**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 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 tree 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 leaf 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.

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**TRUNK PROTECTION**

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**TREE PROTECTION BARRIER**

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**NOTES:**

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 girdling).
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. The Contractor shall apply box numbers to each patron box in accordance with identification specifications of the Domestic Mail Manual of the U.S. Postal Service; where local street names and house numbers are authorized by the Postmaster as a postal address, the Contractor shall inscribe the house number on the box. If the box is located on a different street from the patrons residence, the Contractor shall inscribe the street name and house number on the box.

The Contractor shall coordinate removal of the patrons existing mailboxes. Immediately after installing the new mailboxes the Contractor must notify each “Mail Delivery Patron” by Certified Mail that removal of the existing mailboxes must be accomplished in 21 days after receipt of notices. Patrons shall have the option of removing their existing mailboxes or leaving the mailboxes in place for removal by the Contractor; removal by the Contractor shall be included in the contract unit price for Mailboxes. Each. The Contractor shall dispose of mailboxes and supports in areas provided by him.

Reuse of existing mailboxes by the Contractor will not be a requirement under any construction project; however where an existing mailbox meets the design requirements of this Index and is structurally and functionally sound, the Contractor at his option may elect to reuse the existing mailbox in lieu of constructing a new mailbox. Any use of existing mailboxes must be approved by the Engineer.

Mailboxes shall be light sheet metal or plastic construction, in traditional style and only in Size 1 as prescribed by the Domestic Mail Manual of the U.S. Postal Service (DMM).

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.

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

Mailboxes shall be light sheet metal or plastic construction, in traditional style and only in Size 1 as prescribed by the Domestic Mail Manual of the U.S. Postal Service (DMM).

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

Mailboxes on rural highways shall be set with the roadside face of the box 8" to 12" 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.

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 shall be set with the bottom of the box between 47" and 48" above the mail stop surface, unless the U.S. Postal Service establishes other height restrictions.

7. No more than two mailboxes may be mounted on a support structure unless the U.S. Postal Service establishes other restrictions.

8. Lightweight newspaper receptacles may be mounted below the mailbox on the left-hand side of the roadway. Must be separated from the pavement by a minimum of 1" of expansion material.

9. Wood and steel support posts for both single and double mailbox mountings shall be embebed in the ground.

Concrete, block, brick, stone or other rigid foundation structure or entanglement, either above or below the shoulder ground line, shall not be permitted on mailboxes on rural highways. On urban roads and streets where mailboxes support posts are set within rigid pavement back of curb, the support posts shall be separated from the pavement by a minimum of 1" of expansion material.

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

10. At driveway entrances mailboxes shall be placed on the far side of the driveway in the direction of the delivery route.

11. Wood support posts shall have an external finish equal to or better than two coats of a weather resistant stain, air dried or baked, paint or enamel. Surface(s) shall be cleaned of all loose scale prior to finishing. The Postal Service prefers that posts be painted white, but other colors may be used when approved by the Engineer. When galvanized posts are used painting is not required.

Mounting brackets, plates, platforms, shelves and accessory hardware surface finishes are to be suited to support post finish.

12. Mailboxes shall be paid for under the contract unit price for Mailboxes. Payment shall be full compensation for boxes, posts and accessory items essential for the installation in accordance with this standard; erection; adjustments to suit construction needs; and, for identification letters and numbers.

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.
DESCRIPTION:

1 Nut (12 Req'd.)
2 Washers, 1 Lockwasher, 1 Hex Bolt, 8

1 Nut (2 Req'd.)
2 Washers, 1 Lockwasher, 1 Hex Bolt, 4

Muffler Clamp (2 Req'd.)
Nominal 2" Ø (3.275 a.d.) Steel Pipe Schedule 40 Or Resistance Welded, ASTM A569 & A669, Min. 50,000 psi Yield Strength. See General Notes For Finish Requirements.

Für Finish Requirements.
Yield Strength. See General Notes ASTM A569 & A669, Min. 50,000 psi Schedule 40 Or Resistance Welded, Nominal 2" Ø (2.375 o.d.) Steel Pipe

1 Lockwasher, 1 Nut (6 Req'd.) (Stove Bolt), 2 Washers, #8-32 x 3/4" Slotted Rd. Hd. Bolt

1 Lockwasher, 1 Nut (6 Req'd.) (Stove Bolt), 2 Washers, #8-32 x 3/4" Slotted Rd. Hd. Bolt

1 Nut (2 Req'd.)
2 Washers, 1 Lockwasher, 1 Hex Bolt, 2

16 7/32" Dia. (8 Req'd.)
16 7/32" Diameter (8 Req'd.)

4" x 1 1/2" Slots (4 Req'd.)
4" x 1 1/2" Slots (4 Req'd.)

3/4" Dia. (8 Req'd.)
3/4" Diameter (8 Req'd.)

STEEL PIPE AND WOOD SUPPORT POSTS

Note: 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. It should be placed uniformly in the lower portion of the embankment for some distance along the project rather than full depth for short distances.
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 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.
5. 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 permitted within the subgrade or embankment portion of the roadway.

REMOVAL OF EXCESS BASE MATERIAL

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.

GENERAL NOTES AND FLEXIBLE PAVEMENT
**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** | **SOIL** | **CLASSIFICATION (AASHTO M 145)**
--- | --- | ---
S | Select | A-1, A-3, A-2-4 **
S+ | Special Select | A-3 *** With Minimum Average Lab Permeability of 5x10⁻⁶ cm/sec (0.14 ft./day) as per AASHTO T 215
P+ | 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.

*** 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".
Whether Or Not Shoulder Gutter Is Used
Control Line Set By Normal Shoulder Point
Limit For Minimum Removal
Bottom Of Organic Material

* Remove overlying material and organic material within the limits shown and backfill in accordance with Index 120-001, unless otherwise shown on the plans.

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 0.2%. 

GENERAL NOTES AND REMOVAL OF ORGANIC MATERIAL

120-002
Sheet 1 of 2
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.
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 Specification 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 Specification 121, 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.

**FLEXIBLE PAVEMENT CUT**

**RIGID PAVEMENT CUT**

1. **HIGH EARLY STRENGTH CEMENT CONCRETE (3000 psi)** Meeting the requirements of Specification 346 shall be used for rigid pavement replacement.

**BACKFILL OPTION**

1. **GRANULAR BACKFILL**
   - A. Any embankment system that is removed shall be replaced with the same type materials. Any embankment system that is damaged shall be replaced with methods approved by the Engineer.
   - B. Fill material shall be placed in accordance with the Standard Specifications. Fill material shall be special select soil in accordance with Index 350-001.
   - C. 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.
   - D. In Stage #2, construct fill along the sides of the pipe and up to the bottom of replacement pavement.

2. **FLOWABLE FILL**
   - A. If mechanical compaction can not be achieved through normal mechanical methods then flowable fill may be used.
   - B. Flowable fill is to be placed in accordance with Specification 121, 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 stone layer.

**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 due to fill weight. Where highly compressible material exists, the amount, shape, and depth of flowable fill must be engineered to prevent settlement.
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 6" above top of pipe. Geotextiles may be required to encapsulate the special granular material.

**NOTES: REPLACEMENT PAVEMENT**

1. Replacement Pavement
2. Replacement Base

**NOTES: TRENCH CUTS AND RESTORATIONS ACROSS ROADWAYS**

**INDEX 125-001**

**NOTES:**

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 Specification 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 Specification 121, 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 due to fill weight. Where highly compressible material exists, the amount, shape, and depth of flowable fill must be engineered to prevent settlement.
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 6" above top of pipe. Geotextiles may be required to encapsulate the special granular material.

**NOTES:**

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 Specification 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 Specification 121, 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 due to fill weight. Where highly compressible material exists, the amount, shape, and depth of flowable fill must be engineered to prevent settlement.
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 6" above top of pipe. Geotextiles may be required to encapsulate the special granular material.
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.

NONTRENCH PAVEMENT CUTS FOR UNDERGROUND UTILITY STRUCTURES IN PAVEMENT
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**

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

**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".
7. Limits of Stabilization for Intermediate U-Turn Crossovers and, unless otherwise specified in the Plans, at paved and unpaved private roads and unpaved public roads.

**BIBLIOGRAPHIC INFORMATION:**
- **DATE:** 11/01/19
- **REV:** 0
- **INDEX:** 160-001
- **SHEET:** 1

**TYPICAL CROSSOVER**

- Direction of Traffic
- Stabilize Crossover Area Plus Normal Shoulder Width for Crossovers That Connect to Paved Public Roads.
- Projected Shoulder Width (See Note 7)

**TURN LANE**

- Direction of Traffic
- Stabilize 4" Back of Curb
- Projected Shoulder Width (See Note 7)

**TRAFFIC SEPARATOR**

- Direction of Traffic
- Stabilize Full Width Under Traffic Separator
- Street
- Street