

**TOWN OF NEW CASTLE, COLORADO**  
**RESOLUTION NO. TC 2022-28**

A RESOLUTION OF THE TOWN OF NEW CASTLE TOWN COUNCIL APPROVING AN  
UPDATE TO THE PUBLIC WORKS MANUAL

WHEREAS, the Public Works Department of the Town of New Castle (“Town”) has adopted a Public Works Manual that establishes minimum standards for street, utility, and other infrastructure development within the Town; and

WHEREAS, the Public Works Department, in conjunction with other Town departments, staff, and the Planning & Zoning Commission, has recently reviewed the Public Works Manual and design standards included in the Municipal Code to identify provisions that should be addressed in the Public Works Manual instead of in the Municipal Code;

WHEREAS, the Public Works Department has prepared the update to the Public Works Manual attached as Exhibit A to conform to current best practices and incorporate street and other utility design standards currently set forth in the Town Municipal Code into the Manual; and

WHEREAS, the Town Council has reviewed the updated to the Public Works Manual prepared by the Public Works Department and finds and determines that the changes included therein are necessary and appropriate and promote the health, safety, and welfare of the Town and its citizens; and

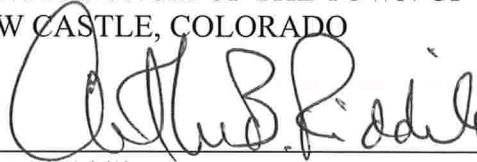
WHEREAS, the Town Council now desires to approve the update to the Public Works Manual attached hereto as Exhibit A.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF NEW CASTLE, COLORADO:

1. Recitals. The foregoing recitals are incorporated herein as findings of the Town Council.
2. Approval. The updates to the Public Works Manual attached as Exhibit A and incorporated herein by reference are hereby approved by Town Council and will take effect upon adoption of this Resolution. To the extent of any conflict between the Public Works Manual as updated hereby and any provisions of the Town Municipal Code, the Public Works Manual will control.
3. Effective Date. This Resolution shall take effect upon adoption hereof.

INTRODUCED, READ, AND ADOPTED at a regular meeting of the Town of New Castle Town Council held on November 15, 2022.

TOWN COUNCIL OF THE TOWN OF  
NEW CASTLE, COLORADO

By:   
Art Riddile, Mayor

ATTEST:

 CMC  
Melody Harrison, Town Clerk



**EXHIBIT A**

Updated Public Works Manual

**Appendix A**

## Exhibit A

### Street Design Standards.

Pursuant to section 16-04-020 of the municipal code, a “street” means a *right-of-way* reserved or dedicated for public use that provides principal vehicular and pedestrian access to adjacent properties. All newly constructed public streets shall be subject to the following standards and regulations. Exemptions to these standards shall be subject to the provisions of Title 16 of the municipal code.

- A. The street pattern shall conform to the most recently adopted transportation plan or comprehensive plan and shall afford safe and convenient access to all lots within the subdivision.
- B. Streets shall intersect with planned or existing streets as follows:
  - 1. Intersections of streets shall be at right angles unless otherwise approved by the Planning Commission and the Town Engineer.
  - 2. No more than two streets shall intersect at one point.
  - 3. Two local streets meeting a third street from opposite sides shall meet at the same point, or their centerlines shall be offset at least one hundred feet (100').
  - 4. Arterial or collector streets meeting a third street from opposite sides shall meet at the same point, or their centerlines shall be offset at least two hundred feet (200').
  - 5. The Town Engineer may approve exceptions to the provisions of this subsection in extraordinary circumstances where safety is not compromised.
- C. Streets shall have the names of existing streets which are aligned in the Town, or as specified by the Town of New Castle Public Works Manual and approved by Garfield County Communications.
- D. Streets which are extensions of existing or platted streets shall bear the same classification as that assigned to the existing or platted street in the most recently adopted transportation or comprehensive plan and shall conform to any special standards pertaining to such classifications.
- E. Local residential streets shall be designed to discourage through traffic, and where a proposed subdivision borders on or includes a street designated arterial, intersections of proposed streets with such arterials shall be held to a minimum. Lots bordering arterial roadways may be either reverse-facing on an interior street within the subdivision or served by a frontage road.

- F. Streets shall be designed to bear a logical relationship to the existing topography.
- G. Dead-end streets shall not be permitted. A street may end in a permanent cul-de-sac providing that the street is not longer than six hundred sixty feet (660') and that the radius of the turning areas be at least forty-five feet (45') to the curb, and fifty feet (50') to the edge of the right-of-way.

Where a street is designed to connect with a future street, a temporary turn-around shall be provided with a radius equal to that required for a permanent cul-de-sac or of an alternate design approved by the Town Engineer based on the traffic movement generated by the street in question. Such streets terminating in a temporary turn around may exceed the six hundred sixty foot (660') limit specified above if approval by the Town Engineer. If the temporary turn-around is to exist for a period longer than six (6) months, then the subdivider shall pave it and construct a curb and gutter and sidewalks if so directed by the Town Engineer. When the connection is finally made, the subdivider shall be responsible for constructing the turn-around area to fit the normal street design, and the Town shall reassign the excess right-of-way back to the owners of the adjacent property. Surface drainage on the cul-de-sac shall be towards the intersecting street or else a drainage easement shall be provided from the cul-de-sac.

- H. Private streets shall not be permitted. A "private street" means an undedicated, privately controlled, and privately maintained right-of-way. All newly constructed streets shall meet the Town of New Castle streets design standards.
- I. All newly constructed streets shall comply with the "*Recommended Right-of-Way Cross-Sections*", (Appendix A) which may be adopted and amended from time to time by resolution of the Town Council. Streets, alleys, rights-of-way, sidewalks and easements shall comply with all federal and state specifications, and, in addition, shall meet the following minimum width standards:
  - 1. "Arterial street" means a street, existing or proposed, which serves or is intended to serve as a major traffic way and is designated as a major street on the comprehensive plan. Arterial streets shall have a minimum right-of-way of one hundred feet (100'). The minimum paved portion of the street measured from flow line to flow line shall be sixty-four feet (64').
  - 2. "Collector street" means those with low to medium traffic volume, whose purpose is to provide access to residential areas and to channel traffic from residential areas to arterial streets. Widths of new collector streets will vary depending on selected use in conformance with the "*Recommended Right of Way Cross Sections*" (Appendix A).
  - 3. "Local residential street" means streets with low volume, low speed traffic that are intended to provide access to adjacent residential lots. Local residential streets shall have a minimum right-of-way of fifty-eight feet (58), with a minimum paved portion of thirty-six feet (36'), measured flow line to flow

line. Pinch points for traffic calming and pedestrian crossing will be considered.

4. Alleys (where permitted), twenty feet (20');
5. Crosswalk easements, ten feet (10');
6. Drainage easements, ten feet (10'), or larger if so required by the Town Engineer;
7. Half-streets shall not be permitted, except when required to complete a half-street already in existence;
8. Minimum street gradient for all streets shall be four-tenths of one percent (0.4%). Maximum street gradient shall be eight percent (8%). Streets shall not exceed a gradient of four percent (4%) within one hundred feet (100') of an intersection. Vertical curves shall be used at changes of grade exceeding one percent (1%) and shall be designed to provide a minimum sight distance of two hundred feet (200') except for arterial streets which shall be subject to state and federal standards. To insure adequate sight distance, when street roadway lines deflect more than five degrees, connection shall be made by horizontal curves.
9. Where a street classified as arterial intersects with any other arterial street, no on-street parking shall be allowed on the arterial street within one hundred feet of the intersection. If the arterial street consists over its general length of only two traffic lanes, then a third lane shall be provided and stripes painted to the specifications of the Town Engineer to enable vehicles to make left turns at such intersections without impeding other traffic;
10. All utilities shall be installed before streets or alleys are surfaced.
11. Subdivision as-builts shall show dedicated rights-of-way;
12. All sewer and water utilities shall clearly show:
  - a. Invert in, invert out, and rim elevation on all manholes;
  - b. Locate all valves, manholes, fire hydrants and/or other utilities with at least two (2) ties from discernible objects;
  - c. Distance and slope between manholes to be noted as offsets to mains from curbs or property lines;
  - d. Dimension existing and/or added water and sewer taps from lot corners or readily discernible objects. Sewer taps shall have additional dimensions from the tap to the downstream manhole;

- e. All dimensions to be from fixed permanent or readily discernible objects. Where water and sewer taps are located from lot lines, front footage will be noted from fixed and permanent point of origin;
- f. Depth of the lateral or service line shall be noted at the property line.

### **Alleys and Easements.**

Paved alleys may be provided and shall be required unless other provisions are made and approved for service access. Easements for utility purposes shall be required along all sides and real lot lines except those bordering dedicated streets and alleys.

### **Drainage.**

Drainage easements and improvements shall be designed by a registered engineer to accommodate expected run-off as determined by the drainage plan. Improvements shall be installed to specification by the Town Council through their designated representative. All drainage improvements described herein shall be the financial responsibility of the subdivider, except as may be provided otherwise in this Public Works Manual or Town Council.

The rate of runoff from any developed area shall not exceed the historic rate of runoff based on a twenty-five (25) year rainfall event.

The following methods of runoff estimation shall be utilized for determining the rate of runoff from a particular site as applicable:

1. Rational Method: Used for Drainage Basins less than 20 acres in size and for minor system design.
2. SCS TR 55 Methods: Used for drainage basins up to 20 square miles in size. Also used for flood flow determination and design in minor and major systems. Also used to compute flood storage volumes.
3. Unit Hydrograph: Used for drainage basins up to 1000 square miles in size. Also used for flood flow determination and design in minor and major systems. Also used to compute flood storage volumes.

### **General Utilities.**

In the event oversized utilities are required, the developer or subdivider may request that Town Council consider an agreement or other arrangements for reimbursements shall be made and approved by Town Council, whereby the developer shall be allowed to recover the cost of the utilities that have been provided by him beyond the needs of his development and



standard Town specifications. Any such cost-recovery agreement must be approved by Town Council. The method and time of payment under the reimbursements shall be established in accordance with the current policies of the Town relating to the placement of such oversized utilities.

### **Water Distribution.**

The water main distribution system shall be designed to connect with the Town water system and make water available to each lot in the proposed subdivision. Each lot must be provided with an individual service line. Fire hydrants shall be located to ensure protection to each lot, but under no circumstances shall a lot be more than three hundred feet from the nearest hydrant based on front line distance. Design of the system shall be the responsibility of the subdivider with all plans subject to approval of the Town Council through their designated representatives. Installations of the system shall be to Town specifications and at the direction of the Town Council through their designated representatives. Financial responsibility for the water distribution system shall be subject to existing Town regulations and agreement relating thereto between the Town Council and the subdivider, except as may be provided otherwise in this Public Works Manual.

### **Sanitary Sewage Collection.**

If the Town is to supply sanitary sewage collection, the sewage collection system shall be designed to connect with the Town system and provide an individual service line to each lot in the proposed subdivision. Design of the system shall be the responsibility of the subdivider with all plans subject to the approval of the Town Council through their designated representative. Financial responsibility for the sanitary sewage collection system shall be subject to existing Town regulations and agreements relating thereto between the Town Council and the subdivider, except as may be provided otherwise in the Public Works Manual or by Town Council.

### **All Other Utilities.**

Other utilities serving individual lots including, but not limited to, electrical lines, gas lines, or telecommunication lines, shall be buried and connected separately from the exterior of each lot unless an exemption is granted by the Building Official. Facilities necessary and appurtenant to underground facilities or other installation of peripheral overhead electrical transmission and distribution feeder lines, or other installation of either temporary or peripheral overhead communications, distance, trunk, or feeder lines may be above ground.

### **Sidewalks.**

Sidewalks are required on both sides of all streets and shall be at least five feet (5') wide for residential streets and five feet (5') to six feet (6') wide for collector streets. Local residential

streets shall have mountable curb and gutter with sidewalks separated from the curb by a landscape buffer measuring five feet, four inches (5'-4"). Collector streets shall have vertical curb and gutter with sidewalks separated from the curb by a landscape buffer measuring five feet, four inches (5'-4"). Design of sidewalks in commercial and industrial areas shall be approved by the Planning Commission. Permanent objects within the landscape buffers are prohibited, except as may be provided otherwise in the Public Works Manual or by Town Council

When right-of-way, geographic, or topographic limitations prevent sidewalks on both sides of the street, then a single sidewalk shall be provided and shall be at least six feet (6') wide. In such cases alternate pathways shall be provided to accommodate pedestrians.

All sidewalks shall be ramped at all street intersections or other pedestrian crossing areas. The design and construction of sidewalk ramps must meet the applicable requirements of the "Americans with Disabilities Act" (ADA).

### **Signing and Striping Plans.**

A complete signing and striping plan shall be submitted as part of the construction drawings. This plan shall include all project streets and intersections and all intersections with existing streets. The design of these improvements shall be in accordance with the MUTCD and shall include all necessary traffic control signage. Street name signs shall be installed at all intersections. The developer will be responsible for their installation.

### **Bicycle Paths.**

Developers, when required, shall install a bicycle path at least eight feet (8') in width along the right-of-way of any sub-arterial street and any arterial street which is not bordered by a frontage road. The initial site of the path along any street shall be determined by the Planning Commission and the Town Engineer. Each developer who extends the path shall keep the path continuous and with as little change in grade as possible. If topography necessitates that the path change from one side of the street to the other, or if the path intersects with another arterial or sub-arterial street, crossways shall be provided. All bicycle paths shall be ramped at intersections. Paths and crossways shall meet construction and design standards set by the Town Council through their designated representatives. Any bike path constructed as part of the New Castle Trail System shall be constructed in accordance with the design requirements of the New Castle Trail System Planning Program.

### **Street Lighting.**

The developer shall install street lights at points designated by the Town or Public Service Company. The poles for such lights shall be metal and the design of both poles and the lights themselves shall meet specifications established by the Town Council through their designated representatives.

## **Snow Storage**

All newly constructed streets shall be designed to accommodate snow storage. Turf areas, without obstructions, may be utilized for this purpose. A minimum functional area equaling fifteen percent (15%) of the paved area shall be provided contiguous to the right-of-way. Individual snow storage areas shall not be separated by more than 300 feet. Obstructions in the snow storage areas include fences, utility boxes, bushes and large landscape boulders.

## **Project Acceptance Procedure.**

### ***Initial Submittal***

1. Acceptance Request Letter
2. Pre-final "As-built" Drawings
3. Stamped certification letter from design engineer verifying all improvements were built to meet the requirements of the Town of New Castle. Copies of all tests performed shall be included.
4. Support documentation (installation and operation manuals) of those facilities and equipment constructed/installed as part of project.
5. Submittal detailing any and all specific requirements (as listed below) and actions taken to meet these requirements.
  - a) Subdivision Improvement Regulations
  - b) Zone District Regulations
  - c) Commitments or Requirements made during Public Hearing
  - d) Contractual Agreements
  - e) Annexation Agreements
  - f) Any/All Other

### ***Town Review of Submittals***

Response to Initial Submittal shall be given by the Town within thirty (30) days after receiving all required material. This response shall be as listed below:

1. Staff recommendation to the Town Council accepting improvements as is.
2. Staff recommendation to the Town Council accepting improvements under specific conditions. A document of specific conditions shall be included.
3. Letter to the developer listing specific inadequacies in the Submittals or improvements. The developer must resubmit request for project acceptance once these inadequacies have been addressed.

### ***Final Acceptance.***

When all requirements of the Project Acceptance Procedure have been met, the developer/owner shall have submitted "final as-builts" as defined herein. The warranty period shall start on the date of official Town Board acceptance. No building permits will be issued until Final Acceptance has been made.

### **"As-Built" Plans.**

Finished plans of all public improvements shall be required before the Town will accept the improvements. As-built drawings shall include, but are not limited to, the following requirements:

- A. Detailed and accurate information on all improvements completed as part of a project. Locations, dimensions, elevations, types of material, and all other information needed to provide a comprehensive and complete representation of the final project shall be included. Rights of way and easement lines shall also be shown.
- B. Pre-final as-builts shall be submitted on completion of all work within a phase of the development, and the final as-built plans shall be received before final acceptance.
- C. Pre-final as-builts will be submitted for review and/or correction. Pre-finals will be four each, blue line.
- D. Final as-builts will be submitted as Autocad or DXF drawings and reproducible mylar and will become property of the Town of New Castle and a part of permanent Town records.
- E. Final "As-Built" drawings shall be submitted before final acceptance of improvements. They shall be stamped "As-Builts" and be signed as such by a Registered Professional Engineer.
- F. No building permits will be issued until steps A through E above are completed.

### **Acceptance at Warranty Expiration.**

#### ***Acceptance of Utility Improvements***

The warranty period for new utility improvements, including water distribution, sanitary sewer collection, street lighting, signage and striping shall expire after the duration specified in section 16.32.020 (B) of the New Castle Municipal Code unless otherwise required by Town Council. Within thirty (30) days of the warranty's expiration, the subdivider/developer shall request a reinspection of the utility improvements. When the Town finds that the utility improvements meet Town standards, they shall acknowledge acceptance of the utility improvements to the subdivider/developer by way of written letter.

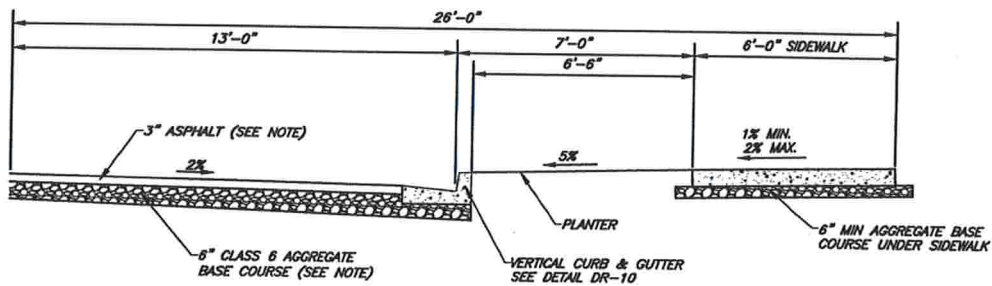
## *Acceptance of Street Improvements*

The warranty period for newly constructed streets, including travel lanes, bike lanes, parking lanes, and sidewalks, shall expire after the duration specified in section 16.32.020 (B) of the New Castle Municipal Code unless otherwise provided by Town Council. The subdivider/developer shall be responsible for requesting an inspection of the street improvements at the end of the warranty period. When the Town finds that the street improvements meet Town standards, performance indicators, and threshold values, they shall acknowledge acceptance of the street improvements to the subdivider/developer by way of a written letter. Warranty work will be required when the threshold limits for a condition parameter has been exceeded and the maximum allowable number of defects was exceeded for one or more condition parameters. The warranty criteria and recommended corrective actions are shown in tables 1 and 2 below.

<b>Table 1. Warranty Thresholds and Requirements</b>		
<b>Condition Parameter</b>	<b>Threshold Limits Per Segment (Segment Length = 528 Feet)</b>	<b>Maximum Segment Per Driving Lane Mile</b>
Longitudinal Crack	30% of segment length	1
Longitudinal Joint Crack	10% of segment length	1
De-bonding	5% of segment length	1
Raveling	8% of segment Length	1
Flushing	4% of segment length	1
Rutting	Average rut depth = 1/4 inch	1
<b>Condition Parameter</b>	<b>Threshold Limits Per Segment (Segment Length = 7 Feet)</b>	<b>Maximum Segment Per Driving Lane Mile</b>
Deflection caused by settlement	Maximum deflection depth = 3/8 inch	1
<b>Condition Parameter</b>	<b>Threshold Limits Per Segment (Segment Length = 1 mile)</b>	<b>Maximum Segment Per Driving Lane Mile</b>
Transvers crack	15 Cracks	1

<b>Table 2. Recommended Corrective Actions</b>	
<b>Condition Parameter</b>	<b>Recommended Action</b>
Longitudinal Crack	Cut and seal
Longitudinal Joint Crack	Cut and seal
De-bonding	2 inch mill and resurface
Raveling	2 inch mill and resurface
Flushing	2 inch mill and resurface
Rutting	2 inch mill and resurface
Deflection caused by settlement	Sub soil mitigation, full depth mill and resurface
Transvers crack	2 inch mill and resurface





**MINOR COLLECTOR STREET WITH NO PARKING  
AND NO BIKE LANE 52'-0" ROW**

NOT TO SCALE

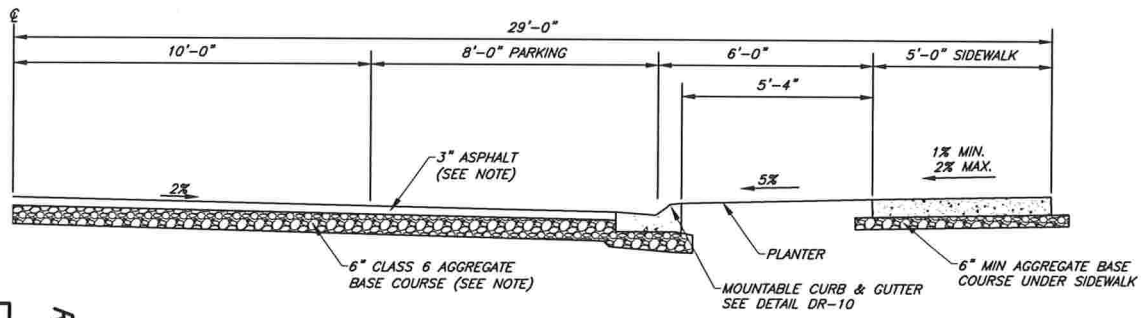
- NO RESIDENTIAL ACCESS

NOTE:  
ASPHALT AND BASE DEPTHS IDENTIFIED ARE  
MINIMUMS. PROVIDE DEPTHS AS DETERMINED BY  
SOILS REPORT AND ENGINEERS DESIGN BASED UPON  
PROJECTED TRAFFIC CONDITIONS, LOADING AND SOIL  
STRENGTHS.

MINOR COLLECTOR  
STREET NO PARKING  
AND BIKE LANE SECTION  
TOWN OF NEW CASTLE

NOT TO SCALE

DWG: ST-40



NOTE:  
 ASPHALT AND BASE DEPTHS IDENTIFIED ARE  
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 STRENGTHS.

**RESIDENTIAL STREET 58'-0" ROW**

NOT TO SCALE

RECOMMENDED RIGHT OF WAY  
 CROSS SECTION

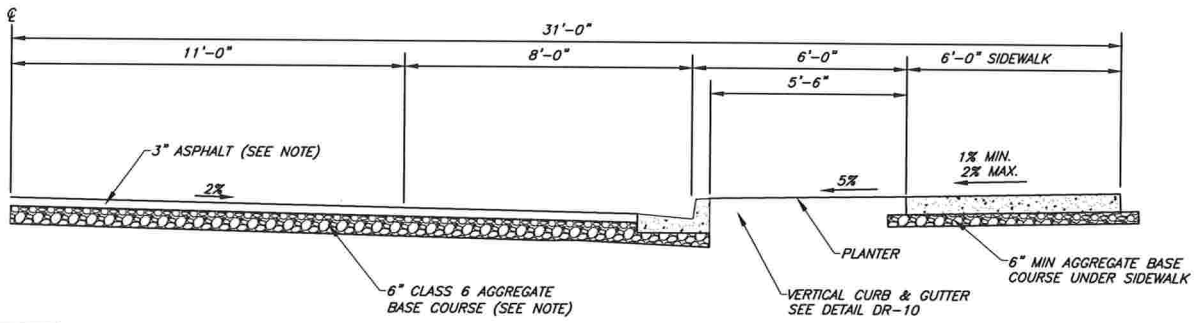
RESIDENTIAL STREET  
 58'-0" ROW SECTION

TOWN OF NEW CASTLE

NOT TO SCALE

DWG: ST-10





**COLLECTOR STREET WITH PARKING  
AND NO BIKE LANE 62'-0" ROW**

NOT TO SCALE

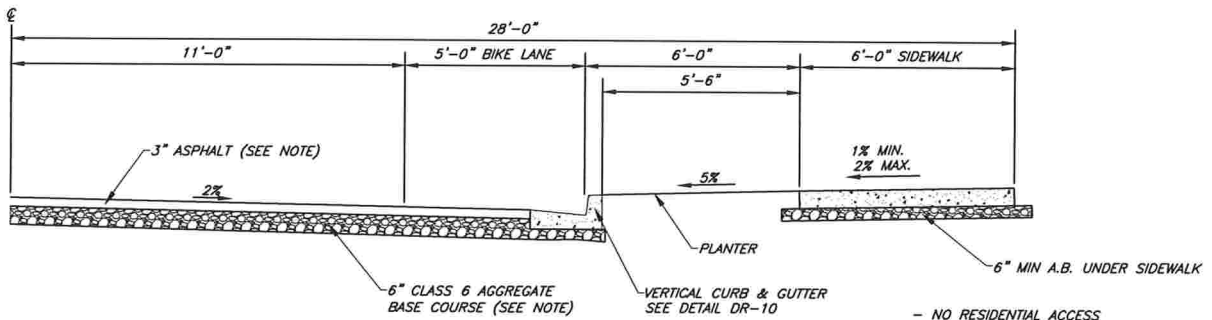
- RESIDENTIAL ACCESS

NOT TO SCALE

DWG: ST-30

COLLECTOR STREET NO  
BIKE LANE SECTION  
TOWN OF NEW CASTLE

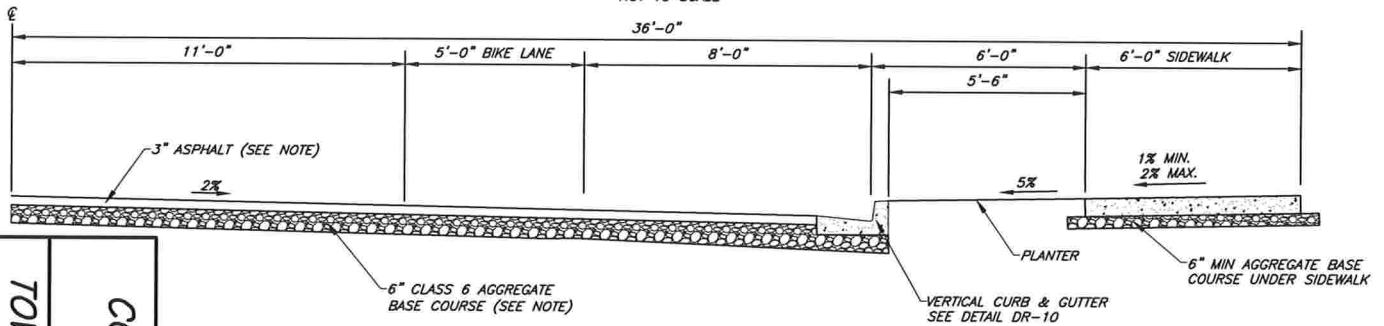
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STRENGTHS.



**COLLECTOR STREET NO PARKING  
WITH BIKE LANE 56'-0" ROW**

NOT TO SCALE

- NO RESIDENTIAL ACCESS
- REAR FACING LOTS ONLY
- WHERE BIKE LANE CONNECTIVITY IS IMPORTANT



**COLLECTOR STREET WITH PARKING  
AND BIKE LANE 72'-0" ROW**

NOT TO SCALE

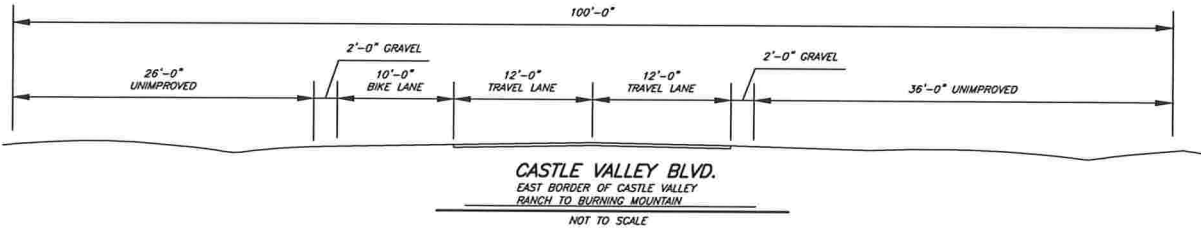
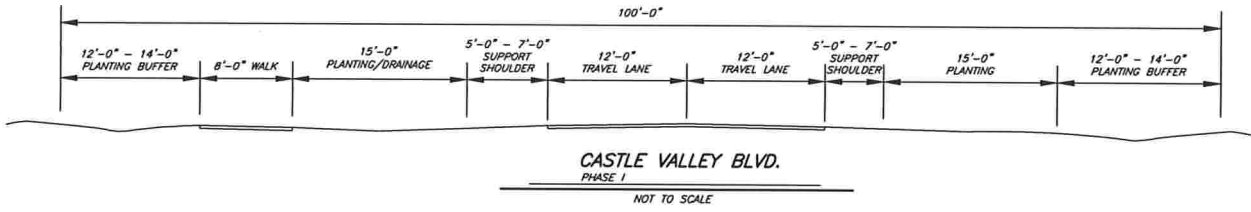
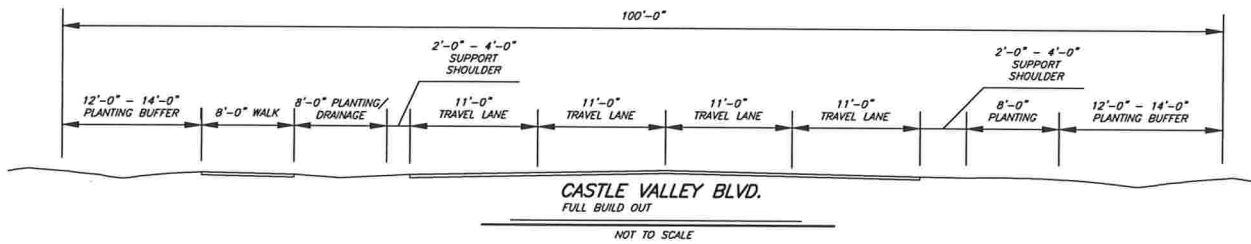
- RESIDENTIAL ACCESS
- WHERE BIKE LANE CONNECTIVITY IS IMPORTANT

NOTE:  
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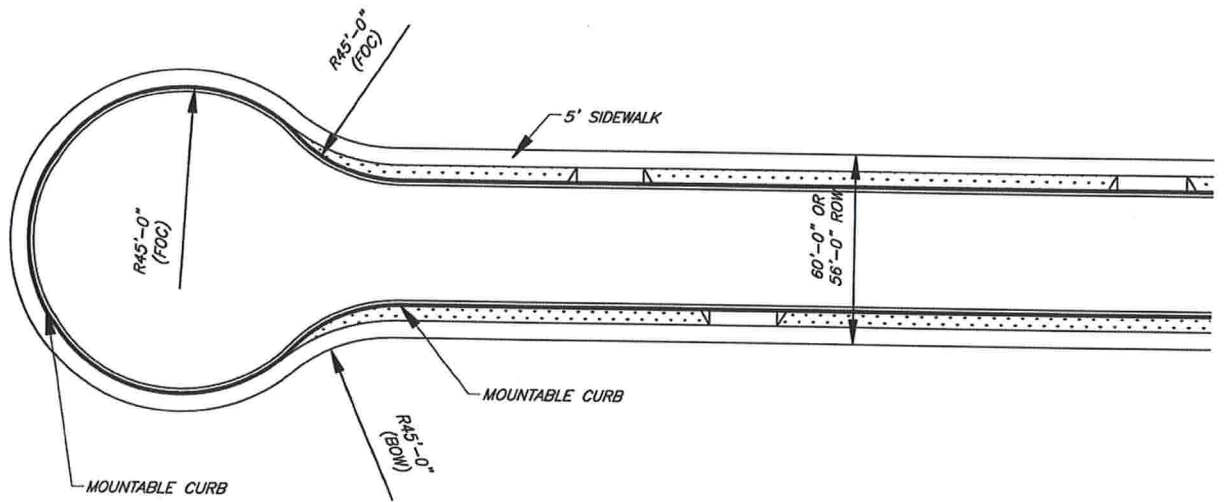
NOT TO SCALE

DWG: ST-20

COLLECTOR STREET  
SECTION  
TOWN OF NEW CASTLE



CASTLE VALLEY BLVD.  
TOWN OF NEW CASTLE  
NOT TO SCALE  
DWG. ST-60



### TYPICAL CUL-DE-SAC

NOT TO SCALE

**NOTES:**

1. CUL-DE-SACS ONLY ARE ALLOWED ON RESIDENTIAL STREETS.
2. CUL-DE-SAC CENTER POINT MAY BE OFFSET FROM STREET CENTERLINE.
3. EASEMENTS REQUIRED FOR STREET LIGHTS.

TYPICAL CUL-DE-SAC

TOWN OF NEW CASTLE

NOT TO SCALE

DWG: ST-50