of soil which contains pockets of highly organic material may be designated as Muck (M). Highly organic soils are not to be used in the embankment portion of the roadway.

5. Highly organic soils, which contain pockets of highly organic material, may be designated as Muck (M). Highly organic soils are not permitted within the subgrade or embankment portion of the roadbed. Select (S), Plastic (P), or High Plastic (H) soils excavated within the project limits may be used in embankment construction as indicated on this Index. High Plastic soils are not to be used for embankment construction when obtained from outside the project limits.

NOTES:

1. All material in the shaded area is excess base to be removed.

2. There is no additional payment for removal of excess base material.

REMOVAL OF EXCESS BASE MATERIAL
DIVIDED ROADWAYS

UNDIVIDED ROADWAY

SYMBOL  SOIL  CLASSIFICATION (AASHTO M 145)

S  Select  A-1, A-3, A-2-4 **
H  High Plastic  A-2-5, A-2-7, A-5 Or A-7 (ALL WITH LL > 50)
M  Muck  A-8

Classification listed left to right in order of preference.

* See General Notes Nos. 4 & 5 for utilization of soils classified as organic material or muck.

** Certain types of A-2-4 material are likely to retain excess moisture and may be difficult to dry and compact. They should be used in the embankment above the water level existing at time of construction. They may be used in the subgrade portion of the roadbed when approved by the District Materials Engineer. A-2-4 material placed below the existing water level must be nonplastic and contain less than 15% passing the No. 200 U.S. Standard sieve.

* For cut sections this dimension may be reduced to 24"; see Index 120-002. For minor collectors and local facilities this dimension may be reduced to 18".
**SYMBOL**  
- S: Select
- S+: Special Select
- P: Plastic
- H: High Plastic
- M: Muck

**CLASSIFICATION (AASHTO M 145)**

- S: A-1, A-3, A-2-4 **
- S+: A-3 *** with Minimum Average Lab Permeability of 5x10⁻⁵ cm/sec (0.14 ft./day) as per AASHTO T 215
- H: A-2-5, A-2-7, A-5 or A-7 (all with LL<50)
- M: A-8

Classification listed left to right in order of preference.

See General Notes Nos. 4 & 5 for utilization of soils classified as organic material or muck.

*** When called for in the Plans, some types of A-2-4 material may be approved in writing by the District Materials Engineer. This material must meet the minimum lab permeability requirement, be nonplastic, and not exceed 12% passing the No. 200 U.S. Standard sieve.**

** Certain types of A-2-4 material are likely to retain excess moisture and may be difficult to dry and compact. They should be used in the embankment above the water level existing at time of construction. A-2-4 material placed below the existing water level must be nonplastic and contain less than 15% passing the No. 200 U.S. Standard sieve.

Special Stabilized Subbase: 3” of #57 or #89 Coarse Aggregate Mixed Into Top 6”.

---

**RIGID PAVEMENT - SPECIAL SELECT SOIL OPTION**

**EMBANKMENT UTILIZATION**

**DESCRIPTION:**

- **REV 1**
- **REV 2**
- **REV 3**

**INDEX:**

- **120-001**

**SHEET:**

- 3 of 3
GENERAL NOTES:
1. All details shown on this Index for removal of organic and plastic materials apply unless otherwise shown on the plans.
2. Utilize excavated materials in accordance with Index 120-001.
3. Where organic or plastic material is undercut, backfill with suitable material in accordance with Index 120-001, unless otherwise shown on the plans.
4. The term "Plastic Material" used in this Index in conjunction with removal of plastic soil is as defined under soil classifications for Plastic (P) and High Plastic (H) on Index 120-001.
5. See Index 160-001 for miscellaneous earthwork details.
6. The term "Organic Material" as used on this Index is defined as any soil which has an average organic content greater than five (5.0) percent, or an individual organic content test result which exceeds seven (7.0) percent. Remove organic material as shown on this Index and the plans unless directed otherwise by the District Geotechnical Engineer. Determine the average organic content from the test results from a minimum of three randomly selected samples from each stratum. Perform tests in accordance with AASHTO T267 on the portion of a sample passing the No. 4 sieve.
7. In areas of curbed roadway, where underdrain is to be constructed beneath the proposed pavement, the grade of the underdrain filter material will not extend above the bottom of the stabilized section of the subgrade. Gradation of the filter material must conform to Standard Specifications. The minimum grade of underdrain pipe is 0.02.

*Remove overlying material and organic material within the limits shown and backfill in accordance with Index 120-001, unless approved otherwise by the District Geotechnical Engineer. The limits include full median width when applied to divided facilities with median widths up to 64'; When median width is greater than 64' and for bifurcated roadways the organic material removal limits will be set by a 1:2 control line complimentary to the outer roadway that will accommodate one future median lane on each roadway unless specified otherwise by the plans.
DIVIDED FREeways, ARTERIALs, MAJOR COLLECTORS HAVING FLUSH MEDIANS, ON UNDIVIDED ARTERIALs AND MAJOR COLLECTORS

INTERSTATE FACILITIES, FREEways, DIVIDED ARTERIALs AND MAJOR COLLECTORS HAVING DEPRESSED MEDIANS

NOTES:
1. See Sheet 1 for the GENERAL NOTES.
2. When the typical cut details are applied to minor collectors and local facilities, the undercut may be reduced from 24" to 18".
3. Where frequency of median breaks indicates that it is impractical to leave plastic material in the median, the designer may elect to indicate total removal of this material. If during construction it becomes apparent, due to normal required construction procedures, that it is impractical to leave the plastic material in the median, total removal of this material shall be approved by the Engineer.
4. Refer to roadway cross sections to determine whether minimum or preferable removal is used.
5. Where the Preferable Removal method is shown in the plans and it is impossible to place the underdrain at the Outer Cut Limit due to conflict with storm drain trunk lines, remove to Inner Cut Limit and place underdrain at location shown for Minimum Removal. (See Special Removal Details)
6. Cross slopes of 0.02 shown above are minimums. Follow the cross slope of the pavement to the extent possible.

CONSTRUCTION AND LOCATION OF UNDERDRAIN IN CURBED ROADWAY

(See Note 4)
NOTES:
Pavement Removal and Replacement

1. Pavement shall be mechanically sawed.
2. The replacement asphalt shall match the existing structural and friction courses for type and thickness in accordance with current FDOT asphalt mix specifications.
3. The new base materials shall be either of the same type and composition as the materials removed or of equal or greater structural adequacy.

BACKFILL OPTION

1. COMPACTED AND STABILIZED FILL
   A. Place backfill material in accordance with Specifications 125.
   B. In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding.
   C. In Stage #2, construct compacted fill along the sides of the pipe and up to the bottom of the base, with the upper 12" receiving Type B Stabilization. In lieu of Type B Stabilization, the Contractor may construct using Optional Base Group 3.

2. FLOWABLE FILL
   A. If compaction cannot be achieved through normal mechanical methods then flowable fill may be used.
   B. Flowable fill is to be placed in accordance with Section 121 of the Specifications, as approved by the Engineer.
   C. Do not allow the utility being installed to float. If a method is provided to prevent flotation from occurring, Stages #1 and #2 can be combined, if approved by the Engineer.
   D. In Stage #1, place flowable fill midway up on both sides of the utility. Allow to harden before placing Stage #2.
   E. In Stage #2, place flowable fill to the bottom of the existing base course.

GENERAL NOTES

1. The details provided in this Index apply to cases in which jack and bore or directional boring methods are not required by the Engineer.
2. Flowable fill shall not be placed directly over loose, or high plastic, or muck material (see Index 120-001) which will cause settlement of the backfill. Site select soil in accordance with Index 350-001.
3. These details do not apply to utility cuts longitudinal to the centerline of the roadway which may require the additional use of geotextiles, special bedding and backfill, or other special requirements.
4. Method of construction must be approved by the Engineer.
5. Some pipe may require special granular backfill up to 8" above top of pipe. Geotextiles may be required to encapsulate the special granular material.

Rigid Pavement Cut

6. Where asphalt concrete overlies exist over full slab concrete pavement, the replacement pavement shall have an overlay constructed over the replacement slab. The overlay shall match the existing asphalt pavement thickness. The replacement friction course shall match the existing friction course, except structural course may be used in lieu of dense graded friction course.
7. All shoulder pavement, curb, curb and gutter, and their substructure disturbed by utility trench cut construction shall be restored in kind.
8. The use of flowable fill to reduce the time traffic is taken off a facility is acceptable but must have prior approval by the Engineer. Flowable fill use is allowed only when properly engineered for pavement crossings, whether straight or diagonal, and shall not be installed for significant depths or lengths. The maximum length shall be fifty (50) feet and a maximum depth of six (6) feet unless supported by an engineering document prepared by a registered professional engineer that specializes in soils engineering. The engineering document shall address the evaluation of local groundwater flow interruption and settlement potential.
9. Excavatable flowable fill is to be used when the flowable fill option is selected.

Trench Cuts and Restorations Across Roadways

INDEX
125-001

SONDA-2019
F Y 2019-20
STANDARD PLANS
UTILITY ADJUSTMENTS THRU EXISTING PAVEMENT

LAST
01/17
DESCRIPTION:
FY 2019-20
STANDARD PLANS
INDEX
125-001
SHEET
1 of 2

REV
125-001
NOTES
1. Cut-Lines must be straight and cleanly sawed.
2. See Sheet 1 for replacement pavement.
3. Adjust manholes prior to placing friction course when pavement resurfacing is occurring in the area adjacent to the manholes.
4. Align longitudinal Cut-Lines with pavement joint or center of traffic lane to avoid wheel path.
5. For rigid pavement, align Transverse Cut-Lines with nearest existing joint.
**DESCRIPTION:**

**LAST REVISIO**

**REV 01/01/00**

**01/01/00**

**STANDARD PLANS**

**FY 2019-20**

**SETTLEMENT PLATE**

**INDEX**

**SHEET**

**141-T01**

**1 of 1**

---

**6-2"x8" Treated Timbers**

**2"x6" Treated Timber**

**1/2" Dia. Bolt, Nut & Washer (Bolt thread end up)**

**2½" Steel or PVC Schedule 40 Pipe (Casing). Casing to be installed in 5’ sections, as required.**

**Threaded or Socket Type Fittings (PVC Socket Type shown) PVC casing sections not permitted below steel sections**

**Cement when Socket Type Coupling used**

**Iron Coupling (As Required)**

**1" Iron Pipe (Marker)**

**Lower pipe section to be 4'-6" in length. Added pipe sections to be 5'-0" in length.**

**Install Stem To Be Plumb**

**Top Of Lift Or Top Of Full Surcharge**

**Fill Within 2 Of Stem Shall Be Compacted By Hand To Required Density**

**Top Of Strata To Be Surcharged**

**Plate To Be Sealed (Level) After Clearing And Grubbing & Demucking Operations And Prior To Placing First Fill Lift**

**NOTES:**

1. Elevation of the top of each length of marker pipe shall be determined as soon as it is installed and also immediately before the next length of marker pipe is added.

2. Settlement plate locations shall be flagged and protected from construction vehicles and equipment. If settlement plates are disturbed, they shall be replaced in kind.

3. Oakum used to construct seal should not have a mesh covering (plastic or other synthetic material).

4. The settlement plates shall be paid for under the contract unit price for Settlement Plate Assembly, AS.
MEDIAN STABILIZING DETAILS

NOTES:
1. When the median has curb or curb and gutter, stabilize 4" back of curb.
2. When the median has shoulder with no curb or curb and gutter, stabilize to normal shoulder width.
3. See the details above for stabilizing requirements at crossroads.
4. Stabilize entire area under all paved traffic islands.
5. Stabilize full width under all traffic separators.
6. Provide select soil where shown above and as defined on Index 120-001. For minor collectors and local facilities the depth of select material thickness may be reduced from 24" to 18".

TYPICAL CROSSOVER

Connect to Paved Public Roads
Shoulder Width for Crossovers That Stabilize Crossover Area Plus Normal
Stabilize 4" Back of Curb for Crossovers That Connect to Paved Public Roads
Projected Shoulder Width (See Note 7)

TURN LANE

Select Soil Required in Upper 2' of the Subgrade

TRAFFIC SEPARATOR

Stabilize Full Width Under Traffic Separator

Projected Shoulder Width (See Note 7)

MISCELLANEOUS EARTHWORK DETAILS