



PUBLIC WORKS MANUAL

ROCKY HILL, CONNECTICUT



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SECTION 1 - GENERAL

1.1 THE MANUAL

This manual is prepared in accordance with the Code of the Town of Rocky Hill; Part II – General Requirements; Chapter 212 – Streets and Sidewalks; Article I - Work in Public Rights-of-Way [Adopted 6-19-1972 by Ord. No. 28-72]; Section § 212-1 - Manual of types of work [Amended 1-6-1992 by Ord. No. 171-92] which states:

The Director of Highways and Engineering, or his agent, shall compile a manual listing all types of work to be performed in, on, over, or under any public rights-of-way for street or highway purposes, or for any other specific purpose, which is maintained by the Town of Rocky Hill, by anyone other than the Town of Rocky Hill, and for which a permit is required by the ordinances of the Town of Rocky Hill or the statutes of the State of Connecticut.

1.2 APPLICABILITY

The purpose of this manual is to provide standards and guidance to developers, contractors, sub-contractors, and all other persons involved in the construction and installation of improvements associated with roadways and utilities intended to be owned or maintained by the Town of Rocky Hill.

Where a construction method is not specifically addressed in this manual, the specification in the State of Connecticut Department of Transportation's Standard Specifications for Roads, Bridges, and Incidental Construction, as amended, will apply. Situations may arise that have not been addressed by either manual and shall be addressed on a case-by-case basis, with the approval of the Town Engineer and/or the Director. Deviations from the requirements and specifications may be allowed, if approved by the Town Engineer and/or the Director, at the applicant's expense.

Nothing in this document shall relieve the Developer or Contractor from complying with any federal, state, or local permits or regulations.

Town Commissions and staff may also use the requirements and specifications in this manual as design guidance for roads, drives, utilities, and other improvements on private property.

In cases of conflict between referenced standards or specifications, the requirements of this manual shall govern, except in those cases where such requirement may be in violation with applicable laws, regulations, or codes. The Town Engineer and/or Director shall have the final approval in all requirements related to the construction of improvements that are, or will be, owned or maintained by the Town of Rocky Hill.

1.3 REFERENCE

Current versions of the following publications are hereby referenced:

- “Code of the Town of Rocky Hill”, as amended
- Town of Rocky Hill “Subdivision Regulations”, as amended
- Town of Rocky Hill Zoning Regulations”, as amended
- Town of Rocky Hill Inland Wetlands and Watercourses Regulations”, as amended
- State of Connecticut Department of Transportation “Standard Specifications for Roads, Bridges, and Incidental Construction, as amended (State Standard Specifications)
- State of Connecticut Department of Transportation “Highway Design Manual”, as amended
- State of Connecticut Department of Transportation “Drainage Manual” as amended
- U.S. Department of Transportation Federal Highway Administration “Manual of Uniform Traffic Control Devices for Streets and Highways” (MUTCD), as amended
- Connecticut Association of Land Surveyors “Minimum Standards for Surveys and Maps in the State of Connecticut”, as amended
- Connecticut Department of Environmental Protection “2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control (DEP Bulletin 34)”, as amended
- Connecticut Department of Environmental Protection “2004 Connecticut Stormwater Quality Manual”, as amended.
- American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets, as amended

1.4 DEFINITIONS

BOND, A three-party contract, Surety Bond, by which one party (the surety) guarantees the performance or obligations of a second party (the contractor) to a third party (Town).

CLEAR ZONE, The unobstructed, traversable area provided beyond the edge of the through traveled way for the recovery of errant vehicles. The clear zone includes shoulders, bike lanes, and auxiliary lanes, except those auxiliary lanes that function like through lanes.

CODE OF ORDINANCES, Town of Rocky Hill Code of Ordinances

CONTRACTOR, Person, firm, utility, or corporation performing work within the Town Right of Way

DESIGN ENGINEER, A CT licensed professional engineer representing the Developer or Contractor who is responsible for the design of the proposed improvements.

DEVELOPER, The legal or beneficial owner or owners of land included in a development, including the holder of an option or contract to purchase, or other enforceable proprietary interests in such land. Developer shall include agents, successors, and assigns.

DEVELOPMENT, Any construction or grading activities or removal of vegetation to improved or unimproved real estate

DIRECTOR, The Director who leads the Engineering and Highway Department of the Town of Rocky Hill or an authorized representative. (Director of Community Development or Director of Public Works)

EASEMENT, A non-possessing interest held by one party in land of another, whereby the first party is accorded partial use of such land for a specific purpose.

INSPECTOR, The authorized representative of the Town Engineer or Town who is assigned to inspect the work.

RIGHT-OF-WAY, The area of property between opposing street lines that is owned and maintained by the Town, or any public right-of-way as shown on a map of an approved subdivision, whether or not the streets within such subdivision have yet been accepted by the Town.

RECORD (ASBUILT) DRAWING, A plan prepared and certified by a CT Licensed Land Surveyor confirming the as-built locations and elevations of features installed as part of an approved site plan or subdivision plan.

STATUTE, A law or laws enacted by the Connecticut General Assembly, as amended to date.

STREET, Any street, avenue, boulevard, road, land, alley, or other way, open or proposed to be open to public vehicular traffic and owned and/or maintained, or proposed to be owned and/or maintained, by the Town.

SURETY, A corporate bonding company licensed to do business in the State of Connecticut

STREET LINE, The property line between the public right-of-way and a private lot.

TOWN - The Town of Rocky Hill, Connecticut.

TOWN ENGINEER, The Town Engineer of the Town of Rocky Hill or an authorized representative.

ROADWAY ZONE OF INFLUENCE, the area between slope limits using the typical roadway section with 2:1 side slopes.

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SECTION 2 - ADMINISTRATIVE PROCEDURES

2.1 CONSULTATION WITH TOWN STAFF

Consultation with Town Staff is recommended before any detailed plans are developed to avoid costly design changes. Town staff may be aware of other public or private development projects that could have an effect on the proposed project. They may also be able to suggest alternative methods or designs that have proven successful within the Town in the past, which are more likely to be accepted. In addition, submission of plans to the Town for review is likely to proceed more efficiently when Town staff has already had the opportunity to discuss the project with the Developer and consider the project implications.

2.2 APPLICATIONS BEFORE TOWN REGULATORY AGENCIES

The site development plans are reviewed by the Engineering Department and Community Development Department as part of the submission of an application to the Town Planning and Zoning Commission or Open Space and Conservation Commission. These may include an "Inland Wetlands Permit", a "Subdivision Application", a "Special Permit", or any other site plan or special exception administered through the Town of Rocky Hill. In addition, individual plot plans are required for all proposed principal buildings to be built within the Town.

For specific requirements for subdivisions, inland wetlands, and other proposals, see The Town of Rocky Hill "Subdivision Regulations", Zoning Regulations" "Inland Wetlands and Watercourses Regulations" and details shown in Appendix C

All plans shall be prepared, sealed, and signed by the appropriate Connecticut-licensed professional (engineer, land surveyor, soil scientist). Projects involving roadway or drainage installations shall include a plan and profile of the full length of the proposed improvements. Site development plans and individual plot plans shall be drawn to a scale of 1"= 20' or 1"= 40', on paper size 24" x 36".

2.3 APPLICATIONS TO OTHER REGULATORY AGENCIES

It is the developer's responsibility to receive approval from other federal or state agencies as required, and to provide the Town with copies of such approvals.

2.4 UTILITY LINE ASSIGNMENT REQUESTS

Any utility company proposing a significant installation, extension, or upgrade of their facilities extending over more than 200 feet of existing or proposed Town of Rocky Hill Right-of-Way is required to submit plans to the Town Engineer for review and approval, prior to requesting a Right-of-Way permit for the work. If all of the proposed work is overhead (i.e. on existing poles) or within existing conduit, then a Utility Line Assignment is not required, however the Contractor is still responsible for taking out a "Right-of-Way Permit" for the work.

2.5 PRE-CONSTRUCTION MEETING

A pre-construction meeting shall be held between the Town Engineer and/or the Director and Contractor(s) prior to the start of any construction. The Contractor shall be responsible for obtaining all permits from the Rocky Hill Engineering Department for work within Town owned rights-of way, easements, or other land. The Contractor or Sub-contractors performing work within Town owned rights-of-way, easements, or other land shall be properly bonded and insured to the satisfaction of the Town Engineer and/or the Director.

2.6 INSPECTION

Construction of improvements shall be subject to the inspection and approval of the Town Engineer and/or the Director. Additional design by the Design Engineer, testing to verify material specifications, and quality of construction shall be required in accordance with the specifications of this Public Works Manual and related documents. The Developer shall be responsible for the maintenance of all improvements until accepted by the Town in accordance with the Subdivision Regulations and/or Zoning Regulations.

2.7 BONDS, INSURANCE AND LEGAL DOCUMENTS

When a Developer receives approval from the Town Engineer and/or Director, Town Regulatory Agencies, Federal and State Regulatory Agencies, and a favorable vote from the Town Council as necessary, bonds, insurance, and legal documents will be required to be submitted, prior to any construction. Submissions of bonds and insurance for construction, and deeds for all rights-of-way, easements, open space, and other land to be conveyed to, or maintained by the town, must be accepted/approved by the town, prior to any construction

SECTION 3 – STREET DESIGN

3.1 ROADWAY DESIGN

Roadway design shall be based on road classifications and in conformance with the typical roadway cross section and to the design criteria herein. The various highways, streets, and roadways in the Town of Rocky Hill are classified as Arterial Roadway, Major Roadway - Collector, Divided Boulevard Roadway, and Minor Roadway Residential. A list of existing road classifications is located in Appendix A. In addition to the design criteria set forth in this Public Works Manual, all designs shall meet the minimum criteria of the latest revisions of "A Policy on Geometric Design of Highways and Streets" as published by the American Association of State Highway and Transportation Officials, the State of Connecticut, Department of Transportations "Highway Design Manual", and the "Standard Specifications for Roads, Bridges and Incidental Construction" as amended.

3.2 DESIGN CRITERIA

The following minimum design criteria shall be used (See details Appendix C):

	Design Speed	Pass Site Distance	Stop Site Distance	Max Grade	Min Grade	Max Grade at Int	Min C.L. Rad
Arterial	45 mph	1500 ft	360 ft	6%	1.00%	3.0%	1500 ft
Collector	40 mph	1200 ft	305 ft	8%	1.00%	3.0%	1000 ft
Divided Boulevard	40 mph	1200 ft	305 ft	8%	1.00%	3.0%	1000 ft
Local Road	30 mph	1000 ft	200 ft	8%	1.00%	3.0%	200 ft

TABLE 3-1

3.3 HORIZONTAL ALIGNMENT

All horizontal alignment shall meet the criteria in Table 3-1. In addition, compound and spiral curves shall not be used on new streets. For local roads, a curvilinear horizontal alignment shall be used to discourage high speed by including minimum horizontal radii and other traffic calming features.

3.4 VERTICAL ALIGNMENT

All changes in grade shall be connected by vertical curves and must also be large enough to satisfy AASHTO sight distance requirements. Vertical curves shall be parabolic in shape, with symmetric curves being preferred.

3.5 STOPPING SIGHT DISTANCE (SSD)

Stopping sight distance (SSD) is the length of roadway ahead that is visible to the driver. Minimum SSD shall be provided, and shall be sufficient to enable a vehicle traveling at the design speed to stop before reaching a stationary object in its path. The SSD is measured from a height of eye of 3.5 feet to an object height of 2.0 feet. Adjustments to the minimum SSD for grades over 3 percent are required in accordance with Chapter 7 of the CONNDOT Highway Design Manual, latest edition.

3.6 INTERSECTIONS

3.6.1 MINIMUM INTERSECTION SIGHT DISTANCE (ISD): shall be provided according to AASHTO using gap acceptance methodology. A passenger car design vehicle shall be used for determining required ISD for new local residential roads. Design vehicles for other roadway classifications or for industrial or commercial facilities shall be selected based on the composition of traffic to the site.

For the purposes of measuring sight distance, the driver's eye will be located 15 feet from the curb line of the crossing street. This distance may be alternatively measured from the travel-way of the crossing street where restrictions limit the offset. The height of the driver's eye shall be 3.5 feet and the viewed height of object shall also be 3.5 feet.

3.6.2 STREET INTERSECTIONS: Except where impracticable, all streets shall join each other so that distance of at least 100 feet the street is approximately at right angles to the street it joins and in no case shall such angle of intersection be less than 60 degrees.

3.6.2 INTERSECTION WITH MAJOR ROADS: Minor or secondary street openings into a major road shall, in general, be at least 500 feet apart unless waived by the Planning & Zoning Commission.

3.6.3 VISIBILITY AT STREET INTERSECTIONS: For a distance of twenty-five feet (per Zoning Regs. 7.1) from the point of two intersecting property lines nearest to the street intersection all planting and screening shall be so designed and maintained as to assure adequate visibility for approaching pedestrians and vehicular traffic.

3.6.4 STEEP GRADES AND CURVES: A combination of steep grades and curves shall be avoided. Where the grade of a street intersecting another exceeds three (3) per cent, the land on each corner of such intersection shall be so graded as to prevent a blind corner, and sufficient land shall be included in the street right-of-way at the intersection to permit permanent maintenance of visibility for safety of traffic.

3.7 CUL-DE-SACS

Cul-de-sac streets shall not exceed 1200 feet in length (measured from the edge of connecting street to center of cul-de-sac) and shall terminate in a circular turnaround having a minimum 50' paved radius. A cul-de-sac, where appropriate, is to be proposed as temporary if the adjacent property is not developed and is suitable for development. When a temporary cul-de-sac is proposed provisions are to be made in the turn-around for continuing the street and for the reversion of any resulting excess right-of-way to the abutting property owners.

3.8 PAVEMENT CROSS SECTION

The following minimum design criteria shall be used:

	Arterial Road	Collector Road	Divided Boulevard	Local Road
Wearing Course	2" Superpave, 0.5" HMA	2" Superpave, 0.375" HMA	2" Superpave, 0.375" HMA	2" Superpave, 0.375" HMA
Binder Course	3" Superpave 0.5" HMA	3" Superpave 0.5" HMA	2" Superpave 0.5" HMA	2" Superpave 0.5" HMA
Base Course	20" Processed Aggregate	16" Processed Aggregate	16" Processed Aggregate	14" Processed Aggregate

3.9 SUBSURFACE DRAINAGE

The design of subsurface drainage shall provide for the installation of underdrains in all areas where wet conditions prevail or where directed by the Town Engineer.

3.10 CURBING

Curbs shall be installed on new roadways unless otherwise directed by the Town Engineer and/or the Director. Curbs shall be bituminous concrete lip curbing placed on the binder course so when the wearing course is placed a six (6) inch curb reveal remains. On radii at intersections and cul-de-sac returns, curbs shall be six (6) inch wide by twenty (20) inch deep vertical granite curb set in concrete.

3.9 SIDEWALKS

All sidewalks shall be concrete unless otherwise approved by the Town Engineer and/or the Director. Sidewalks shall be four (4) feet wide and have minimum thickness of five (5) inches thick. Sidewalks which cross driveways must be reinforced and be a minimum of eight (8) inches thick. The cross slope for a sidewalk is one quarter (1/4) inch per foot.

Sidewalks shall be installed so they parallel the road, 5' off the face of curb and 1' off the Street line. Where they terminate at pavement, there shall be an ADA handicap ramp with a detectable warning tile. All sidewalks shall be sealed with Saltguard® or equivalent.

3.10 DRIVEWAYS

Driveway openings shall be used strictly to provide access to adjoining property and not for the purpose of parking or servicing vehicles within the Town right-of-way. Driveways shall be constructed in accordance with standard details for driveway opening and standard specifications included in this manual.

3.10.1 All driveways shall be provided with paved aprons beginning at the street right of way line and ending at the gutter of street face or curb lines. Driveways within the limits of the Town right-of-way shall slope towards the gutter. The elevation of the driveway at the street line and in relation to the street shall be noted on the permit application.

3.10.2 "Ornamental" pavement such as concrete, granite, paving block, brick or others may be used for a driveway apron provided a waiver by the owner is signed and filed with the engineering department stating:

- The owner assumes all responsibility for the installation maintenance, damage and future repair to the "ornamental" apron.
- The owner, in writing, indemnifies and holds harmless the Town of Rocky Hill, its contractors, as well as utility companies, from all liability for any damage to the "ornamental" driveway apron, resulting from snow plowing and maintenance work performed in the right of way.

3.10.3 Drainage ditches or gutters shall not be altered or impeded in any way and where a driveway shall cross an open ditch, the applicant shall provide suitable drainage structures as determined by the Town Engineer and/or the Director or his designee.

3.10.4 When existing sidewalk or curbing has to be removed to construct a driveway, such curb or sidewalk shall be removed for its full depth and to formed joints. The breaking and removal of parts of sidewalk slabs or parts of curbing will not be permitted. Existing driveway openings

fronting the property and which will not be in use shall be reconstructed to normal sidewalk and curb cross section where such sidewalk and curb exists.

- 3.10.5 No more than one combination entrance and exit shall be permitted for any property with a frontage of one hundred (100) feet or less. Parcels having frontage more than hundred (100) feet may be permitted two entrances provided one third of the frontage remains between the two drives. Driveways shall not have a width greater than forty feet (40) (not including the returns).
- 3.10.6 The maximum grade for a driveway shall not exceed 13% unless the permittee signs a waiver holding the Town of Rocky Hill harmless.
- 3.10.7 Under unusual circumstances, as decided by the Town Engineer and/or the Director, the above regulations may be varied.

3.11 RETAINING WALLS

Retaining walls shall not be installed within the clear zone or otherwise included as part of a subdivision or other public improvement project unless approved by the Town Engineer. When approval to use a retaining wall has been granted, it shall be designed in accordance with Connecticut Department of Transportation standards. Form liners or other aesthetic treatments for cast-in-place concrete walls may be required depending upon the location. Retaining walls shall be designed by a Professional Engineer licensed in the State of Connecticut.

3.12 MAILBOX

Mailboxes shall be in conformance with US Postal Service guidelines for installing and placing a new mailbox at you home (www.usps.com/manage/mailboxes.htm). "Monument" mailboxes such as those constructed of block, brick, stone or other materials that could cause damage or a vehicle to stop suddenly are not permitted.

3.13 GUIDERAIL AND PROTECTIVE FENCING

- 3.13.1 Guiderail shall be installed at locations where the following two (2) conditions exist:
 - Side slopes are steeper than four feet horizontal to one foot vertical (4:1);
 - Height of the fill section embankment (measured from the edge of the travel way to the toe of slope) exceeds 4 feet for 2:1 slopes, 8 feet for 3:1 slopes

It shall also be installed at various other locations due to obstacles and/or other unforeseen conditions or at locations deemed necessary by the Engineer.

- 3.13.2 All guide rail shall be designed and installed in accordance with the latest Connecticut Department of Transportation standards. Easements may be required for the placement of the guide rail or its anchoring system. Guiderail installations shall be:
 - Metal Beam Rail Type RB-350 with weathering steel
 - Galvanized steel, improved aesthetics are not required, as a condition of approval from the Town Planning and Zoning Commission or as directed by the Town Engineer.
 - Merritt Parkway Guiderail as a condition of approval from the Town Planning and Zoning Commission or as directed by the Town Engineer.
- 3.13.3 Timber rail shall not be used as guide rail. Timber rail may be used elsewhere where it is not designed to protect vehicular traffic (i.e. as a landscape treatment, pedestrian rail, to prevent parking, etc.).

3.13.4 Protective fencing shall be installed at any vertical drop offs greater than four (4) feet, including the tops of headwalls, retaining walls, etc. Protective fencing may be required behind sidewalks where an adjacent fill slope exceeds three feet horizontal to one foot vertical (3:1) or at other locations where deemed necessary by the Town Engineer. Type fencing and material for protective fencing shall be approved by the Town Engineer.

3.14 LOCATION OF POLES AND GUYS

Whenever existing pole lines, guys, braces, or anchors are to be located or new poles, guys, braces, or anchors set, the proposed relocation shall be designated by stakes placed at the site. The location of all poles, guys, braces, or anchors, shall be approved by the Town Engineer and/or the Director.

Basketball hoops permanently installed are not permitted within the Town right of way.

3.15 STORMWATER MANAGEMENT

3.15.1 General

Stormwater management is required to minimize the negative environmental impacts of development and to conserve the Town of Rocky Hill's natural resources. The design of the stormwater management systems shall apply sound engineering practices and judgment and be prepared by a licensed engineer in the State of Connecticut. The design shall satisfy all Federal, State, and local regulations and consider the following:

- Low Impact Development
- Connecticut Stormwater Quality Manual (2004) or as amended
- Town of Rocky Hill Stormwater Management Plan, 2017, as amended
- Connecticut DOT Drainage Manual, as amended
- Preserving existing natural drainage patterns
- Reducing the rate of run-off from newly developed land to minimize increases in flooding;
- Emphasizing non-structural approaches to controlling run-off whenever possible;
- Assuring the adequacy of existing and proposed culverts, detention basins, bridges, channels, dams, and other drainage systems;
- Increasing water recharge into the ground using infiltration whenever possible;
- Reducing the soil erosion potential from development or construction projects;
- Decreasing non-point source pollution and water quality degradation;
- Preventing pollution of underground sources of drinking water (aquifers);
- Maintaining stream channels for their biological, recreational, functional and aesthetic benefits;
- Preserving open space and naturally vegetated riparian buffers through stream corridor and floodplain protection.
- Watershed and Diversion of Water: Care must be exercised in the design of all drainage facilities not to divert water from one watershed to another.
- Off-site drainage and the ultimate development of adjoining land
- No roof drainage or drainage from cellars shall empty or discharge onto Roadways or Town drainage systems.

3.15.2 Components of Stormwater Management

Each of the following basic components of stormwater management must be investigated and analyzed:

- Off-site analysis

- Peak discharge control
- Conveyance systems
- Stormwater quality
- Erosion and sedimentation control
- Maintenance and operations plan and schedule

3.15.3 Peak Discharge Attenuation

The discharge of stormwater runoff from the proposed developed site must not cause adverse downstream conditions. A complete hydraulic analysis shall be performed to compare the pre and post-developed peak rate of discharge for 2-year, 10-year, 25-year and 100-year storm events considered individually. If the post-developed peak rate of discharge for either of these storm events exceeds the pre-developed peak rate of discharge, then the Developer must attenuate the peak flows so as not to exceed the pre-developed rate of discharge.

Peak discharge attenuation may not be required for certain areas in the lower reaches of a watershed if it can be shown that site discharge flows directly to a watercourse such that the peak flow from the site occurs before the peak flow of the watercourse and attenuation would be problematic.

3.15.4 Hydrology Methods

The Design Engineer shall analyze the peak rates of discharge for the site for both pre and post-developed conditions using the following design procedures:

- The Rational Method ($Q=CIA$) shall be used to determine peak rates of runoff from simple watersheds with less than 10 acres and no significant surface impoundments (ponds, detention basins, etc.). The Rational Method shall not be used when designing peak flow attenuation(detention) systems.
- For watersheds greater than 10 acres in area or for any watersheds with existing or proposed detention, one of the following methods shall be used:
 - Natural Resources Conservation Service (NRCS) hydrology method TR-55
 - Natural Resources Conservation Service (NRCS) hydrology method TR-20
 - U.S. Army Corps of Engineers Method HEC-1
- Runoff to be computed using NOAA Atlas 14 Point Precipitation Frequency Estimate.

3.15.5 Design Storm Selection

- All Drainage Systems - twenty-five (25) year storm
- Major ditches and channels - fifty (50) year storm
- Detention / retention facilities - one hundred (100) year storm
- Infiltration facilities - twenty-five (25) year storm
- Culverts - fifty (50) year storm; and CT DOT Drainage Manual Table 8-4

3.15.6 Conveyance Systems

Subsurface storm sewer systems designs should be the product of sound engineering practices and judgment. Conveyance systems shall be designed with a minimum capacity to handle the design storm in accordance with Section 3.14.5 and shall include an evaluation of the hydraulic grade line for all enclosed systems. A complete "Gutter Flow Analysis" shall be performed to determine the proper spacing of catch basins and the need for single or double grate catch basins.

3.15.6 a Storm Sewer

- Minimum diameter of fifteen inches (15")
- Minimum slope of one-half percent (0.5%).
- Minimum velocity = 2 ft/sec, maximum velocity = 12 ft/sec.
- Pipes:
 - Class IV reinforced concrete pipe (RCP) with a minimum two feet (2') of cover pipe
 - Class V RCP with a minimum one foot (1') of cover.
 - High Density Polyethylene Pipe (HDPE)
 - The installation of any other substitute type of pipe requires approval by the Town Engineer.

3.15.6 b Catch Basins

- The first catch basin in a storm drainage system shall generally be located within two hundred fifty feet (250') of the roadway summit.
- The distance between catch basins shall not exceed 350 feet unless approved by the Town Engineer.
- A catch basin or manhole shall be placed at each grade change, horizontal direction change, and at the junction of two or more storm sewers.
- Catch basins at intersections shall be located upstream of sidewalk ramps whenever possible.
- Catch basins shall be five (5') feet away from a driveway. Catch basins are not permitted within a driveway.
- Double grate catch basins shall be used in sags and depressed areas when warranted by the gutter flow analysis.
- All catch basins shall have a four (4') sump to trap sediment.
- A hood shall be placed on the last catch basins on line.
- All catch basin grates shall be bicycle type and galvanized.

3.15.6 c Culverts and Bridges

- The hydraulic analysis and design of culverts shall consider the orifice flow conditions at the inlet, the capacity of the pipe and the effect of the depth of water at the outlet.
- All culverts and bridges shall be designed in accordance with the methods and procedures defined in the DOT Drainage Manual.

3.15.6 d Open Channels

- The use of open channels within the right-of-way to carry roadway storm water is only permitted with approval from the Town Engineer.
- When required to accommodate an existing roadside channel or watercourse, the design of a channel shall consist of computing a cross section, grade, and permanent lining that will accommodate the design discharge under the controlling conditions with a minimum 1 foot of freeboard.

3.15.7 **Outlet Protection**

Design of outlet protection shall consist of level spreaders, riprap aprons or scour holes.

3.15.8 **Stormwater Detention Facilities**

Stormwater detention facilities may be used as a means to attenuate peak flows. Detention facilities may include, but are not limited to, detention basins, ponds, subsurface infiltrators or a

combination thereof. Detention facilities shall be designed to temporarily store runoff using controls at the outlet structure designed to release the runoff at rates at or below pre-developed conditions.

Outlet structures shall be multi-staged and designed to attenuate the 2-year, 10-year, 25-year and 100-year storm events. All detention facilities shall be analyzed with hydrograph and storage routine techniques.

3.15.9 Stormwater Quality

All site development plans shall include provisions for the treatment of surface run-off in order to minimize the sources and transport of pollutants into wetlands and watercourses following construction. These requirements are an important part of the Town’s strategy to comply with federal, state and local regulations, including The Federal Clean Water Act, National Pollutant Discharge Elimination System (NPDES) Permit Phase II requirements.

The recommendations of the Connecticut Stormwater Quality Manual published by the Connecticut Department of Environmental Protection and Town of Rocky Hill Stormwater Management Plan shall be incorporated into all site development projects, as directed by the Town Engineer.

3.15.10 Erosion and Sediment Control

During construction, soil erosion and sediment control procedures shall be according to the “Connecticut Guidelines for Soil Erosion and Sediment Control”, published by the Connecticut Department of Environmental Protection.

Anti-tracking pads shall be installed at all construction entrances, and shall be maintained as required to prevent tracking of material onto public roadways for the duration of construction and as directed by the Town Zoning Officer.

3.15.11 Maintenance and Operation of Detention Facilities

The plan shall show an operation and maintenance schedule for all detention facilities. It shall identify, at a minimum, items of routine maintenance, frequency of routine maintenance, responsible party for routine maintenance and emergency operations in the event of a flood. When a private stormwater detention facility is proposed, operation and maintenance responsibilities of the property owner shall be clearly stated on the plans.

3.15.12 Drainage Easements

An easement required for the drainage of storm water shall be not less than 20 feet wide. Where land is held in joint ownership on both sides of the proposed easement the location of a pipe at any point shall be not less than 5 feet nor more than 15 feet respectively from the boundary of such easement. If land is not held in joint ownership on both sides of the proposed easement the location of a pipe at any point shall be along the center line of such easement.

3.15.13 Private Drains Connected to the Town System

Homeowners are encouraged to connect the private drainage to the Town system rather than discharge it onto the roadway. The Town Engineer must approve the size and locations of all private storm drains that connect to the Town system. Connection of private systems must be made at a catch basin or manhole structure. Tee connections directly to a town storm drain pipe are prohibited. The property owner must also file a waiver with the Town, which shall relieve the Town Rocky Hill of any responsibility in the event of any failure of the storm drainage system. The homeowner’s contractor must obtain a Street Excavation permit from the Engineering

Department. A final as-built plans is required and must show rear yard drains, cellar, or foundation drains connected to the storm drainage system.

3.15.14 **Stormwater Management Reports**

A Stormwater Management Report shall be submitted detailing the proposed drainage system design and analysis. All Stormwater Management Reports must be signed and sealed by a Professional Engineer licensed in the State of Connecticut. The report shall include but not be limited to the following:

- A narrative summarizing the proposed project, design methods used, and a table comparing post-development peak flows with pre-development peak flows.
- A Drainage Area Map with topographical contours showing upstream contributing drainage areas and labeled to coincide with the drainage computations.
- Inland Wetland boundaries and Floodplain and/or floodway, with flood elevation, if applicable.
- An inventory and evaluation of on-site hydraulic structures and watercourses
- Identification of drainage structures and watercourses that are inadequate under existing or reasonably anticipated future conditions.
- Supporting calculations (including times of concentration and runoff coefficients) for all proposed drainage facilities, including but not limited to: piping, structures, riprap, swales, detention basins, drywells, etc. (pre and post developments calculations to be included).
- Ponding calculations at all low points.

The need for a Stormwater Management Report may be waived at the discretion of the Town Engineer.

3.16 **LAWN IRRIGATION**

The Town of Rocky Hill as a general practice **does not allow** lawn irrigation within the Town street right of way or easement as this area is reserved for sidewalks, signs and utilities. The Town also understands the need of the resident to maintain their lawn and to conserve water by not spraying the road. Therefore, the resident must sign a waiver which holds the Town harmless should the lines be damaged when future work may be performed within the right of way.

3.17 **PAVEMENT MARKINGS AND SIGNS**

Pavement markings shall be water based painted markings in accordance with the Manual for Uniform Traffic Control Devices (MUTCD) and as shown in this manual.

Traffic Signs shall be in accordance with MUTCD

3.18 **STREET LIGHTS**

Lighting shall be designed and installed to the satisfaction of the Town. In general, the Town utilized half (1/2) code or one street light every other property line.

All lighting shall be Full-Cutoff LED as defined by the Illuminating Engineering Society of North America

All wiring for street lighting shall be underground, with conduit, and configured in accordance with all applicable codes and standards. Identification ribbon shall be placed to delineate all sub-surface conduit

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SECTION 4 - PERMITS

4.1 PURPOSE OF PERMITS

The Public Rights of Ways have been established and are maintained primarily for the purpose of safely moving vehicles and pedestrians. It is also desirable to allow individuals and utility companies to use public rights-of-way for purposes other than transportation. To prevent recurring, dangerous and annoying interruptions to traffic and pedestrians and to avoid interference with future road construction and avoid future failure of highways due to inadequate pavement restoration, and provide a uniform standard of construction and construction methods, it is necessary that strict control be maintained and standard procedures be followed for excavation, construction, and maintenance on Public Rights of Ways.

4.2 LEGAL REQUIREMENTS

In accordance with Code of the Town of Rocky Hill Chapter 212 – Streets and Sidewalks, governing operations within public rights-of-way, the following types of operations, but not limited thereto, shall require a written application for a permit to the Town Engineer and/or the Director or his agent before any work is performed.

4.2.1 Planning and Zoning Approved Plans

Proposed improvements to Town roadways associated with a subdivision, site plan or special use permit require permit from the Engineering Department

Sidewalk construction associated with approved plan within existing right of way

4.2.2 Utilities

To construct, repair, install and maintain sewers, drains, gas mains, communications and electrical conduits and service connections thereto.

To erect and maintain poles, wire, guys, gables, and other overhead structures.

To install manholes, inlets, catch basins, fire hydrants, sidewalks, curbs, steps, retaining walls or fences, and water mains.

The temporary storage of equipment or construction materials.

4.2.3 Driveways and other improvements

Installation of new driveways or curb cuts, driveway replacement, pavement extensions and pavement aprons (waiver may be required). Driveway sealing by the homeowner does not require a permit.

Lawn irrigation, ornamental mailboxes and other structures within the right of way. (Waiver required)

Any other operations which may cause abnormal wear to, or deface or damage existing structures, pavement curbs, or sidewalks or landscaping.

The issuance of a permit to an applicant to perform any of the above operations does not relieve the applicant in any way from complying with rules, regulations, laws and acts of other State or local agencies or departments.

4.3 APPLICATION FOR PERMIT

An application for permit shall be filed with the Town before any preliminary investigation will be made. Standard application forms for permits may be obtained at the Engineering office at the Town Hall or the

Towns website. Each application shall be completely filled in, signed, and mailed or delivered to the Town Engineer and/or the Director office.

An explanation of the application sketches shall be made either in the space provided on the application or separate sheet, and shall be attached to the application. Diagrams or sketches shall show the location of the work to be done in relation to outstanding features of the road, such as property lines, intersections, pavement lines, sidewalks, trees, drainage structures, location, depth, and name of utilities, and utility poles by number and the character and extent of the work. The applicant will be required to disclose the methods and materials proposed to be used on unusual or complex projects. In the event the permittee discovers additional work or repairs, not included in the original permit, which must be done in the same location, the permittee shall make application to the Town for a permit to authorize the additional work.

A separate permit shall be required for each new excavation. A blanket permit may, at the discretion of the Town Engineer and/or the Director, be issued for permanent restoration work of existing excavation performed by utility companies.

4.4 MARKING OF UNDERGROUND FACILITIES

Prior to application to the Town, the applicant must conform to Chapter 293, Section 16-345 of the State of Connecticut General Statutes. The contractor is responsible for notifying "Call Before You Dig" and obtaining a work order number which shall be recorded on the Application for Permit. Contact may be made by phone at 811 or their website CBYD.com

4.5 PERMIT FEE

There will be a fee of \$50 or as amended by the Town Council for each permit issued.

4.6 PLANS AND SPECIFICATIONS

When an application for permit is made and involves work of major scope, complete plans and specifications must be submitted with the application. They should be detailed so the exact location of the various parts of the work, the risk or injury to road users, and the probability of damage to trees, highway structures and private property can be ascertained.

4.7 REJECTION OF APPLICATIONS

When it appears the work called for in an application would cause substantial or needless damage to a highway or landscape, or create excessive disturbances to traffic or exceptionally dangerous conditions not commensurate with the benefits to the applicant, the request for permit will be denied. The applicant will be informed of such rejection by letter, which will state the reasons for rejection. The Town Engineer and/or the Director or his agent, at his discretion, may refuse to issue a permit to any person, company, or utility when, in his opinion, the work previously performed under a permit issued to the applicant was not properly executed or the applicant has failed to reimburse the Town for recoverable charges billed under the terms of a prior permit.

4.8 BOND REQUIREMENTS

Prior to the issuance of a permit, the permittee must deposit with the Town a Bond in the amount of \$10,000. All bonds are to be in place for a period of two (2) years, to be renewed by continuation certificate at ONE (1) year intervals at the option of the Surety. Acceptable forms of bond include individual surety bond, blanket surety bond or cash. Bonds must be signed, sealed and dated by person named on power of attorney and by the contractor.

4.9 INSURANCE REQUIREMENTS

An applicant for a permit to work within a public right-of-way, or lands, shall furnish the Town, prior to the issuance of the permit, Certificates of Insurance, including automobile, property damage liability, bodily injury liability, and workmen’s compensation insurance in the following amounts:

4.9.1 Commercial General Liability Insurance

Broad form commercial general liability coverage naming the Town as additional insured, written on a “per occurrence” basis with an aggregate cap no less than 3 times the require limit:

- \$1,000,000 each occurrence bodily injury to or death of all persons
- \$1,000,000 property damage covering premises and operations liability
- \$1,000,000 personal and advertising injury each occurrence
- \$1,000,000 bodily injury/property damage aggregate limit
- \$1,000,000 completed operations and products liability

4.9.2 Commercial Automobile Insurance

Commercial Automobile Insurance, which shall cover the operation of all motor vehicles, owned by the Contractor. Such insurance shall also cover the hired and non-owned autos of the Contractor and the amounts of such insurance shall be in the following minimum limits:

- \$1,000,000 each accident bodily injury to or death of all persons
- \$1,000,000 property damage each accident
- \$1,000,000 hired and non-owned autos
- \$1,000,000 bodily injury/property damage aggregate limit

4.9.3 Worker’s Compensation and Employer’s Liability Insurance

Contractor shall carry workmen’s compensation insurance in accordance with the requirements of the laws of the State of Connecticut.

4.10 ISSUANCE OF PERMIT

Upon receipt of a completed application, Bond and Insurance and fee, the application will be reviewed by the Town Engineer and/or the Director or his agent. If acceptable, the permit shall be signed, dated and special concerns noted by the Town Engineer and/or the Director or his agent and a copy returned to the applicant. The applicant (now permittee) shall not commence work until the above-mentioned steps have been followed and inspection scheduled.

4.11 PERMIT - OFFICE AND FIELD PROCEDURE

- Permit issued
- Permittee must schedule an inspection of the work with the Engineering Department at least 24 hours prior to construction is to begin.
- Permittee schedule traffic control per section 4.22
- Town Inspector records begin and ended date, unusual conditions encountered, type of repair and permanent repair date (if required).
- In the event permanent repair is required, the Engineering Department shall notify the permittee that permanent repairs are to be made.
- Generally, a two-week period will be allowed from date of letter.
- The permittee must schedule an inspection for the permanent repair with the Engineering Department at least 24 prior to the start of construction.

- The Town Engineer and/or the Director will note on his copy the date of permanent repair and return to Engineering Department. This will be the date of Final Inspection.
- The applicant assumes all liability for any damage or faulty construction which may occur and warranty the work for a period of 2 years from date of Final Inspection.
- At the end of the 2-year warranty period, the permittee's Surety may request the bond released. The Town will inspect the work and render a decision if it is acceptable and notify the Surety the bond may be released.

4.12 CONDITIONS OF PERMIT

The conditions of this permit are that every person acting under the same shall at all time, and in every respect, carefully and truly observe the ordinance, rules, regulations, and specifications governing the work herein contemplated. It may be revoked at any time for breach of its conditions.

The permit shall be kept at the worksite by the permittee, and shall be shown upon the request of any authorized person.

- Notice shall be given at the Engineering Department at least 24 hours before work begins.
- The permittee hereby agrees to become responsible to the Municipality for any and all damages that may result to said Municipality to any person or property in said Municipality, which said Municipality would be liable by reason for the construction of such work.
- The placing of materials in the Highway shall be done in accordance, with Section 52-558 of the General Statutes of the State of Connecticut.
- The refilling of all trenches shall be in accordance with the procedures set forth in the manual, Section 6.2 and the applicant herein assumes all liability for any damage or faulty construction which may occur in connection with the work herein stated, within a period of two (2) years from date of the completion of the work completed.
- The permittee agrees to abide by and perform all work in accordance with "Standards, Specifications and Procedures for the Installation of Utility System within Municipalities Belonging to the Metropolitan District Commission and any requirements made by the Municipality there under."

4.13 EMERGENCY PERMITS

When permission has been granted orally by the Town for the performance of emergency work, such as the repair of broken gas or water mains, the person or company of concern must file a written application for a permit on the first working day following oral approval in the manner prescribed for non-emergency work. Thereupon, a written permit will be sent in confirmation of the oral permission as a permanent record of the transaction. Persons performing emergency work must have a Certificates of Insurance on file with the Town prior to performing any work within highway limits.

4.14 PERMIT DISPLAY

A copy of the permit shall be available on the job site at all times for inspections by the Town Engineer and/or the Director or his agent, Police and highway personnel. To be valid, the permit must show effective and expiration dates and must be signed by the Town Engineer and/or the Director or his agent.

4.15 REVOKING PERMITS

Any permit issued by the Town is revocable immediately upon written notification to the permittee.

4.17 TOWN TO BE FREE FROM CLAIMS

The applicant must agree, as a condition governing the issuance of a permit, to hold harmless the Town of Rocky Hill, the Town Manager, and his agents and employees from any and all claims and actions whatsoever arising from the exercises of said permit.

4.18 RESPONSIBILITY FOR BOUNDARY LINES

Permit applicants shall retain their own land surveyors to establish the line or otherwise inform themselves of the demarcation between public lands and private holdings. If a boundary marker is disturbed, it is the responsibility of the permittee’s surveyor to restore the marker to the proper location.

4.19 FINAL INSPECTION AND ACCEPTANCE OF WORK

Final inspection of work performed under the permit will be made by the Town Engineer and/or the Director or his representative. The purpose of this inspection is to determine if the work has been performed in accordance with the permit terms and in a manner satisfactory to the Town. In any case, before the work will be accepted and the bond released, all improvements must be placed in as good condition as, or better than, before the work was started.

4.22 MAINTENANCE AND PROTECTIN OF TRAFFIC

It shall be the duty of the permittee to keep the roadway open to traffic during construction for the full length of the project and shall provide sufficient personnel and construction signage. At least one travel lane and pedestrian walkways shall be kept open, drained, and kept reasonably smooth and in suitable condition at all times in order to provide minimum interference to traffic. Suitable ingress and egress shall be provided at all times for all intersecting roads, businesses, and abutting properties.

Whenever an excavation shall take place on any major or minor arterial street and shall include one-third or more of the total width of the street, steel bridging of adequate strength may be required to maintain normal traffic flow, and shall be placed over the excavated trench, if the trench is to remain open overnight. If steel plate, material storage or any other hazard deemed by the Town Engineer and/or the Director or his representative remain by end of the workday, the site shall be adequately protected and marked at night by lights, flasher beacons or other warning devices approved.

4.22.1 Uniformed Flagger:

Uniformed Flaggers shall be persons who have successfully completed flagger training by the American Traffic Safety Services Association (ATSSA), National Safety Council (NSC), or other such training approved by the Engineer. A copy of the Flagger’s training certificate shall be provided to the engineer before the Flagger performs any Project work. The credentials and conduct of Uniformed Flaggers shall comply with the requirements of Chapter 6E, Flagger Control in the Manual of Uniformed Traffic Control Devices (MUTCD). Uniformed Flaggers shall wear high-visibility safety apparel and use a STOP/SLOW paddle that is at least 18 inches wide with letters at least 6 inches high. The paddle shall be mounted on a pole of sufficient length to be 6 feet above the ground as measured from the bottom of the sign. Uniformed Flaggers shall be used only on local roads for the purpose of controlling traffic operations.

4.22.2 Municipal Police Officers:

Authority: Per Sections 212-24 to 212-31, police officers are required when construction interferes with the normal or regular flow of traffic within the Town of Rocky Hill, or the flow of

vehicular or pedestrian traffic is impeded or displaced on high traffic roads or non-high traffic roads causing a traffic safety concern as determined by the Chief of Police or his designee.

Notice required: The Rocky Hill Police Department must be given 48 hours' notice before such scheduled work begins. Such notice must include details of the work to be done, the number of police officers required, estimated time table of the project, and the name, title and phone number of the contact person.

Responsibility for costs: The costs of the police officer required under this article shall at all times be borne by the entity or persons doing the work.

Cancellations: The Rocky Hill Police Department must be given 2 hours' notice before such work is scheduled to begin to cancel an officer. If the cancellation is not made within this time, the person who placed the request will be responsible for the cost of the officer for the minimum call out time.

High-traffic roads:

Bailey Road	Forest Street	Old Forge Road
Brook Street	France Street	Old Main Street
Capital Boulevard	Gilbert Avenue	Parsonage Street
Century Hills Drive	<i>Glastonbury Avenue*</i>	Pratt Street
Chapin Avenue	Grimes Road	<i>Silas Deane Highway*</i>
Charter Road	Hayes Road	Town Line Road
Cobey Road	Henkel Way	Trinity Ridge Road
Cold Spring Road	<i>Main Street *</i>	Valley View Road
<i>Cromwell Avenue*</i>	<i>Maple Street*</i>	Waters Avenue
Dividend Road	Marshall Road	<i>West Street*</i>
<i>Elm Street *</i>	<i>Meadow Road</i>	Westerly Terrace
Falcon Ridge	<i>New Britain Avenue*</i>	Woodfield Crossing
Fern Street	New Road	

** Italic indicates State Roads*

4.23 DETOURS

When, in the opinion of the Town Engineer and/or the Director, Town Legal Traffic Authority or Police Department, a town highway may be obstructed by the permit applicant's proposed operations to such an extent as to unduly restrict vehicular traffic or make hazardous its use, a parallel town road bypass may be designed. All expenses incurred by the permittee as a result of this bypass establishment, use and restoration of said detour shall be the entire responsibility of the permittee. The permittee shall notify the Police, Fire and Ambulance Divisions, Post Office, CT Transit and during the school year, the Board of Education, of the layout and expected time of the use of the detour. The permittee shall supply and maintain such signs at his expense as may be necessary to clearly outline the detour.

Preliminary to detouring of traffic over a road bypass, an inspection shall be made by the permittee and a representative of the Town to determine the adequacy of the signs and the structural condition of the

road involved. A second inspection shall be made by the same persons when the detour is terminated so that there will be an agreement as to the extent of repairs, if any, to be made by the permittee to restore the condition equal to those existing prior to the establishment of the detour.

4.24 PUBLIC SERVICE COMPANIES

As per “Resolution of Town Council”, April 1, 1974; the Street Permit Manual, was amended as follows:

4.24.1 Public Service Companies

Public service Companies under the jurisdiction of the Public Utilities Commission of the State of Connecticut pursuant to Title 16 of the General Statutes of the State of Connecticut Revision of 1958, as amended, and in compliance with the financial responsibility provision of Section 16-230 of the General Statutes, are exempt from the foregoing Sections 4.1 through 4.23 of Section 4 - Permits. Any such public service company desiring to open or make any excavation in a portion of any town highway for the carrying out of any purpose for which it may be organized other than the placing or replacing of a pole or of a curb box, shall notify the Town Engineer and/or the Director or his agent, in writing, at least three (3) days prior to the commencement of work, of the location and duration of such work before any work is performed. Notification shall not be required prior to emergency work, but the Town shall be advised as soon as is reasonably possible. This section applies both to company personnel and contractors employed by them.

4.25.2 The Metropolitan District

The Metropolitan District, but not contractors employed by them, is exempt from Sections 4.1 through 4.23 of Section 4 - Permits. Whenever the District desires to open or make any excavation in a portion of Town highway for any water or sewer work, they shall notify the Town Engineer and/or the Director, or his agent, in writing, at least three (3) days prior to the commencing of any work of the location and duration of work before any work is performed. Notification shall not be required prior to emergency work, but the Town shall be advised as soon as is reasonably possible. This section does not apply to contractors employed by the District.

4.25.3 Permit, Street Excavation

When any Public Service Company described in Section 4.24.1 – 4.24.2 wishes to excavate within the paved portion of a Town street, for purpose other than setting pole, or repairing or placing same, shall pay the established permit fee.

4.26 PENALTY

Failure of the permittee to comply with the above regulations will make him subject to the suspension of any further permits in the Town of Rocky Hill. If the completed work is unsatisfactory to the Town Engineer, the Permittee and bonding company shall be notified by registered mail, allowing him ten (10) days to correct such pavement cut. If the pavement cut is not repaired within the ten (10) days, the Town of Rocky Hill will make the necessary repairs utilizing the Permittees bond.

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SECTION 5 - MATERIALS

5.1 RELATED DOCUMENTS

Numerical references in this section refer to the Standard Specifications for Roads, Bridges, and Incidental Construction (State Standard Specifications). It is the responsibility of the Developer to verify references to the Standard Specifications to account for changes and supplements issued by the CTDOT.

Unless otherwise specified, all materials shall conform to State Standard Specifications.

If there is any conflict between the State Standard Specifications and this manual, the requirements of this manual shall prevail.

5.2 EARTH PRODUCTS

5.2.1 Granular Fill

Granular Fill shall conform to M.02.01

5.2.2 Bedding Material

Bedding material for use as bedding around drainage pipe shall conform to M.08.03.

5.2.3 Common Fill

Common Fill for use as general fill where no other material is called-for on the plans shall consist of earth materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GWGM, GP-GC, SW, SP, and SM that are free of clay. Common fill is subject to the approval of the Town Engineer and may be either material removed from on-site excavations or borrow pits or imported from off-site, approved sources. It shall have physical properties such that it can be readily spread and after it has been placed and properly compacted, it will form a dense, stable fill.

5.3 STONE PRODUCTS

5.3.1 Crushed Stone

Crushed Stone for use as bedding around pipe or under structures shall be ¾" traprock conforming to M.01.01, No. 6 stone. B.

5.3.2 Processed Aggregate

Processed Aggregate shall conform to M.05.01. Coarse aggregate shall be crushed traprock unless otherwise approved by the Town Engineer. If bank run gravel or reclaimed aggregate is requested for use as a coarse aggregate alternative, the Engineer shall provide pavement section design calculations to the Town Engineer for review and approval.

5.3.3 Riprap

Riprap used for slope stabilization or outlet protection shall conform to M.12.02. Appropriate size (modified, intermediate, standard, or special riprap) shall be determined by the Engineer.

5.4 BITUMINOUS CONCRETE

5.4.1 All Bituminous Concrete shall be from a DOT approved vendor. The materials for the bituminous concrete mixture, sources of supply, formula for mix, tack coat, joint seal, mix tolerances, approval of mix formula, and the control of the mixture shall conform to the requirements of Section M.04.

All vendors producing bituminous concrete must have their truck-weighting scales, storage scales, and mixing plant automated to provide a detailed ticket. Delivery tickets must include the minimum information:

- Name of producer, identification of plant, and specific storage bin (silo) if used.
- Date and time of day.
- Type of material (Class 3 mixture for machine-placed curbing must state "curb mix only")
- Net weight (mass) of material.

5.4.2 Bituminous Concrete for roadways and parking lots shall be Superpave, Level 2 of size specified and conform to M.04.02-2

5.4.3 Bituminous Concrete for curbing shall be "curb mix" conforming to M.04.02-1

5.5 CONCRETE

5.5.1 All Concrete shall be from a DOT approved vendor.

5.5.2 Portland Cement Concrete shall conform to M.03.02 Class PCC04462. Exposed concrete shall contain not more than 6% +/- 1.5% air content.

5.6 DRAINAGE STRUCTURES

Materials used for drainage structures shall conform to M.08

5.6.1 Precast components shall be used for storm and sanitary drainage structures and conform to M.08.02.4. All components shall have the manufactures name and date made stamped on the outside. Structures shall be at least 7 days old to ship.

5.6.2 All catch basin grates shall be galvanized bicycle type grates.

5.6.3 Brick and mortar used for the construction of catch basins and manhole shall conform to section M8.02

5.7 PIPE

Materials used for drainage structures shall conform to M.08

5.7.1 Reinforced Concrete Pipe (RCP)

RCP shall conform to M.08.01-7, Class IV. In special circumstances and/or in any instance where the cover over pipe is less than 2 feet within an area which carries traffic (road, parking lot, driveway) Class V RCP is required.

Pipe shall be at least 7 days old to ship

Gaskets shall be used to seal concrete pipe and shall meet M.08.15 -M08.17

5.7.2 Plastic Pipe

5.8.2.a High Density Polyethylene Pipe (HDPE)

HDPE pipe shall be allowed provided it meets M.08.01-18 and is on the DOT Qualified Products List. Pipe may be either smooth walled, perforated or corrugated.

5.8.2.b Polyvinyl Chloride (PVC) Pipe

PVC pipe may be allowed for drainage provided it meets M.08.01-20 and is on the DOT Qualified Products List.

Pipe 4-inch to 12-inch diameter shall meet ASTM D3034, SDR-35. Elastomeric gasket joints, retained gaskets, part of a complete pipe section and supplied as such. Pipe over 12" may not be used unless approved by the Town Engineer

Pipe shall be marked along the outside of the barrel with the following:

- The manufacturer's name or trademark.
- The standard to which it conforms/ASTM Designation.
- Pipe size.
- Material designation code/PVC cell classification.
- SDR number or schedule number.

5.7.3 Flared End Sections

Flared End Sections shall be RCP unless otherwise approved by the Town Engineer. Polyethylene flared end sections may be permitted at the discretion of the Town Engineer when properly anchored to a concrete footing.

5.8 GEOTEXTILES

Geotextiles: shall conform to M.08.01-19. Materials incidental to installation shall meet the manufacturers' specifications.

5.9 EROSION CONTROL

Erosion control systems shall meet the requirements of Section 2.19

5.9.1 Haybales shall be made of hay with a weight between 40-120 pounds and bound with twine or wire

5.9.2 Geotextiles (Silt fence) shall be in accordance with Section 7.55 and M.08.01-19

5.9.3 Erosion Control Matting shall be listed on the DOT Qualified Products List

5.10 PAVEMENT MARKING PAINT

Pavement marking paint shall be waterborne paint of the color specified with glass beads meeting M.07.20 and M.07.25

5.11 SIGNS AND POSTS

Sign and post materials shall meet all requirement of M.18.08 and the MUTCD.

5.11.1 Signs shall be sheet aluminum, alloy 6061 T6 or 5052 H38, with retroreflective sheeting of type and color specified.

5.11.2 Metal Sign Posts shall be U channel or square tubular galvanized metal post in accordance with M.18.14. All post shall be breakaway posts.

5.12 LOAM AND SEED

5.12.1 Topsoil (loam) shall meet M.13.01 and the USDA Classification based upon the proportion of sand, silt and clay sized particles after passing the No. 10 sieve. Topsoil shall contain 5% to 20% organic matter and have a pH range of 5.5 to 7.0. Soil with more than 80% sand, 30% clay or 60 % silt will be rejected.

5.12.2 Fertilizer shall meet M.13.13 and be a commercial grade, slow release 10-10-10 blend.

5.12.3 Seed shall be sourced locally within the Northeast US including New England, New York, Pennsylvania, New Jersey, Delaware or Maryland. The seed mixture shall be in harmony with the

surrounding lawns to the best extent possible. Under no circumstances shall annual rye grass be used. (see temporary seeding)

5.12.4 **Mulch** shall meet M.13.05

5.12.5 **Sod** shall be living sod, locally sourced from an area with similar soil conditions as the area to be planted and meet M.13.08. Sod shall contain a sufficient proportion of pasture grassed to ensure a good mat of roots and a reasonably dense turf.

5.12.6 **Planting Season**, Spring March 15 to June 30; Fall August 15 to October 1

SECTION 6 - CONSTRUCTION METHODS**6.1 GENERAL**

Unless otherwise specified, all construction techniques and materials shall conform to State Standard Specifications and this manual. If there is any conflict between the State Standard Specifications and The Rocky Hill Public Improvements Manual, The Rocky Hill Public Works Manual shall prevail.

6.1.2 Schedule and Permits

Prior to any roadway construction, the contractor shall submit a construction schedule to the Town Engineer for approval. The contractor shall have his bond, insurance, and a Call Before You Dig Number posted with the Town. Each phase of construction shall be inspected and approved by the Town Engineer or authorized representative prior to beginning the next phase of construction. The contractor shall notify the Town Engineer at least 24 hours prior to requiring an inspection.

6.1.3 Rights of Town of Rocky Hill

If deemed necessary due to field conditions, the Town Engineer reserves the right to require additional construction methods and/or materials as needed to ensure proper construction of the road. The Town of Rocky Hill reserves the right to revise the erosion control plan as conditions warrant. Additional erosion control measures may be required at the direction of the Town of Rocky Hill Zoning Enforcement Officer, or other Town staff. Construction of improvements shall be subject to the inspection and approval of the Town Engineer and/or the Director.

6.1.4 Quality of Construction, Materials and Workmanship

Construction repair and maintenance work done by a permittee shall be of the highest grade, and materials used shall be of the best quality for each class of work performed. All materials and work shall conform to the State Standard Specifications and this manual. The above-mentioned specifications, insofar as they apply to materials work done under permits, shall be considered the standards for materials and workmanship.

6.1.5 Drainage Systems to Be Kept Operable

The work performed under permit shall be planned and carried out so the roadway drainage systems are operable at all times. Any damage arising from the failure of the permittee to properly keep culverts, ditches, inlets, catch basins or any other drainage device from becoming obstructed must be corrected or repaired by such permittee and the bond shall be held by the Town until such damages are remedied.

6.1.6 Excavations

The size of the excavation shall be kept as small as practical to carry on the work. No material removed in excavating shall be placed in the traveled path unless approved by the Town Engineer, or his agent. In any case, the material shall be placed so as to interfere as little as possible with the ordinary use of the roadway.

6.1.7 Slides and Cave-Ins

If the pavement shoulder or sidewalk along the sides of trench or excavation becomes undermined due to slides and cave-ins of the sides of the excavations, the permittee or his contractor shall remove the pavement, sidewalk or other improvements over the cave in and shall take immediate remedial measures to prevent further deterioration of the highway or its appurtenances. The permittee is responsible for replacing the entire amount of the pavement, curbing or sidewalk destroyed by such slides and cave-ins.

6.1.8 Sheeting and Bracing

Whenever it is necessary to prevent damage to a highway or structure in the highway because of cave-ins or sliding of the sides of trenches, the permittee shall sheet and brace the trenches in a manner satisfactory to the Town Engineer. Town Engineer, or his agent, may direct that such sheeting and placing be left in place in order to protect the highway from damage due to settlement.

6.1.9 Blasting

When rock or other hard material must be removed by a permittee, he may blast such material if the pavement or other structures will not be endangered thereby. The permittee shall exercise extreme care in blasting operations in order to prevent injury to persons and property.

The contractor shall secure all necessary permits and observe all local ordinances and State Statutes relating to transportation, storage, and handling of explosives. When blasting is to take place near adjacent structures or services, the same shall be carefully protected against damage. The explosives must be of such number and size of charge and be so placed as not to cause an unduly large excavation or unnecessarily shatter rock adjacent to the excavation. All rock loosened in the slides of the excavation shall be completely removed by wedging, barring, or other approved means.

6.1.10 Jacking or Boring

Pipes and conduits shall generally be placed by the open cut method. In cases where the pavement is less than 5 years old, jacking or boring is preferred. No jetting or other use of water shall be allowed in connection with jacking or boring.

The permittee shall be responsible for careful investigation of the permit area to determine the location of all existing utility, municipal and private owned pipe or conduit lines. The permittee may be required to submit plan and profile showing all such lines and detailed plan showing method of operation.

6.1.11 Cleanup

During construction, the permittee, at least once daily, shall sweep clean all dirt, sand, and mud on the paved roadway. During construction, the permittee shall take such dust control measures as the Town deems advisable and as frequently as the Town deems advisable.

During construction, the permittee shall clean out the concrete wash-out areas as needed.

6.2 STREET EXCAVATIONS AND REPAIRS

The construction or repair activity within the any street shall be accomplished by open cut excavation, jacking, boring, tunneling or a combination of these methods, as approved in the Street Excavation Permit. The Town Engineer, or his/her agent, must approve any variation from the approved permit. Street repairs should leave a pavement in a condition at least as good as, if not better than, the condition prior to the repairs.

- Excavation and backfill shall be accomplished on the same day in order to minimize impact to the public right-of-way, therefore, the length of an open trench shall be limited to the amount of pipe or conduit that can be placed and backfilled in a single day.
- Once trenches are excavated, the Permittee shall proceed diligently towards completion of the work and completion of the backfill.

- In no case shall the length of the open trench exceed three hundred (300') feet unless otherwise approved by the Town Engineer.
- No street excavation permits, except for emergencies, shall be granted during the local hot mix asphalt plant winter shutdowns (typically December 15-April 1).

When emergencies warrant a trench to remain open overnight, steel plates shall be used upon approval of the Town Engineer.

6.2.1 Pavement Cuts

All cuts through existing surfaces shall be made with a road saw capable of penetrating all layers of pavement.

- Existing pavements should be removed to clean, straight lines.
- All cuts shall be rectangular in shape, and edges shall be parallel or perpendicular to the flow of traffic and at least one (1') foot beyond the trench side wall.
- Longitudinal joints are not allowed in the wheel track. Any over-break, separation, gouging, or other damage to the existing asphalt mat outside of the designated removal limits shall be repaired at the cost of the Permittee.
- No excavation will be allowed on Friday unless it is to be paved by the end of the work day.

6.2.2 Steel Plates

When warranted and approved by the Town Engineer steel plates in accordance with the following shall be used:

- Steel plates must be able to withstand H-20 traffic loading without any movement and shall be fabricated to meet ASTM A36 steel requirements.
- When two or more of plates are used, the plates shall be tack welded together at each corner to reduce or eliminate vertical movement.
- Steel plates must extend a minimum of 12-inches beyond the edges of the excavation.
- Temporary paving with a hot mix asphalt should be used to ramp the edges of the plate at a minimum 1:12 slope.
- Warning signs (W8-24) advising motorist of the steel plates ahead shall be placed in accordance with the MUTCD.
- Steel plates should be marked with a durable and highly reflective white pavement marking tape no less than 4 inches in width 12" long, 3" in each direction on each corner.

6.2.3 Backfill

All backfill for open cuts in portions of the Public right-of-way beneath existing pavement, curb, gutter or sidewalk shall be Processed Aggregate.

- Processed Aggregate shall meet CDOT Specification Section 3.05 and M5.02 specifications.
- Processed aggregate shall be placed and compacted in maximum six (6) inch lifts and mechanically compacted.
- The excessive use of water during backfilling operations will not be permitted.

Alternate backfill methods for large excavations (greater than one hundred (100) cubic yards) will be considered on an individual basis with the Town Engineer. In cases where processed aggregate is waived and the Permittee wants to use the excavated onsite material, the material must be tested by the Permittee and approved by the Town Engineer. Compaction test requirements shall

be at least one per one hundred (100') lane foot, minimum of two (2) tests per lift. Each lift not tested in accordance with these requirements may be rejected by the Town Engineer.

Flowable backfill may be used for open cut backfill and shall be required for all voids and openings created by jetting, pumping, and pneumatic removal of the soil and where compaction equipment is unsuitable.

6.2.4 Temporary patch

A temporary hot mix asphalt patch meeting town specification (see detail) shall be placed, maintained and remain for a period ninety (90) days. Cold patch is not permitted.

6.2.5 Permanent patching (Normal Section)

Prior to placing the permanent patch, the existing pavement shall be removed to clean, straight lines parallel or perpendicular to the flow of traffic.

- If pavement adjoining the original pavement saw cut is damaged during construction, additional pavement shall be removed with cuts parallel with the original cuts. The additional pavement damaged due to construction shall be repaired at the Permittee expense. Patches should have a smooth longitudinal grade and a cross slope or cross section consistent with the existing roadway.
- Trenches patch lengths shall extend across the full width of the travel lane and at least one (1') foot each side of the trench (see detail).
- When the excavation and patch fall within three (3') feet of a section of failed pavement, the failed area shall be removed up to sound pavement and patched. Scarring, gouging, or another damaged pavement adjacent to a patch shall be removed and the pavement repaired.
- Patches within existing patches are to be avoided. Where this does occur, boundaries of the new patch shall match or exceed the existing patch.
- Edges of patches shall not fall in existing wheel paths. The edges of patches parallel to the direction of traffic shall be limited to the boundaries of lanes or to the centerline of travel lanes.

6.2.6 Permanent patching (Concrete Base)

- The temporary patch shall be removed and the subgrade leveled providing a uniform depth over the area equal to the depth of the slab. No additional filling of the subgrade will be permitted. If voids remain they shall be filled with concrete when the permanent patch is poured.
- Existing pavement shall be cut back at least twelve inches beyond both edges of the original excavation, care being taken not to disturb the base below the concrete thus removed.
- Whenever the present pavement opening is six feet six inches or less from the transverse expansion joint, or three feet or less from a longitudinal joint or the outer edge of pavement, the entire part of the concrete pavement, from the excavation to the joint or edge, shall be removed and replaced with the new surface.
- All final cuts in concrete pavement shall be made with concrete saw in straight lines and square corners.
- When using the concrete saw, care shall be taken not to cut any reinforcement. Saw cut shall extend to top of reinforcement only and concrete below this shall be taken out with a pavement shall be wet down before the new concrete is placed.

- Care shall be taken to assure that expansion joints are reestablished, when destroyed by the permittee's operations, in a manner comparable to the original installation.

6.2.7 Mill and Overlay

Mill and overlay will be required when one of the following conditions apply:

- Multiple road crossings: where three (3) or more pavement cuts are proposed within a seventy-five (75') foot long roadway section or if less than 100' of existing pavement remains between patches
- Longitudinal trenching: where the pavement cut is one hundred (100) feet or more in length
- The existing pavement is in poor condition and is scheduled for work within the next three (3) years as listed on the Town's Pavement Preservation Program.

Milling shall be the width of the lane. If the trench is on the centerline of the road, the entire width of the road shall be milled and overlaid.

6.2.8 Infrared patching

Infrared patching may be allowed only where approved by the Town Engineer:

- The infrared heating unit must be equipped with adjustable height controls and heating chambers capable of heating the existing bituminous pavement to a workable temperature without oxidizing or burning the oils. There shall be no flame in direct contact with the existing pavement surface. The infrared heating unit must be capable of heating an area that extends a minimum of twelve (12") inches beyond the edge of the patch area.
- Heat shall be continuously applied to the patch area until the existing pavement material can be manually raked and shaped to a depth of two (2") inches below the existing surface and replaced with new material. A minimum depth of one and one half (1½") inches of new pavement shall be provided at the joint line.
- Prior to placement of new material, the patch area will be raked, compacted, and tacked. Mechanized compaction equipment shall be used to compact bottom lifts of the patch, then self-propelled, vibratory roller shall be used to provide complete compaction of the patch area. The tack agent shall be applied at the rate of five hundredths (0.05 gal/yd²) gallons per square yard. Excess material shall be disposed or used in the bottom layer of the patch.

6.2.9 Material and Placement

The Permittee shall provide the necessary labor and equipment for placing hot mix asphalt.

- The equipment shall be capable of applying the materials in a uniform manner for the specified rates of application.
- The equipment shall be capable of achieving proper compaction of 92%. Hand tamping, except around structures, is not acceptable
- A Tack coat shall be applied at the rate of five hundredths (0.05 gal/yd²) gallons per square yard to all surfaces and joints prior to paving.
- A minimum uniform four inches of hot mix asphalt shall be placed in two (2), two (2)-inch lifts. Material shall be Superpave Level 2, 0.5" and/or .0375". The four (4) inches depth is the minimum depth, if the original pavement is thicker than four (4) inches; the minimum depth shall be increased to the depth of the existing pavement.
- Overlaying layers of hot bituminous pavement shall not be placed until the lower layer has cooled sufficiently to provide a stable material that will support the equipment without

rutting, shoving, or moving in any manner. The temperature of the first asphalt layer shall be less than one hundred forty (140°) degrees F before applying the second asphalt layer. All paving on each street shall be completed in one (1) continuous operation, weather permitting, unless otherwise approved in writing by the Town Engineer.

- Once complete, all joints shall be sealed with a hot melt asphalt or rubberized asphalt sealant.

6.2.10 Penalty

Failure of the permittee to comply with the above regulations will make him subject to the suspension of any further permits in the Town of Rocky Hill. If the completed work is unsatisfactory to the Town Engineer, the Permittee and bonding company shall be notified by registered mail, allowing him ten (10) days to correct such pavement cut. If the pavement cut is not repaired within the ten (10) days, the Town of Rocky Hill will make the necessary repairs utilizing the Permittees bond.

6.3 EXCAVATIONS IN GRASS AREAS

Excavations within grass areas in the right of way requires a permit. Excavations shall be backfilled and compacted in the manner described in Section 6.2. The upper six inches of the backfill shall contain topsoil in accordance with Section 5.13, The loam shall be placed and raked so as to be flush with the surrounding surfaces. In the event settlement takes place, additional material shall be added so as to keep the surface reasonably even. After settlement is complete, the permittee shall fertilize and seed the area. Seeding will generally be permitted in the spring and fall only.

It shall be the permittee’s responsibility to reestablish grass areas disturbed by him until such a time as dense growth is attained with a height of approximately three inches.

6.4 DRAINAGE AND UTILITIES

6.4.1 All drainage and utilities to be constructed below pavement shall be installed and tested prior to the installation of the subbase. All drainage and utilities shall be installed prior to the roadway binder course. All drainage and utilities structures shall be set to final grade. If the pavement is to remain binder through the winter, the structures shall be ramped with a temporary pavement per detail R-14

6.4.2 All inlet and outlet pipes shall be set flush with the inside face of the wall of the drainage structure as shown on the plans. The pipes shall extend through the walls for a sufficient distance beyond the outside surface to allow for satisfactory connections, and the concrete or masonry shall be constructed around them neatly to prevent leakage along their outer surfaces.

When constructing a new drainage structure within a run of existing pipe, the section of existing pipe disturbed by the construction shall be replaced with new pipe of identical type and size extending from the drainage structure to the nearest joint of the existing.

6.4.3 Underdrains shall be installed at the direction of the Town Engineer.

6.5 EARTHWORK AND ROADWAY CONSTRUCTION

6.5.1 Excavation

Excavations shall be made in conformance to the limits and grades shown on the plans. Topsoil, sod and other organic matter shall be removed and stored or disposed of. Proper erosion control shall be placed around stored topsoil. All surplus excavated material shall become the property

of the Contractor and disposed of off of the project site unless otherwise directed by the Town Engineer.

6.5.2 Embankments

Embankments shall be constructed of earth only. No bituminous concrete or reclaimed waste shall be used in the embankment. The material shall be free from refuse, stumps, roots, rocks, brush, weeds or other unsuitable material. No embankment shall be deposited on surfaces of snow or ice, nor shall it be placed on frozen or unstable surfaces.

The depth of each layer, before compaction, shall not exceed twelve inches (12").

The embankment shall be crowned or pitched to provide drainage at the close of each day's operation. The entire embankment area shall be leveled off by suitable grading equipment and shall be compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors or a combination thereof.

6.5.3 Subgrade

Subgrade shall be stable and prepared per applicable portions of the Standard State Specifications. No particles over 3" shall be placed within 12" below the top of the prepared subbase. If rock, ledge, soft and yielding or any other unsuitable material is encountered, it shall be removed to 6-inches below subgrade and replaced with suitable free draining material as approved by the Town Engineer.

The Contractor shall protect the completed subgrade from damage. After all grading for the roadbed has been substantially completed and all drains laid, the subgrade shall be brought to the lines, grades and cross-sections shown on the plans.

6.5.4 Subbase

Prior to placing the bottom course of the processed aggregate base, the prepared subbase shall be maintained true to line and grade. After the aggregate is spread, it shall be thoroughly compacted and bound by use of equipment approved by the Engineer. Water may be used during the compaction and binding operation. Material shall be compacted in six (6") inch lifts or as directed by the Engineer.

When the bottom course has been completed, as specified above, the top course aggregate shall be spread over it to such thickness that, after final compaction and binding, the total thickness of the two courses will equal that thickness specified for the completed base. The top course shall be spread, compacted and bound exactly as specified above for the bottom course.

The final surface of the subbase course shall be fine graded so that, after final compaction and just prior to placement of base or pavement courses, the surface elevation shall not vary more than one-quarter inch above or below the design grade at any location.

6.5.5 Compaction

The depth of each layer, before compaction, shall not exceed twelve inches (12") for general fill and embankments and six (6") for within roadways. Rollers shall deliver a ground pressure of not less than 300 pounds per linear inch of contact width and weigh not less than ten (10) tons. Vibratory rollers shall have a static weight of not less than four (4) tons.

6.5.6 Inspection

The contractor shall notify the Town Engineer at least 24 hours in advance to schedule an inspection of subgrade and subbase. The contractor shall provide stakes at 50' intervals on both

sides of the roadway with cut/fill clearly marked so and inspection can be made for each layer of cross-section shown.

If after approval, the course becomes displaced or disturbed in any way for any reason, the Contractor shall repair and regrade the damage to the satisfaction of the Engineer prior to placing the overlying course. All repaired sections shall be recompact until they meet the requirements as stated herein.

6.6 BITUMINOUS CONCRETE

Work shall consist of the production and placement of a smooth and dense bituminous concrete mixture with a uniform texture for (1) a completed base course, (2) the surface of an existing pavement or (3) the surface of an existing pavement which has been brought to proper grade and cross section. If not specified in these specifications, work shall be in accordance with the (State Standard Specifications)

6.6.1 Limitations for Placing Bituminous Pavement

Paving, including placement of temporary pavements, shall be divided into 2 seasons, “In-Season” and “Extended-Season.”

- In-Season paving occurs from May 1 to October 14
- Extended Season paving occurs from October 15 to April 30.

The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Mixtures shall not be placed when the air or subbase temperature is less than 40°F regardless of the season.
- Should paving operations be scheduled during the Extended Season, the Contractor must submit an Extended Season Paving Plan for the Project that addresses minimum delivered mix temperature considering WMA, PMA, or other additives; maximum paver speed; enhanced rolling patterns; and the method to balance mixture delivery and placement operations. Paving during Extended Season shall not commence until the Town Engineer has approved the plan.

Air and surface temperatures are taken in the shade. The surface is defined as the surface on which the new bituminous concrete pavement layer is to be placed. These are minimum temperatures, they should be rising. If temperatures fall below, the paving operation must stop. There shall be no frost in the ground.

Lift thickness **Minimum Air and Surface Temperatures - Degree F		
(Inches)	Final Course	All Other Courses
Less than 2"	50	50
2" and over	40	40
Paving Dates	In Season	In Season

6.6.2 Materials

All Bituminous Concrete materials shall be from a DOT approved vendor and meet the specification in Section 5.4

6.6.3 Equipment

The methods employed in performing the work and all equipment, tools, machinery and plant used in handling material and executing any part of the work must be approved by the Town Engineer prior to their use. If at any time these are unsatisfactory to the Town Engineer, the Contractor shall change them, as the Town Engineer requires.

6.6.3 a Transportation of Mixture

The mixture shall be transported from the mixing plant in trucks that have previously been cleaned of all foreign material and that have no gaps through which material might inadvertently escape. The use of kerosene, gasoline, fuel oil, or similar products for the coating of the inside of truck bodies is prohibited. Loaded trucks shall be tightly covered with waterproof covers.

6.6.3 b Paving Equipment

The Contractor shall have the paving and compaction equipment at the Project site in a sufficient amount of time before operations so that it can be inspected and approved by the Engineer. The Contractor shall repair or replace any equipment found worn or defective, either before or during paving.

6.6.3 c Pavers

Pavers shall be self-propelled units. Tow type pavers (“drag boxes”) are not permitted for road paving. Pavers shall have extendible screed units as part of the system and have auger extensions and tunnel extenders as necessary. The screed shall open to a minimum width of sixteen (16’).

6.6.3 d Rollers

All rollers shall be self-propelled and designed for compaction of bituminous concrete. The breakdown roller shall be a minimum of 10 tons. Rollers may be Vibratory or Non-vibratory (static) rollers shall have steel wheel types.

6.6.4 Construction Methods

The mixtures shall be placed and compacted to provide a smooth and dense surface with a uniform texture. When overtaken by sudden storms, the Engineer may permit placement of the bituminous concrete to continue up to the quantity of material that is in transit from the plant. The mixture shall be placed at a temperature between 265°F and 325°F. In no case shall the material be placed on frozen ground. Unless otherwise directed by the Engineer, pavement shall be placed in two (2) passes with the longitudinal joint along the centerline of the road.

6.6.4 a Joints

Temporary and permanent transverse joints shall be formed by saw-cutting, jack hammering is unacceptable. The saw cut shall be a sufficient distance back from the previous run, existing bituminous concrete pavement, or bituminous concrete driveways to expose the full depth of the course. On any cold joint, immediately prior to additional bituminous concrete materials being placed, a brush of tack coat shall be used on all contact surfaces.

The longitudinal joint shall be offset at least six inches (6”) from the joint in the course immediately below. The joint in the final surface shall be at the centerline or at lane lines.

Sand or paper joints shall be used at the end of a lane where a drop remains at the end of the day.

6.6.4 b Tack Coat

The surface shall be free and clean of all debris and be swept prior to the tack coat application. Tack coat shall be applied via a pressurized spray system to the pavement immediately before overlaying and be allowed sufficient time to break (set). The rate of application shall be 0.05 to 0.07 gallons/sy for a milled surface and 0.05 gallons/sy for a smooth surface.

6.6.4 c Compaction

In general, rolling shall consist of initial or breakdown rolling, intermediate rolling and final or finish rolling. The contractor shall furnish a sufficient number and type(s) of rollers for each paving machine to properly compact the mat.

The contractor shall have the completed pavement courses tested for compaction. Each course shall have the mat and longitudinal joints compacted to a minimum of 92.0 percent and no more than 97.0 percent density.

6.6.4 d Inspection of the Work

All paving must be inspected by the Town of Rocky Hill while being placed. If paving is completed without the benefit of inspection, the job will not be accepted.

6.6.4 e Protection of the Work

All sections of the newly finished pavement shall be protected by the Contractor from damage by the Contractor's equipment and traffic. Traffic should be kept off the newly laid surface until it has cooled to 140°F, enough not to become marked.

6.6.5 **Corrective Work Procedures**

Any portion of the completed pavement determined by the Engineer to be defective in surface texture, density or composition, or that does not comply with the requirements of the specifications shall be corrected at the expense of the Contractor.

6.7 **SIDEWALK CONSTRUCTION**

Construction methods in this section shall be applicable to All Concrete Sidewalks in the Town of Rocky Hill.

6.7.1 **Base**

Base must be excavated to 17" below finished grade of the walk. It shall be placed meeting Town Specifications in two separate lifts of 6" and compacted thoroughly by suitable machinery.

- Base depth must be 12" for 5" sidewalk.
- Base depth must be 9" for 8" sidewalk and compacted in two separate lifts of 6" or less.

6.7.2 **Forms - 2" x 4" WOOD FORMS ARE NOT PERMITTED.**

Forms shall be securely staked, braced and held firm to the line and grade and shall be tight to prevent leakage. All forms shall be cleaned and oiled each time they are used for a pour. The cross slope for a 4' walk is 1" slope toward gutter or as directed by the Director of Public Works or his agent to meet existing conditions.

For 8" reinforced sidewalk, forms must remain in place for 48 hours for commercial drives or high early strength concrete may be used if next day access is desired.

6.7.3 Concrete

Prior to the placement of concrete in the forms, the subgrade shall be thoroughly dampened so that it is moist throughout, but without puddles of water. Concrete shall be placed at a slump of no greater than 4 inches and shall only be placed when suitable temperatures prevail. No water is to be added to the mix without the Town Engineer's or his agent's approval.

6.7.4 Expansion Joints

Expansion joints must be placed every 15' from the beginning and end of every pour and where the 5" deep concrete meets the 8" deep concrete. Expansion joint material must be 1/2" x 5". Two 5/8" x 24" long smooth steel bars are to be used at every expansion joint.

Expansion joints are to be placed in forms before concrete is poured. Joints must not be pushed through wet cement. The steel bars are to be foil covered at both ends through expansion joint. This whole assembly is to be placed in forms before pour.

When connecting to existing concrete sidewalks a pair of holes 3/4 inch in diameter 12 inches deep shall be drilled into the existing concrete sidewalks and dowels and expansion joints shall be placed.

6.7.5 Reinforcing Steel:

For 8" reinforced sidewalk, 6" x 6" No. 8 gage welded wire fabric shall be installed. (As shown on detail sheet)

6.7.6 Finishing

When the concrete has been placed in the forms, struck off to grade and allowed to partially set (when all the water and water sheen has left the surface), said time not to exceed one (1) hour, the surface of the concrete shall be finished with a wood float or by other approved means.

After floating, the surface shall be floated with a steel trowel until a smooth even surface is obtained, and then it shall be broomed to a satisfactory finish with a fine bristle broom. Care shall be taken not to bring an excess of sand or water to the surface by over brooming.

Tooled joints (depth: 1-1/2" for 5", 2" for 8") shall be formed every five (5) feet with a jointing tool. A jointer shall be used to form a rounded edge not exceeding 1/4 inch radius at all surface edges.

6.7.7 Curing Compound

If curing compound is used, it should be applied as follows: As soon as the concrete has hardened enough so that the surface will not be marred, curing of concrete shall be accomplished using white pigmented curing compound conforming to "Specification for Liquid Membrane - forming compounds for Curing Concrete" (ASTM Designation: C-309). The curing compound shall be applied by hand operated or power driven spray equipment immediately after the concrete has been given its final finish. The concrete surface shall be moist when the coating is applied, apply two smooth and even textured coats to ensure complete coverage. The second coat shall be applied at right angles to the first. Such compounds shall be applied in accordance with the manufacture's recommendations.

6.7.8 Sealing Concrete

All concrete is to be sealed with Consolideck® Saltguard® WB or approved equal and applied per manufactures specifications.

6.7.9 Backfilling and Removal of Surplus Material

The sides of the sidewalk shall be backfilled with suitable material and rough graded after forms are removed to prevent trip hazard. All surplus material shall be removed and the site left in a neat and presentable condition to the satisfaction of the Town Engineer or his agent. Loam, fine grading and seeding should take place when weather permits and as soon as possible. Spring - April 15th to June 15th Fall - August 15 to October 15th

6.7.10 Protection of the Work

Lighted barricades should be placed around new walks and all excavations at end of day's work. Any work destroyed by weather or by vandals will not be accepted and Contractor will be responsible for replacement.

For 8" reinforced sidewalk, at driveways to be opened to traffic the following day, high early strength concrete shall be used. At commercial driveways, one lane of access shall be open to traffic at all times. The Contractor is responsible to coordinate work with adjacent property owners the day before work is to commence.

6.7.11 Construction Methods – Handicap Ramp w/detectable warning strip:

Construction Methods shall be the same as for 8" Inch Cement Concrete Sidewalk and installed as per the detail sheet.

The Detectable Warning Strip shall be set directly in the poured concrete ramp according to the plans and the manufacturer's specifications or as directed by the Town Engineer.

The void left between the existing BCLC curbing and the new ramp shall be filled with bituminous concrete lip curbing. The void left between the existing granite curbing and the new ramp shall be filled with concrete. This work shall be in accordance with Town standards.

6.7.12 REPAIRS TO SIDEWALKS AND CURBS

Where it is necessary to repair damaged cement concrete sidewalks and curbs, the permittee shall remove the damaged sidewalk or curb to its full depth and to formed joints. Patching or the repairing of the partial slabs or parts of curbing will not be permitted. Where it is necessary to repair bituminous concrete sidewalks or curbs, the edges shall be cut vertically and in straight lines and given a tack coat of RC-2 prior to placement of new material.

SECTION 7 - PROJECT CLOSE OUT

7.1. AS-BUILT DRAWINGS

Prior to acceptance by the Town of any public improvements, the Developer shall provide as-built drawings to the Town Engineer and/or Director and the appropriate commission (as may be required) for the Town's records. Submission of acceptable as-built drawings may also be a condition of land-use approvals. It is the responsibility of the Developer to comply with applicable requirements of the Planning and Zoning Commission and all associated regulations which may be in addition to the requirements defined herein. Refer to additional requirements found in the Subdivision Regulations. All costs associated with as-built drawings shall be the responsibility of the Developer. As-built drawings shall be prepared and signed/sealed by a Connecticut-licensed land surveyor.

As-built drawings shall be drawn to a scale of 1" = 40' or 1" = 20' and shall be printed as 24"x36" sheets unless an alternate scale/format is specifically approved by the Town based on the specific nature of the work. Improvements, including road construction, storm sewer, or sanitary sewer installation shall include a profile drawn to a scale of 1" = 40' horizontal and 1" = 4' vertical. The accuracy of the information on all as-built plans shall conform to "Class A-2" for horizontal accuracy and "Class "T-2" for vertical accuracy as defined in the Regulations of Connecticut State Agencies, Section 20-300 b-1 to 20-300 b-20 "Minimum Standards for Surveys and Maps in the State of Connecticut"

Where construction includes handicapped accessibility, as-built drawings shall include sufficient horizontal and vertical data to demonstrate compliance with all applicable requirements.

Unless waived by the Town Engineer and/or Director, as-built plans shall note the following on both plan and profile sheets:

- Plan and Profile showing centerline elevations every 50'
- Right of Way and Easement limits
- Drainage and Sanitary Sewers
 - The location of all manholes, catch basins, and other structures by station and offset,
 - Elevation of pipe and culvert inverts and structure top of frames.
 - Detention/retention outlet structures with inverts
 - The type, diameter and slope of all pipes shall be clearly labeled
 - Underdrains locations
- Sanitary Sewer
 - All sanitary lateral connections accurately located to the main sewer either by station measurement from manholes or by cross-from house corners.
 - The lateral location at the right of-way line, and where practical, the house connection, shall also be depicted. The information shall be accurately noted or plotted on the as-built plan and profile sheets.
 - The location of all sanitary wyes, tees, and chimneys along with correct pipe invert elevations and structures' top of frame elevations.
- Utilities,
 - water and gas shutoffs
 - telephone and cable boxes
 - transformers
- Guiderails, retaining walls and other appurtenances.
- Elevations based on the North American Vertical Datum (NAVD) of 1988. A bench mark with an elevation shall be shown on the plans.

- Horizontal datum based on the North American Datum (NAD) of 1988 Connecticut State Plane Coordinate System. At least two permanent points with coordinates shall be included on the as-built plan.
- Additional requirements that may be required based on specific to type of improvements constructed as indicated in this manual. Trenches with either temporary or permanent sheathing, or concrete encasing. Areas where bedrock (ledge rock), a high-water table, or unsuitable materials were found shall also be indicated on the plans.

No Bonds shall be released until the above information is furnished by the Developer to the Town Engineer and/or the Director. Release of Bond(s) may also require approval by the Planning and Zoning Commission and/or Town Council.

In addition to paper hard copies of the as-built plans, the applicant shall provide plans to the Town Engineer and/or Director in digital format. Digital files shall be AutoCAD.dwg or AutoCAD.dxf format or Pdf.

APPENDIX – A
STREET CLASSIFICATIONS

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ARTERIAL ROADS

Hayes Road

COLLECTOR ROADS

Brook Street
Capital Boulevard
Charter Road
Cold Spring Road
Dividend Road
Falcon Ridge Road

France St (Cromwell Ave-New Rd)
Gilbert Avenue
Hang Dog Lane
Heather Hill
New Road
Old Forge Road

Old Main Street
Orchard Street
Parsonage Street
Town Line Road
Trinity Ridge
Woodfield Crossing

LOCAL ROADS

Andover Drive
Annes Court
Applewood Lane
Ashwell Avenue
Autumn Circle
Bailey Road
Barnyard Road
Barry Place
Bayberry Lane
Beach Road
Belamose Avenue
Belden Lane
Bella Vista Drive
Berkshire Road
Birch Road
Boulder Drive
Bucks Crossing
Caliber Lane
Cambridge Drive
Candlelite Drive

Carol Drive
Catherine Drive
Century Hills Drive
Chapin Avenue
Christiana Drive
Christopher Court
Church Street
Church Street Ext
Clearview Avenue
Cobey Road
Colonial Drive
Corn Crib Lane
Corporate Place
Countryside Drive
Courtney Drive
Crestridge Road
Cricket Lane
Cronin Drive
Crystal Drive
Cumberland Place

Deerfield Run
Deming Road
Dexter Road
Drum Hill Drive
Eastview Terrace
Elm Ridge Drive
Elm Street Extension
Enterprise Drive
Esther Road
Evans Road
Farms Village Drive
Farmstead Road
Farview Drive
Fawn Run
Fern Street
Fernwood Drive
Fieldstone Drive
Footehill Road
Forest Street
Fox Hill Drive

ROCKY HILL PUBLIC WORKS MANUAL

France Street	Lakeview Avenue	Pelican Court
Garden Street	Laura Lane	Peria Drive
Gardner Way	Laurel Lane	Pheasant Drive
Garfield Road	Lavender Lane	Pine Meadow Road
Gaylord Drive	Ledge Drive	Pleasant Valley Road
George Road	Lilola Road	Pondside Lane
Goff Brook Lane	Litchfield Place	Pratt Street
Gorman Road	Lord Street	Quail Drive
Great Meadow Road	Louis Place	Rachel Drive
Grimes Road	Mark Lane	Ramblewood Drive
Grimes Road Annex	Marshall Road	Raymond Road
Griswold Road	Martin Drive	Rhodes Road
Hammermill Road	Maryanna Way	Richard Road
Haren Drive	Meadow Road	Ridge Road
Harvest Lane	Michele Drive	Ridgewood Drive
Hawthorne Circle	Moser Drive	Riverview Road
Henkel Way	Mountain View Drive	Rocamora Road
Henry Street	Murphy Drive	Rosewood Drive
Hidden Valley Drive	Nessa Way	Sage Road
Highland Street	North Condor Drive	Sandy Drive
Highmeadow Road	North Meadow Road	Sawmill Road
Highview Drive	Nutmeg Lane	School Street
Hillside Avenue	Oak Hill Road	Shea Circle
Hollister Drive	Old Dividend Road	Siderake Road
Hunters Ridge	Old Tannery Lane	Silo Drive
Inwood Road	Overlook Terrace	Sky View Drive
June Circle	Palmer Drive	South Condor Drive
Kent Lane	Parish Road	Southbrook Road
Knoll Lane	Park Drive	Speno Ridge
Knollwood Road	Partridge Drive	Springbrook Drive
Kroll Farms Drive	Pearl Lane	Stagecoach Lane
Lake Drive	Pebblebrook Drive	Stanley Court

ROCKY HILL PUBLIC WORKS MANUAL

Starr Drive	Thomas Court	West Ridge
Stepney Circle	Tollgate Road	Westbrook Road
Stockton Lane	Tumblebrook Road	Westerly Terrace
Stonebrook Crossing	Twenty Rod Road	Westmeadow Road
Stonehill Drive	Upper Old Main St	Whitewood Drive
Stones Throw Court	Valley Brook Road	Wildwood Lane
Summer Lane	Valley Crest Drive	Willow Road
Summit Road	Valley View Drive	Winter Lane
Sunny Crest Drive	Vexation Hill Drive	Wintergreen Lane
Sunset Ridge	Walnut Road	Woodhaven Circle
Sutton Road	Washington Street	Woodland Road
Tall Pines Lane	Waterchase Drive	Wright Road
Tedwin Farms Road	Waters Avenue	Wynding Brook Drive
Ten Rod Highway	Webber Road	Woodfield Crossing
Terry Lane	Webster Lane	
Textbook Avenue	Wells Road	

STATE ROADS

Cromwell Avenue	Main Street	Silas Deane Highway
Elm Street	Maple Street	West Street
Glastonbury Avenue	New Britain Avenue	

PRIVATE ROADS

Alexandra Drive	Denyelle Drive	Locust Circle
Apple Grove Lane	Di Pietro Drive	Lydia Drive
Augusta Circle	Dogwood Court	Maxwell Drive
Applewood Lane	Drummond Drive	McIntosh Circle
Basswood Court	Elizabeth Court	Meyers Drive
Beecher Lane	Elms Common Drive	Misty Crescent
Bel Air Circle	Evergreen Place	Old Windmill Crossing
Blair Road	Fallowater Court	Oslund Way
Blue Grass Court	Foxbriar Lane	Penn Place
Brandee Lane	Friendly Way	Pequot Drive
Briarwood Court	Gray Fox Lane	Red Fox Lane
Brimfield Way	Green View Drive	Red Maple Circle
Brookwood Drive	Harbor View Drive	Redstone Circle
Butternut Lane	Hickory Lane	Ridgeview Court
Cambric Place	Highcrest Drive	Robbins Lane
Carillon Drive	Highpoint Drive	Robinson Road
Carlton Road	Holly Hill Drive	Rose Court
Cedar Hollow Drive	Jason Drive	Sagamore Lane
Chatham Drive	Jennifers Way	Sky View Drive
Chestnut Court	Joiners Road	Stevens Place
Clemens Court	Juniper Place	Truman Way
Concord Drive	Kingsley Court	The Arbors
Copper Beech Drive	Lathrop Lane	The Mews
Country Club Court	Lexington Court	Watercourse Row
Danforth Lane	Limner Circle	Windy Hill Lane
Deer Path	Little Oak Lane	Winesap Circle

APPENDIX – B
PERMITS

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: PHONE (A/C. No. Ext): FAX (A/C. No): E-MAIL ADDRESS: INSURER(S) AFFORDING COVERAGE NAIC #
INSURED	INSURER A : INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	UMBRELLA LIAB <input type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? <input type="checkbox"/> Y / N <input type="checkbox"/> N / A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						<input type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
--	---

BOND FOR PRIVATE CONTRACTORS OPERATING ON PUBLIC RIGHT OF WAY

KNOW ALL MEN BY THESE PRESENTS, THAT _____ of

As Principal, and _____

As Surety, are held and firmly bound unto the TOWN OF ROCKY HILL, in the sum of **TEN THOUSAND DOLLARS (\$10,000)** lawful money of the United States of America, to be paid to the said TOWN OF ROCKY HILL, its successors or assigns, for which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that
WHEREAS, the said principal has made application to the TOWN OF ROCKY HILL for a permit authorizing said principal to perform the following work _____
in said Town commencing on or about the _____ day of _____.

WHEREAS, the TOWN OF ROCKY HILL, as a condition to issuing said permit, requires a bond in the minimum amount of Ten Thousand Dollars (\$10,000.00), and

WHEREAS, the said Principal agrees to indemnify and save harmless the TOWN OF ROCKY HILL and its Town Manager and his agents from all suits and actions of every name, type and description brought against the Town or any officers of said Town, for or on account of any injuries or damages received or sustained by any person in consequence of or resulting from any work performed by said _____
principal, its agents, servants or employees, and

WHEREAS, said principal guarantees all work performed by said principal, its agents, servants and employees, against any failures caused by defective materials or defective workmanship, for a period of TWO (2) years after completion of said work.

WHEREAS, said Principal agrees to make good said defects, is so ordered, to the satisfaction of the Town Manager for said TOWN OF ROCKY HILL, and to comply in all respects with the ordinances, rules and regulations established relative to and with the terms of the permit or permits issued.

NOW, THEREFORE, if the said _____ shall well and truly keep and perform all of the terms and conditions hereinabove set forth, this obligation should be null and void; otherwise, the principal and surety shall pay to the TOWN OF ROCKY HILL the amount which the Town requires to complete said work and installations.

PROVIDED, HOWEVER, the amount which the principal and surety shall be required to pay hereunder shall not, in any event, exceed the penal sum hereof. This bond is to remain in effect until TWO (2) years after said Principal completes the work authorized under said permit to the satisfaction of said Town and its Town Manager.

Should the TOWN request an extension, this bond can be renewed by continuation certificate at ONE year intervals at the option of the Surety.

IN WITNESS WHEREOF, the said Principal and Surety have caused these presents to be signed and their seals to be affixed hereunto this _____ day of _____.

SIGNED, sealed and delivered in the presence of:

Principal

Surety



TOWN OF ROCKY HILL - ENGINEERING DEPARTMENT

761 Old Main Street, Rocky Hill, CT 06067 PHONE (860) 258-2734, (860) 258-2766, EMAIL: mneviso@rockyhillct.gov

STREET EXCAVATION APPLICATION AND PERMIT

Permit No. _____

SCHEDULE INSPECTION 24 HOURS PRIOR TO WORK



C.B.Y.D. # _____

INFORMATION TO BE FILLED IN BY APPLICANT

LOCATION OF WORK ST #: _____ STREET: _____

- Type of Work: MDC Water, MDC Sewer, Storm Drainage, Gas Co., Electric Co., Cable/Communications, Sidewalk, Driveway, Other

Utility Co. working for: _____ Contact Person/ phone: _____

Applicant Name: _____ Address: _____ City, St, Zip: _____ Office Phone: _____ Email: _____ Cell Phone: _____ Emergency # _____ Field Contact: _____ Field Cell: _____ Start Date: _____ End Date (approx): _____

I certify that I have read & understand the conditions stated on the back of this permit and agree to all of those conditions.

Applicant Signature: _____ Date: _____

Show Sketch or attach plan

INFORMATION TO BE FILLED BY MUNICIPALITY

SPECIAL CONDITIONS

- Is The Contractor Licensed? Yes No Is Bond on File? Yes No Is Certificate of Insurance on File? Yes No FEE (\$50.00) Yes No

Special conditions table with 4 rows

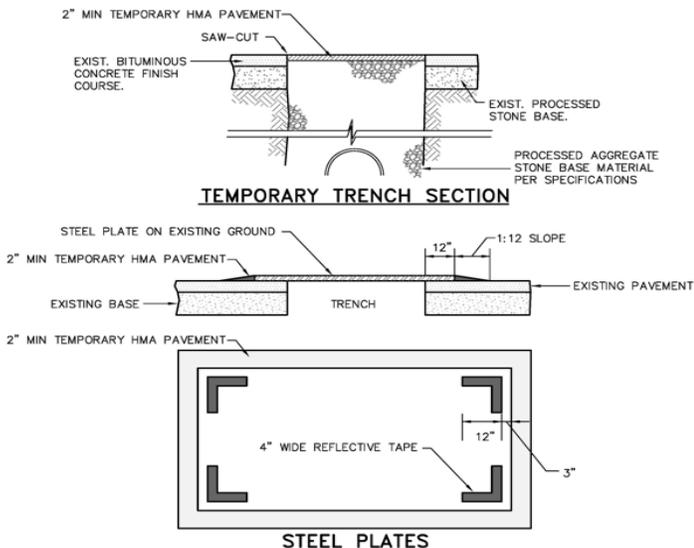
Table with 4 columns: Inspection of, Date, By, Comment. Rows include Construction, Temporary patch, Permanent Patch, Final Inspection, Other.

PERMIT APPROVED BY: _____ ISSUE DATE: _____

CONDITIONS

- 1 All contractors working with in the Town's Right of Way shall be licensed, bonded and insured. The bond shall be in the amount of \$10,000 and shall be a **2 year bond, to be renewed by continuation certificate at ONE year intervals at the option of the Surety.** The certificate of insurance shall be in the amount of \$1,000,000.
- 2 The conditions of this permit are that every person acting under the same shall at all time, and in every respect, carefully and truly observe the ordinance, rules, regulations, and specifications governing the work herein contemplated. It may be revoked at any time for breach of its conditions.
- 3 The permit shall be kept at the work being done under the authority, and shall be shown upon the request of any authorized person. Notice shall be given at the Engineering Department not less than 24 hours before any work begins. An additional notice of 2 hours shall be given before placing concrete for sidewalks and curbs.
- 4 **All work shall be in conformance with the Town of Rocky Hill Public Works Manual**
- 5 The permittee agrees to abide by and perform all work in accordance with "Standards, Specifications and Procedures for the Installation of Utility System within Municipalities Belonging to the Metropolitan District Commission and any requirements made by the Municipality there under."
- 6 And the undersigned hereby agrees to become responsible to the Municipality for any and all damages that may result to said Municipality to any person or property in said Municipality, which said Municipality would be liable by reason for the construction of such work.
- 7 The refilling of all trenches shall be done in a manner approved by the Town Engineering or his agent, **and the applicant herein assumes all liability for an damage or faulty construction which may occur in connection with the work herein stated, within a period of 2 years from date of FINAL INSPECTION.**

TEMPORARY PATCH

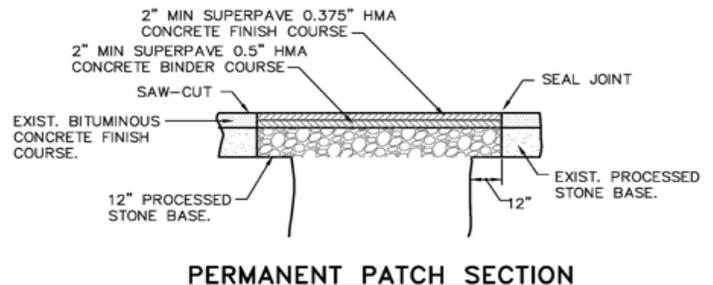


NOTES

All repairs to be made in accordance with the Town of Rocky Hill Street Excavation Standards

1. **Pavement Cut:** All cuts through existing surfaces shall be made with a road saw capable of penetrating all layers of pavement. All cut shall be straight, clean and rectangular in shape. Longitudinal joints are not permitted in the wheelpath.
2. **Steel Plates:** to temporarily cover excavations, may be used if approved by the Town Engineer. Plates must be anchored securely to the surrounding pavement and ramped with bituminous concrete.
3. **Backfill:** All backfill for open cuts in portions of the Public right-of-way beneath existing pavement, curb, gutter or sidewalk shall be Processed Aggregate
4. **Pavement:** Temporary hot mix asphalt shall be placed with a minimum thickness of two (2) inches by the end of the work day. Material shall be Superpave Level 2, 0.5" or 0.375". Patch shall remain for ninety (90) days. COLD PATCH NOT PERMITTED.
5. No street excavation permits, except for emergencies, shall be granted during the local hot mix asphalt plant winter shutdowns (typically December 15–April).

PERMANENT PATCH



NOTES

1. Prior to placing the permanent patch, the existing pavement shall be removed to clean, straight lines parallel or perpendicular to the flow of traffic.
2. If pavement adjoining the original pavement saw cut is damaged during construction, additional pavement shall be removed with cuts parallel with the original cuts. The additional pavement damaged due to construction shall be repaired at the Permittee expense. Patches should have a smooth longitudinal grade and a cross slope or cross section consistent with the existing roadway.
3. The temporary patch shall be removed, the existing pavement cut back a minimum of twelve (12) inches, or as directed from the trench to make a neat clean square joint which will overlap the original subgrade.
4. Trenches patch lengths shall extend across the full width of the travel lane and at least one (1') foot each side of the trench (see detail).
5. When the excavation and patch fall within three (3') feet of a section of failed pavement, the failed area shall be removed up to sound pavement and patched. Scarring, gouging, or other damaged pavement adjacent to a patch shall be removed and the pavement repaired.
6. Patches within existing patches are to be avoided. Where this does occur, boundaries of the new patch shall match or exceed the existing patch.
7. Edges of patches shall not fall in existing wheel paths. The edges of patches parallel to the direction of traffic shall be limited to the boundaries of lanes or to the centerline of travel lanes.
9. A minimum uniform four inches of hot mix asphalt shall be placed in two (2), two (2)-inch lifts. Material shall be Superpave Level 2, 0.5" and/or .0375". The four (4) inches depth is the minimum depth, if the original pavement is thicker than four (4) inches; the minimum depth shall be increased to the depth of the existing pavement.

PENALTY

Failure of the permittee to comply with the above regulations will make him subject to the suspension of any further permits in the Town of Rocky Hill. If the completed work is unsatisfactory to the Town Engineer, the Permittee and bonding company shall be notified by registered mail, allowing him ten (10) days to correct such pavement cut. If the pavement cut is not repaired within the ten (10) days, the Town of Rocky Hill will make the necessary repairs utilizing the Permittees bond.



TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT
 761 OLD MAIN STREET, ROCKY HILL, CT 06067
 PHONE (860) 258-2766, FAX (860) 258-2703

RIGHT OF WAY WAIVER

Per Town Ordinance 212-1, all work in the town's right of way must be permitted and meet the requirements of the Public Works Manual of the Town of Rocky Hill (01/01/22) which state a waiver holding the Town harmless is required for the following:

Section 3.10.2 – Ornamental Driveway: *Ornamental" pavement such as concrete, granite, paving block, brick or others may be used for a driveway apron provided a waiver by the owner is signed and filed with the engineering department.*

Section 3.16 – Lawn Irrigation: *The Town of Rocky Hill as a general practice does not allow lawn irrigation within the Town right of ways or easements as this area is reserved for sidewalks, signs and utilities. The Town also understands the desire of residents to maintain their lawn and to conserve water by not spraying the road.*

HOLD HARMLESS

I, my heirs, successors and assigns hereby agree to hold the Town of Rocky Hill harmless for any and all damage to:

which I have had installed within the Town right of way located at:

and to waive any and all claims I may have or hereinafter that may arise of any type whatsoever against the Town of Rocky Hill and its officials, agents, employees and contractors relating to damage to my irrigation system. This agreement shall run with the land and be binding upon all future heirs, successors and assigns.

Property Owner Signature

Contractor/Installer

Property Owner Signature

License Number

Date

Date

CONDITIONS

For a homeowner to perform an installation of “personal property” within the Town of Rocky Hill street right of way the following conditions shall be met:

- A street excavation permit shall be obtained by the licensed installer. All conditions of the permit, including Call Before You Dig ticket, insurance and bond must be posted with the Engineering Department. If the installer (home owner) is not bonded, all work within the right of way/easement must be performed by hand (no machines).
- A waiver holding the Town of Rocky Hill harmless for all liability from work by the installer and future damage to the “personal property” by any work, plowing or maintenance performed by the Town within the street right of way must be signed.
- For the installation of lawn irrigation, the property owner or his agent (installer) must have on file a schematic of said irrigation system and must have secured the necessary applications and permits with the Building Department and Engineering Department as per Chapter 212, section 212-1 of the Town Code. All applications must be secured and approved before installation work begins and approved and inspected before use.



TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT
761 OLD MAIN STREET, ROCKY HILL, CT 06067
PHONE (860) 258-2766, FAX (860) 258-2703

Driveway Grade Policy

Per the Town of Rocky Hill Public Works Manual (01/01/22). Section 3.10.6 of said manual states: *The maximum grade for a driveway shall not exceed 13% unless the permittee signs a waiver holding the Town of Rocky Hill harmless*”

DRIVEWAY GRADE CONSTRUCTION

If a homeowner applies for a driveway to be constructed greater than the maximum 13% allowable by the Town of Rocky Hill Public Works Manual, the following conditions shall be met:

1. A street excavation permit shall be obtained by the licensed installer. All conditions of the permit, including Call Before You Dig ticket, insurance and bond must be posted with the Engineering Department. If the installer (home owner) is not bonded, all work with in the right of way/easement must be performed by hand (no machines).
2. A waiver (below) holding the Town of Rocky Hill harmless for all liability from work by the installer and future complications or damages that could occur due to the grade of the driveway.

HOLD HARMLESS – DRIVEWAY APRONS

I, my heirs and assigns hereby understand the risks and assume all responsibility for the constructing a driveway in excess of 13% located at:

_____ and therefore, agree to indemnify and hold harmless the Town of Rocky Hill for any future complications or damages that could occur.

Property Owner Signature

Contractor/Installer

Property Owner Name (print)

License Number

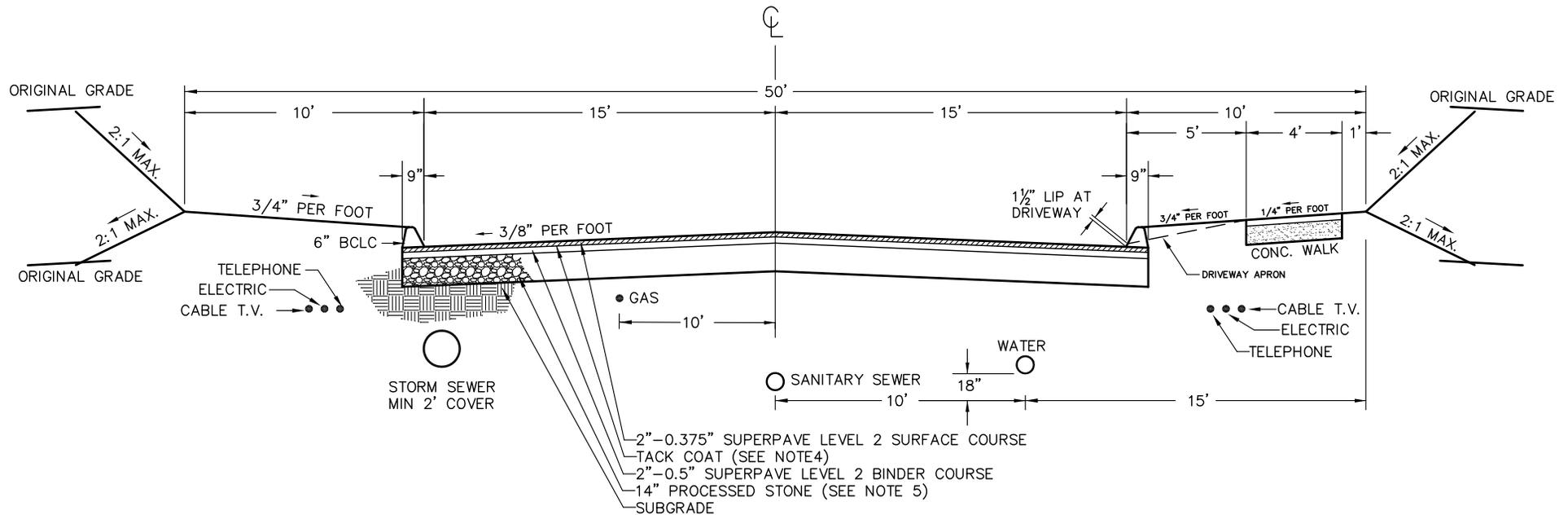
Date

Date

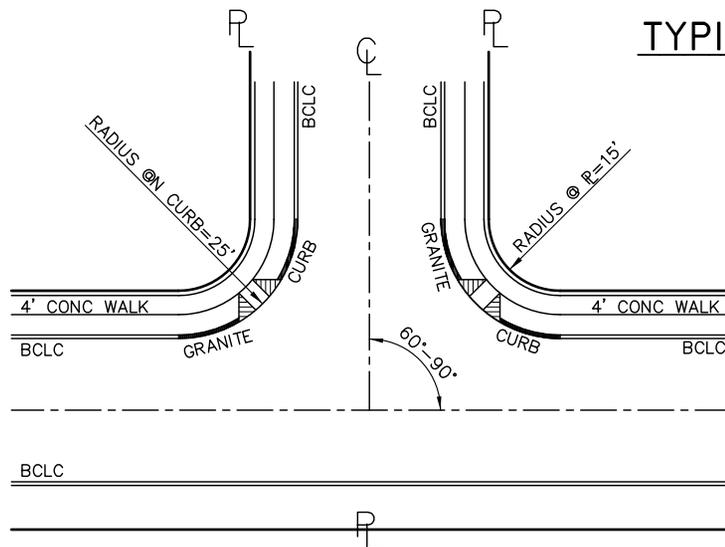
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APPENDIX – C
DETAILS

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TYPICAL ROADWAY SECTION



TYPICAL INTERSECTION SECTION

NOTES

1. SEE SPECIFICATIONS AND DETAILS FOR SIDEWALK CONSTRUCTION
2. SEE SPECIFICATIONS AND DETAILS FOR CURB CONSTRUCTION
3. ALL MATERIALS TO BE IN ACCORDANCE WITH THE STATE OF CONNECTICUT, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, CURRENT EDITION
4. RATE OF APPLICATION FOR TACK TO BE 0.05 GAL/SY MIN.
5. PROCESSED STONE TO BE PLACED AND COMPACTED IN 3 LIFTS OF SIX, FOUR AND FOUR INCHES.
6. MINIMUM DEPTH OF PROCESSED STONE OVER ROCK/LEDGE=24"
7. MINIMUM DEPTH TO ELECTRIC/COMMUNICATIONS=30"

DESIGN CRITERIA

DESIGN SPEED	30 MPH
STOPPING SITE DISTANCE	200 FT
MAXIMUM GRADE	8.0%
MINIMUM GRADE	1.0%
MINIMUM C RADIUS CURVE	200 FT
MAXIMUM APPROACH	3.0%
MINIMUM C OFFSET	500 FT

TYPICAL SECTION LOCAL ROADWAY

Date: 01-01-22

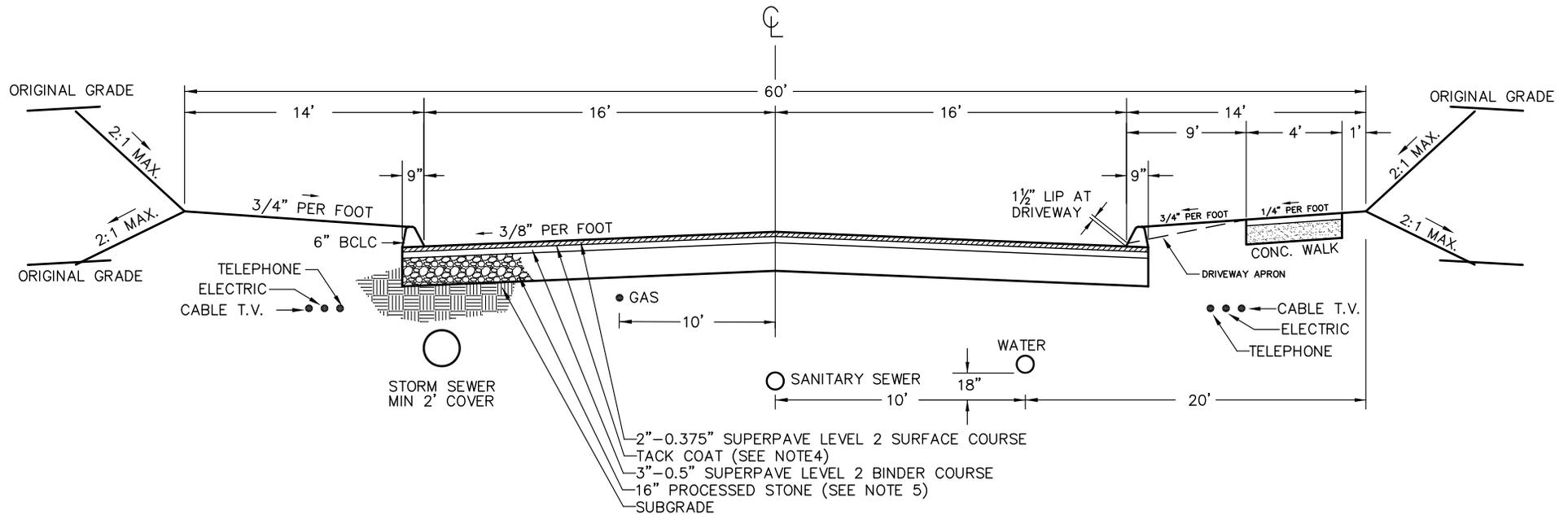
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TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

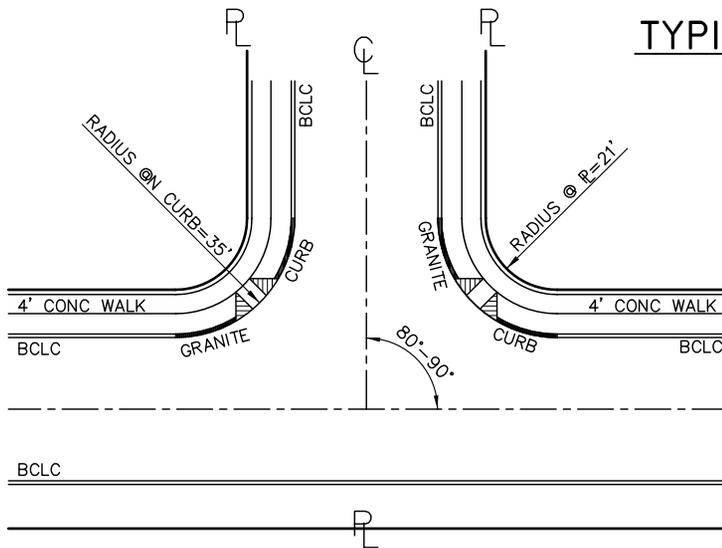
R-1

STANDARD DETAILS





TYPICAL ROADWAY SECTION



TYPICAL INTERSECTION SECTION

NOTES

1. SEE SPECIFICATIONS AND DETAILS FOR SIDEWALK CONSTRUCTION
2. SEE SPECIFICATIONS AND DETAILS FOR CURB CONSTRUCTION
3. ALL MATERIALS TO BE IN ACCORDANCE WITH THE STATE OF CONNECTICUT, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, CURRENT EDITION
4. RATE OF APPLICATION FOR TACK TO BE 0.05 GAL/SY MIN
5. PROCESSED STONE TO BE PLACED AND COMPACTED IN 3 LIFTS OF SIX, SIX AND FOUR INCHES.
6. MINIMUM DEPTH OF PROCESSED STONE OVER ROCK/LEDGE=24"
7. MINIMUM DEPTH TO ELECTRIC/COMMUNICATIONS=30"

DESIGN CRITERIA

DESIGN SPEED	40 MPH
STOPPING SITE DISTANCE	305 FT
MAXIMUM GRADE	8.0%
MINIMUM GRADE	1.0%
MINIMUM ϕ RADIUS CURVE	1000 FT
MAXIMUM APPROACH	3.0%
MINIMUM ϕ OFFSET	500 FT

TYPICAL SECTION COLLECTOR ROADWAY

Date: 01-01-22

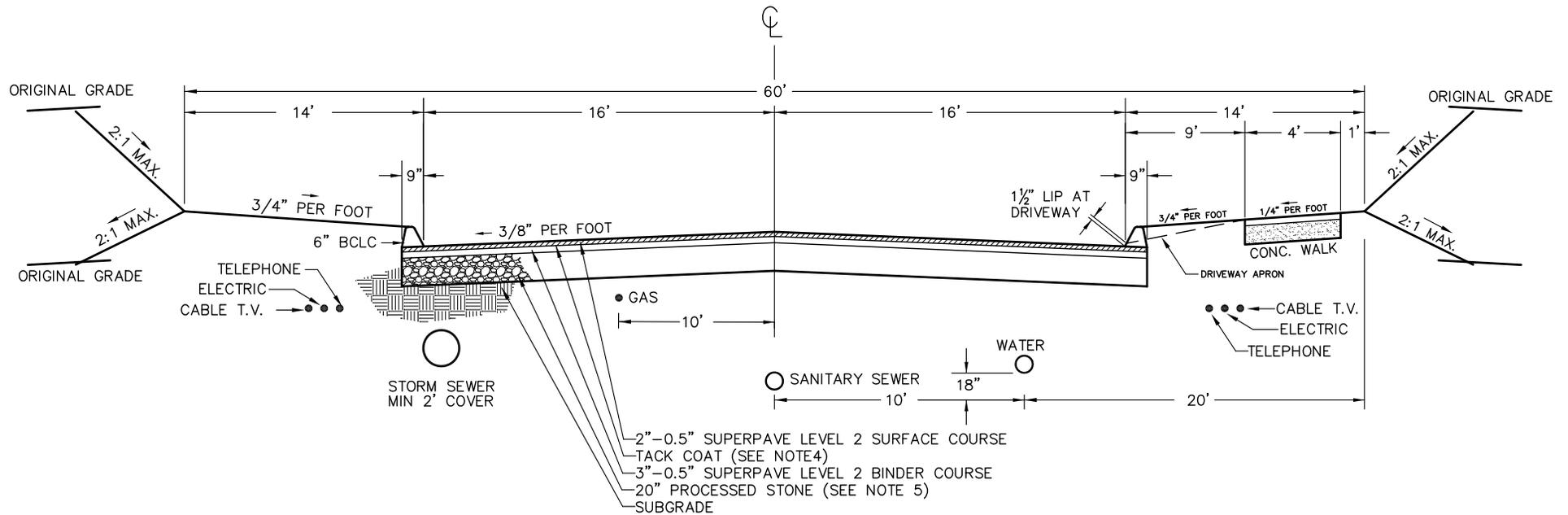
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TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

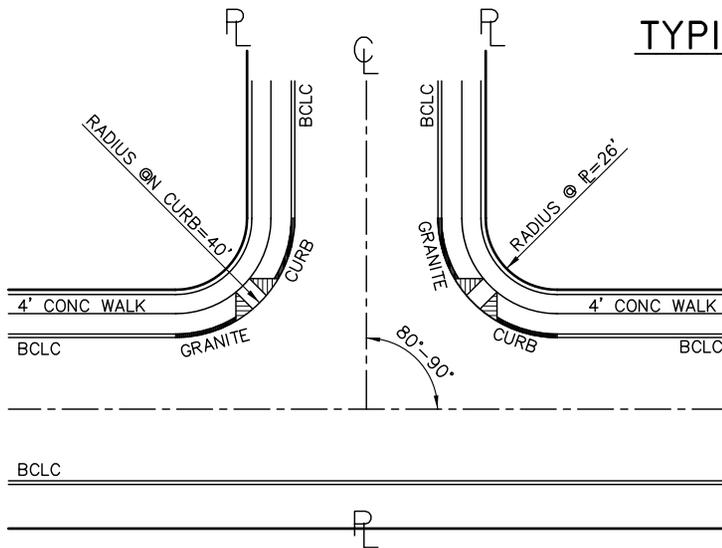
R-2

STANDARD DETAILS





TYPICAL ROADWAY SECTION



TYPICAL INTERSECTION SECTION

NOTES

1. SEE SPECIFICATIONS AND DETAILS FOR SIDEWALK CONSTRUCTION
2. SEE SPECIFICATIONS AND DETAILS FOR CURB CONSTRUCTION
3. ALL MATERIALS TO BE IN ACCORDANCE WITH THE STATE OF CONNECTICUT, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, CURRENT EDITION
4. RATE OF APPLICATION FOR TACK TO BE 0.05 GAL/SY MIN
5. PROCESSED STONE TO BE PLACED AND COMPACTED IN 4 LIFTS OF SIX, SIX, FOUR AND FOUR INCHES.
6. MINIMUM DEPTH OF PROCESSED STONE OVER ROCK/LEDGE=24"
7. MINIMUM DEPTH TO ELECTRIC/COMMUNICATIONS=30"

DESIGN CRITERIA

DESIGN SPEED	45 MPH
STOPPING SITE DISTANCE	360 FT
MAXIMUM GRADE	6.0%
MINIMUM GRADE	1.0%
MINIMUM ϕ RADIUS CURVE	1500 FT
MAXIMUM APPROACH	3.0%
MINIMUM ϕ OFFSET	500 FT

TYPICAL SECTION ARTERIAL ROADWAY

Date: 01-01-22

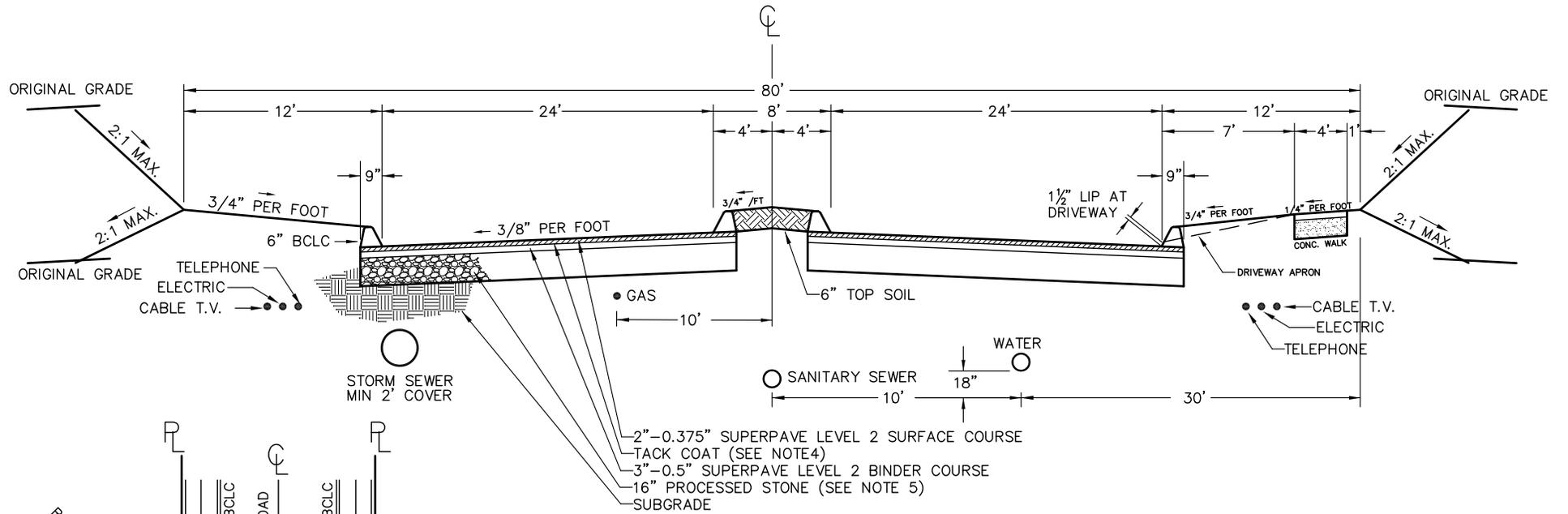
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TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

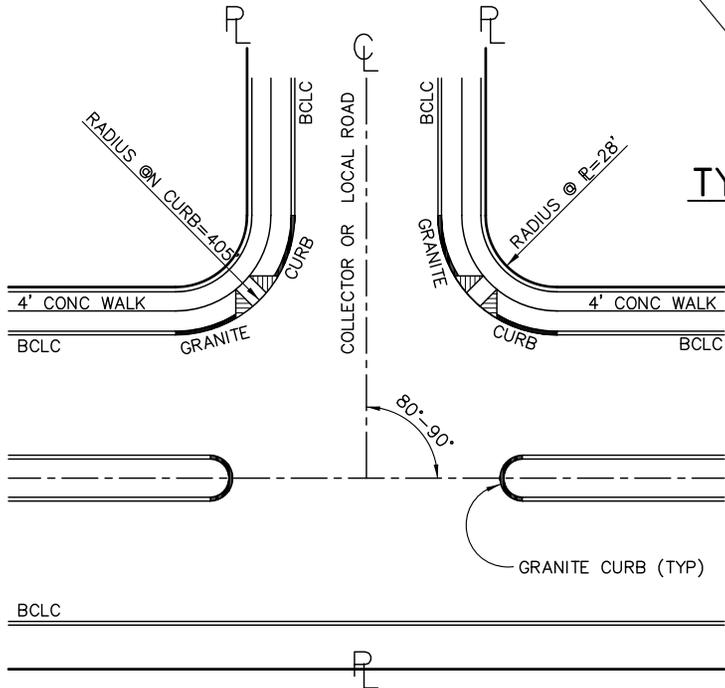
R-3

STANDARD DETAILS





TYPICAL ROADWAY SECTION



TYPICAL INTERSECTION SECTION

NOTES

1. SEE SPECIFICATIONS AND DETAILS FOR SIDEWALK CONSTRUCTION
2. SEE SPECIFICATIONS AND DETAILS FOR CURB CONSTRUCTION
3. ALL MATERIALS TO BE IN ACCORDANCE WITH THE STATE OF CONNECTICUT, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, CURRENT EDITION
4. RATE OF APPLICATION FOR TACK TO BE 0.05 GAL/SY MIN
5. PROCESSED STONE TO BE PLACED AND COMPACTED IN 3 LIFTS OF SIX, SIX AND FOUR INCHES.
6. MINIMUM DEPTH OF PROCESSED STONE OVER ROCK/LEDGE=24"
7. MINIMUM DEPTH TO ELECTRIC/COMMUNICATIONS=30"

DESIGN CRITERIA

DESIGN SPEED	40 MPH
STOPPING SITE DISTANCE	305 FT
MAXIMUM GRADE	8.0%
MINIMUM GRADE	1.0%
MINIMUM ϕ RADIUS CURVE	1000 FT
MAXIMUM APPROACH	3.0%
MINIMUM ϕ OFFSET	500 FT

**TYPICAL SECTION
DIVIDED BOULEVARD - COLLECTOR ROADWAY**



Date: 01-01-22

Scale: N.T.S.

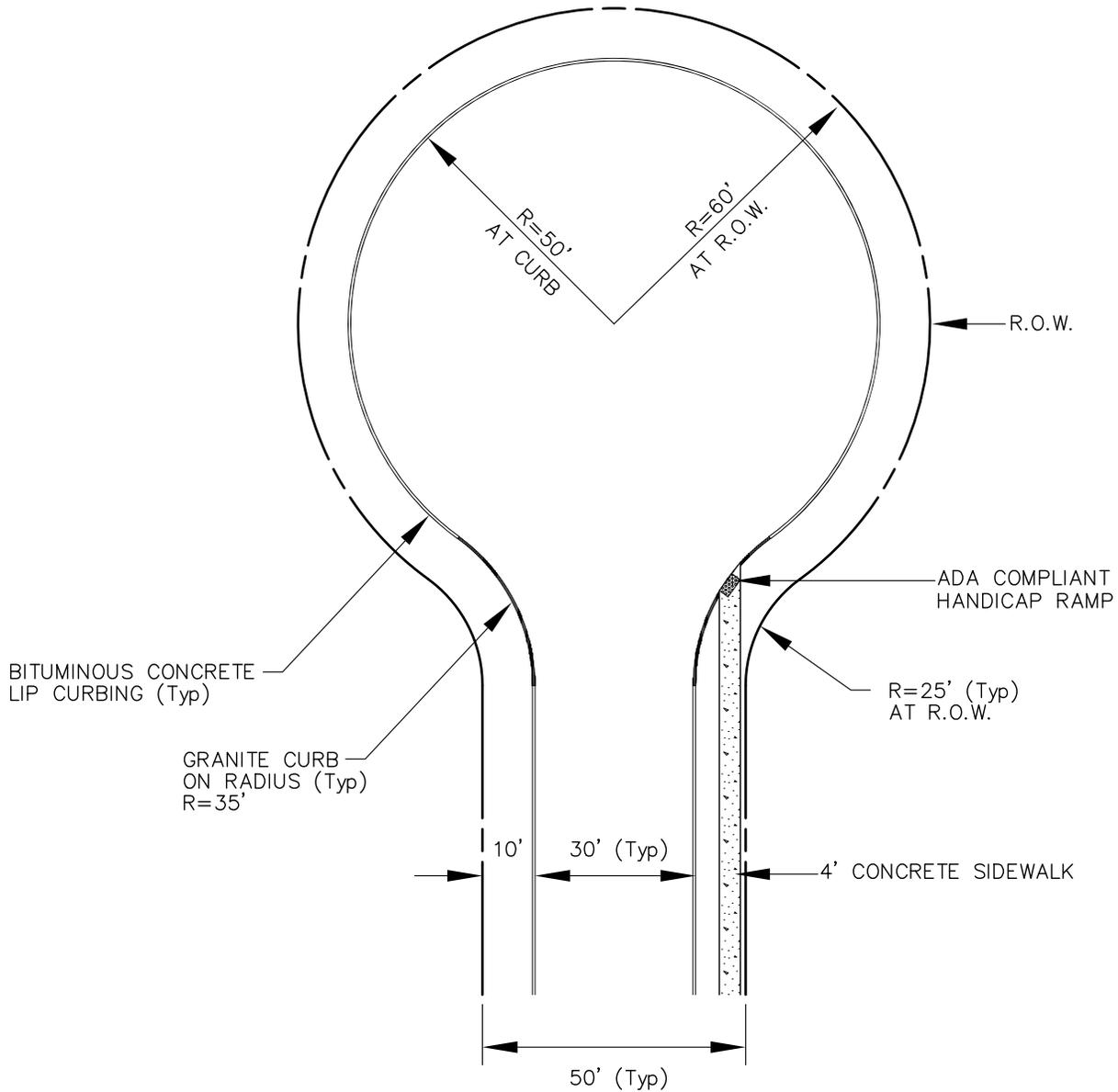
*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

R-4

STANDARD DETAILS

NOTES

1. SEE SPECIFICATIONS AND DETAILS FOR SIDEWALK CONSTRUCTION
2. SEE SPECIFICATIONS AND DETAILS FOR CURB CONSTRUCTION



TYPICAL CUL-DE-SAC



CUL - DE - SAC

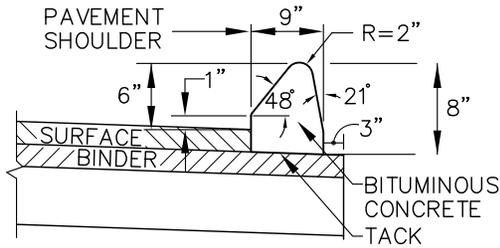
Date: 01-01-22

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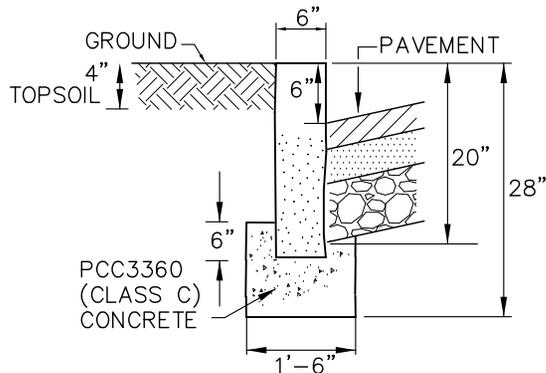
R-5

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

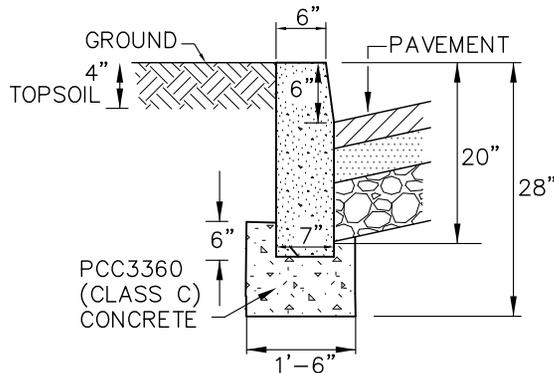
STANDARD DETAILS



BITUMINOUS CONCRETE LIP CURBING



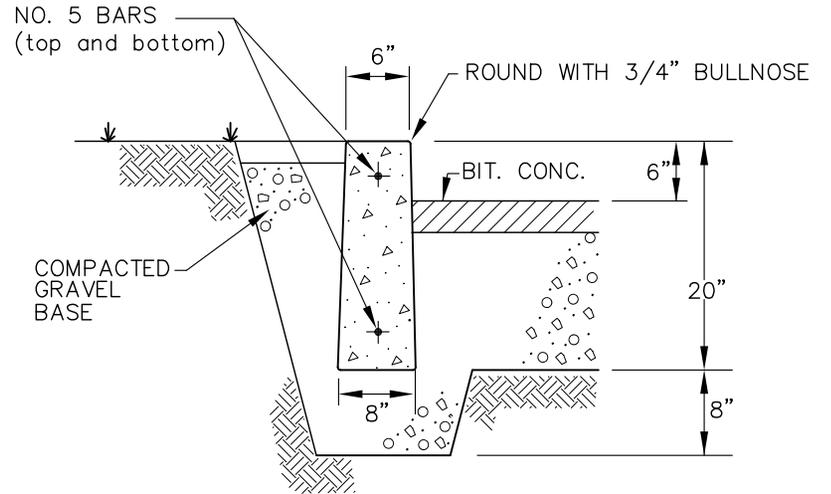
GRANITE RADIUS CURBING



PRECAST CONCRETE CURBING

NOTES:

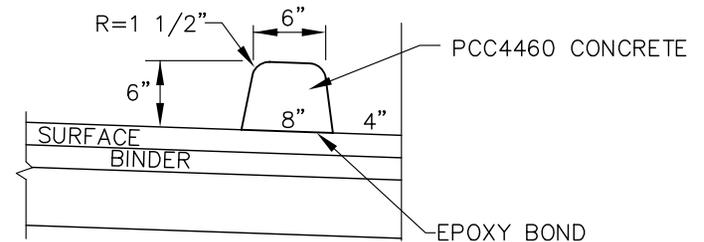
1. CONSTRUCTION JOINTS SHALL BE SPACED APPROXIMATELY EVERY 10 FT BUT NOT LESS THAN 6 FEET. 1/4" THICK PREFORMED EXPANSION JOINT FILLER SHALL BE INSTALLED EVERY OTHER JOINT
2. FORMWORK SHALL REMAIN INPLACE FOR 24 HOURS FOLLOWING CONCRETE PLACEMENT.



CAST IN PLACE CONCRETE CURB

NOTES:

1. CONCRETE SHALL MEET DOT SECTION M.03.02. CONCRETE SHALL CONTAIN 620 LB (MIN) OF CEMENT PER CY AND 1 LB FIBER REINFORCEMENT PER CY
2. CONCRETE SHALL BE BONDED TO PAVEMENT USING SIKA OR APPROVED EQUAL TWO PART EPOXY



EXTRUDED CONCRETE BONDED CURB



CURBING DETAILS

Date: 01-01-22

Scale: N.T.S.

R-6

***TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT***

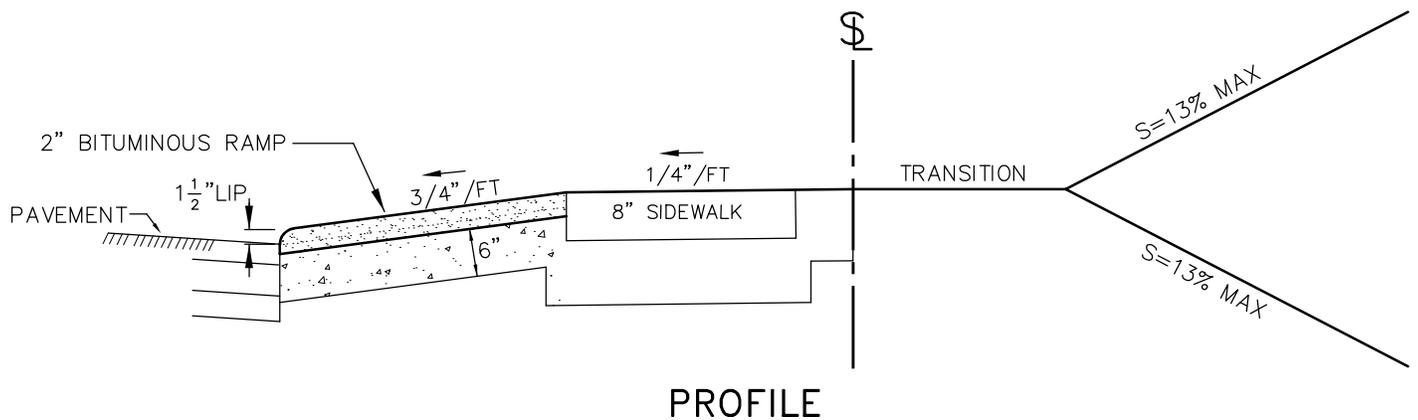
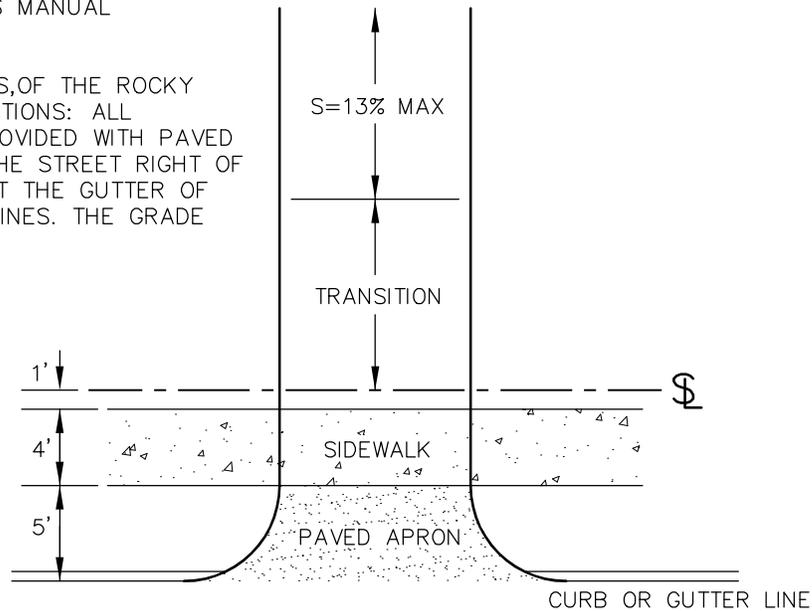
STANDARD DETAILS

NOTE:

DRIVEWAY APRONS WITHIN THE LIMITS OF THE TOWN STREET RIGHT OF WAYS SHALL SLOPE TOWARDS THE GUTTER

DRIVEWAY APRONS CONSTRUCTED OF ANY MATERIAL OTHER THAN HOT MIX ASPHALT WITHIN THE TOWN STREET RIGHT OF WAY REQUIRE A WAIVER PER 3.10.2 OF THE TOWN PUBLIC WORKS MANUAL

PER SEC 10.Q-DRIVEWAYS, OF THE ROCKY HILL SUBDIVISION REGULATIONS: ALL DRIVEWAYS SHALL BE PROVIDED WITH PAVED APRONS BEGINNING AT THE STREET RIGHT OF WAY LINE AND ENDING AT THE GUTTER OF STREET FACE OR CURB LINES. THE GRADE SHALL NOT EXCEED 13%



DRIVEWAY

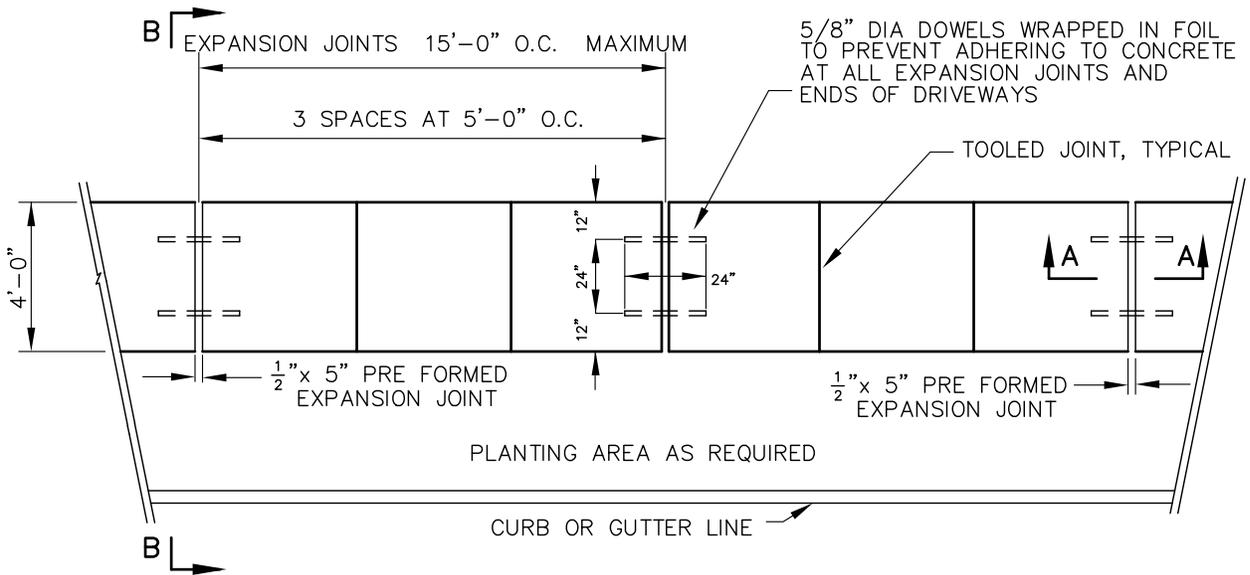
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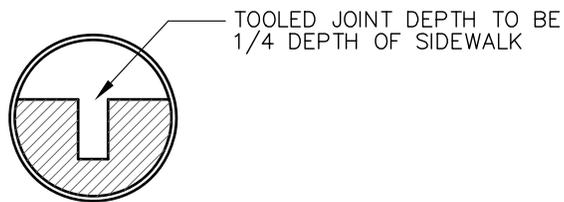
R-7

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS

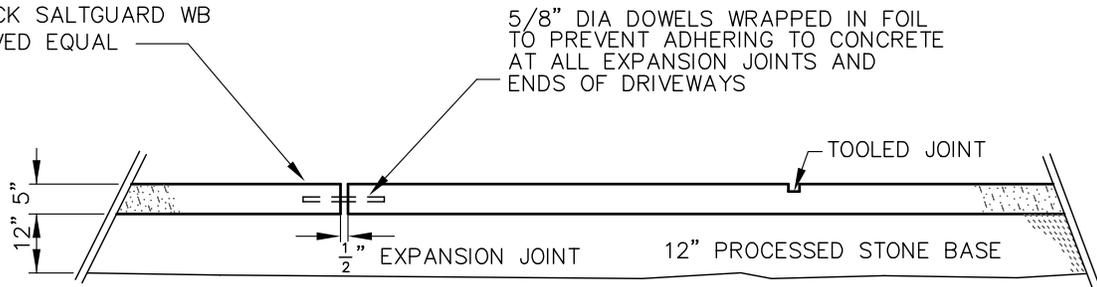


PLAN VIEW

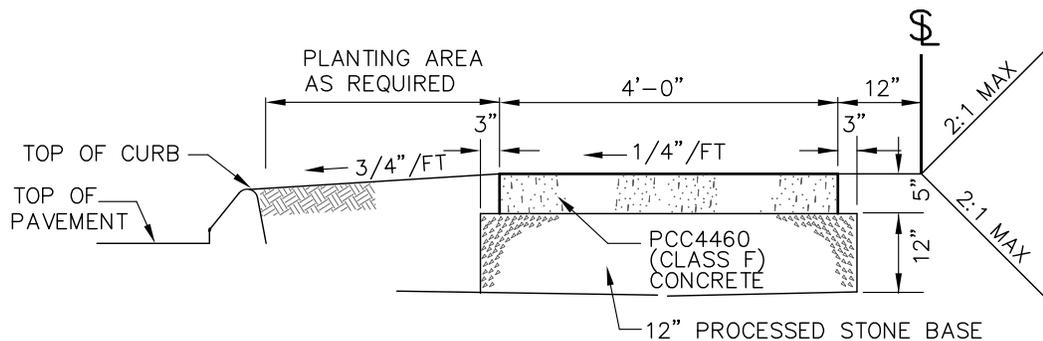


TOOLED JOINT

ALL CONCRETE IS TO BE SEALED WITH CONSOLIDECK SALTGUARD WB OR APPROVED EQUAL



SECTION A-A



SECTION B-B



5" CONCRETE SIDEWALK

Date: 01-01-22

Scale: N.T.S.

R-8

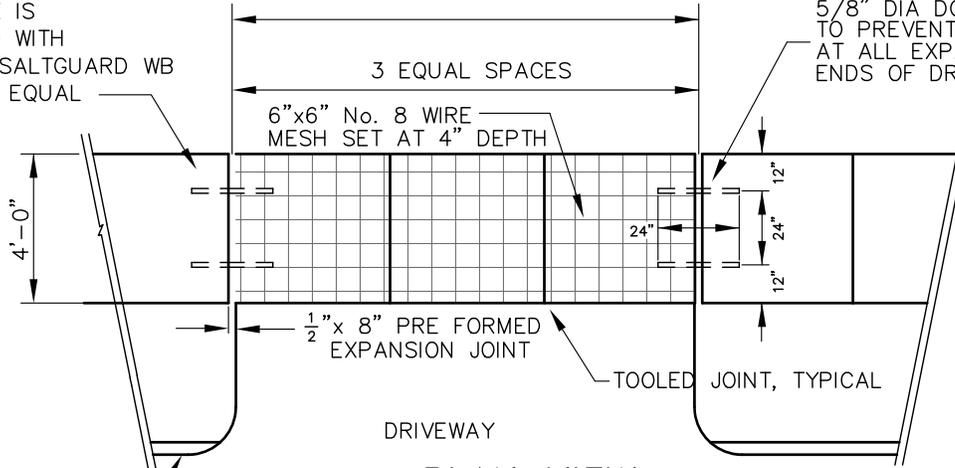
TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

STANDARD DETAILS

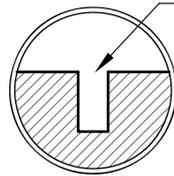
ALL CONCRETE IS TO BE SEALED WITH CONSOLIDECK SALTGUARD WB OR APPROVED EQUAL

EXPANSION JOINTS 15'-0" O.C. MAXIMUM

5/8" DIA DOWELS WRAPPED IN FOIL TO PREVENT ADHERING TO CONCRETE AT ALL EXPANSION JOINTS AND ENDS OF DRIVEWAYS

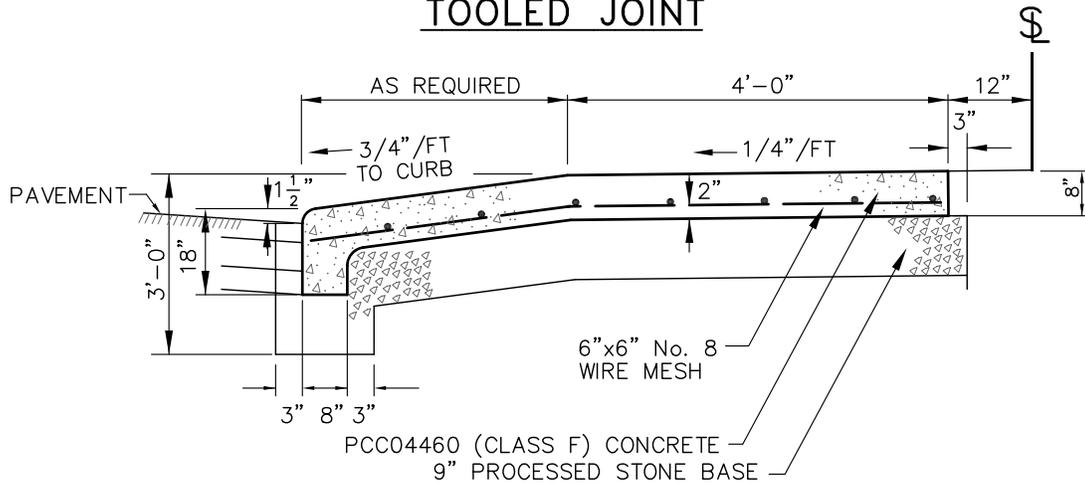


PLAN VIEW

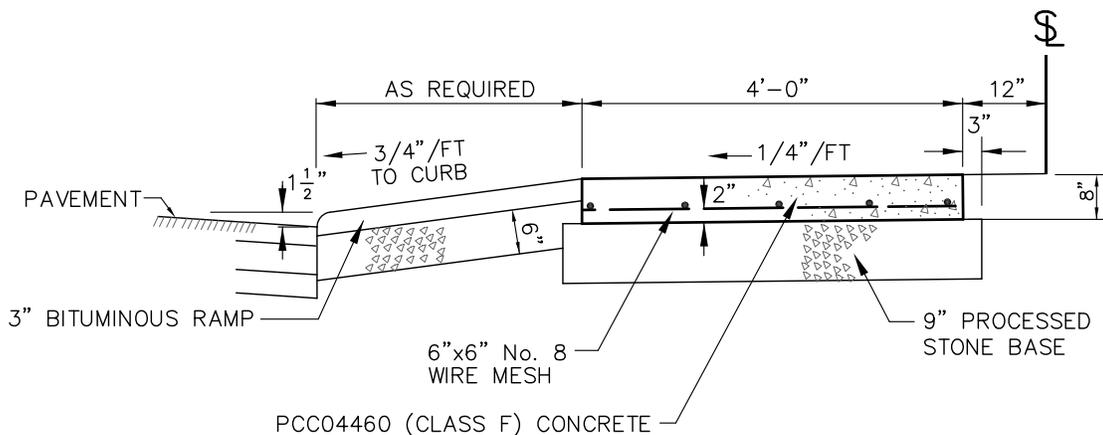


TOOLED JOINT DEPTH TO BE 1/4 DEPTH OF SIDEWALK

TOOLED JOINT



8" SIDEWALK @ CONCRETE RAMP



8" SIDEWALK @ BITUMINOUS RAMP



8" REINFORCED CONCRETE SIDEWALK

Date: 01-01-22

Scale: N.T.S.

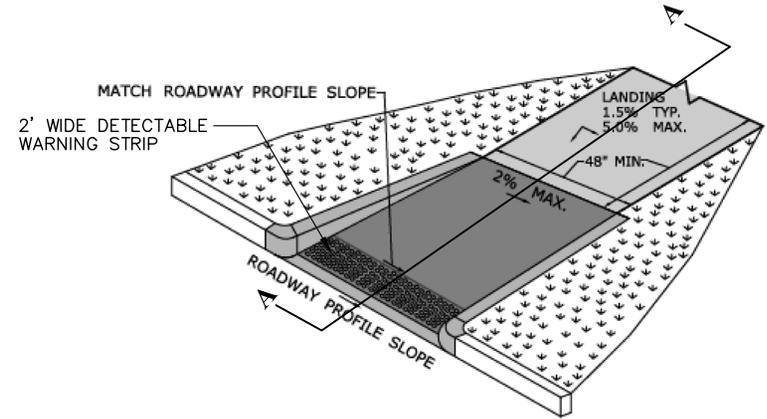
R-9

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

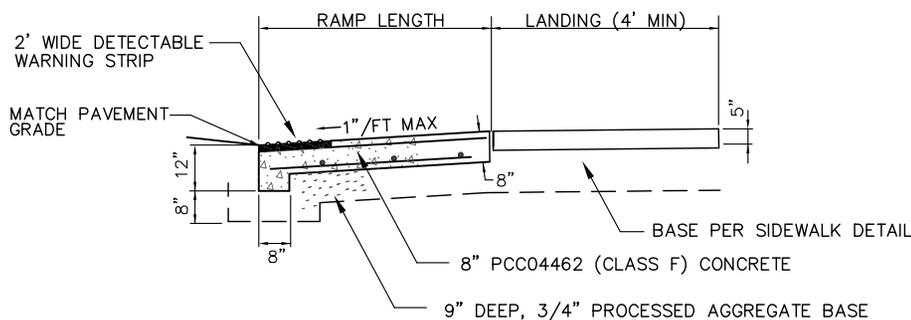
STANDARD DETAILS

GENERAL NOTES

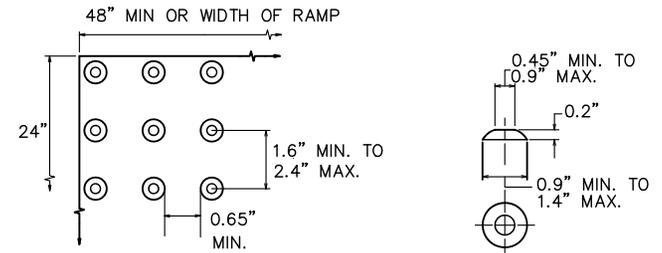
1. SIDEWALK RAMPS SHALL BE CONSTRUCTED AT PEDESTRIAN CROSSWALKS
2. DRAINAGE DESIGN IN THE VICINITY OF SIDEWALK RAMPS SHALL BE CONSIDERED AN INTEGRAL PART OF THE DESIGN OF THE RAMPS. NO DRAINAGE STRUCTURE SHALL BE PLACED WITHIN THE LIMITS OF A HANDICAP RAMP ON NEW DESIGNS
3. TRANSITION SIDEWALK RAMP TO MATCH ROADWAY PROFILE AS GRADUALLY AS POSSIBLE. DO NOT EXCEED 3% PER FOOT CROSS SLOPE RATE OF CHANGE WHEN TRANSITIONING TO ROADWAY PROFILE
4. COMPLETE TRANSITION TO ROADWAY PROFILE BEHIND DETECTABLE WARNING SURFACE
5. SIDEWALK RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS FOR 8" REINFORCED SIDEWALK EXCEPT THAT THE FINAL TEXTURE OF THE CONCRETE SURFACE SHALL BE A COARSE BROOM FINISH TRANSVERSE TO THE SLOPE OF THE RAMP
6. MINIMUM WIDTH OF RAMPS FOR HANDICAP SHALL BE 4'-0"
7. DETECTABLE WARNING STRIP WIDTH SHALL MEET THAT OF THE RAMP
8. EXISTING CONCRETE SIDEWALKS SHALL BE CUT WITH A CONCRETE SAW FOR THE INSTALLATION OF RAMPS FOR THE HANDICAP
9. REMOVAL OF EXISTING SIDEWALKS SHALL BE TO THE NEAREST EXPANSION JOINT
10. THE BOTTOM OF THE RAMP SHALL BE BEVELED AT THE GUTTER LINE
11. MAXIMUM ALLOWABLE LIP HEIGHT AT THE GUTTER LINE IS 1/4"
12. THE MAXIMUM RUNNING SLOPE OF THE RAMP SHALL BE 1 IN/FT AND SHALL NOT EXCEED 15 FEET IN LENGTH. CARE SHOULD BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF ABRUPT CHANGES



RAMP WARPING DETAIL



TYPICAL SECTION THROUGH RAMP A-A



DOMES SPACING

DOMES SECTION

1. Install the edge of Detectable Warning 6" from edge of road.
2. To permit wheelchair wheels to roll between domes, align domes on a square grid in the direction of pedestrian travel

DETECTABLE WARNING STRIP

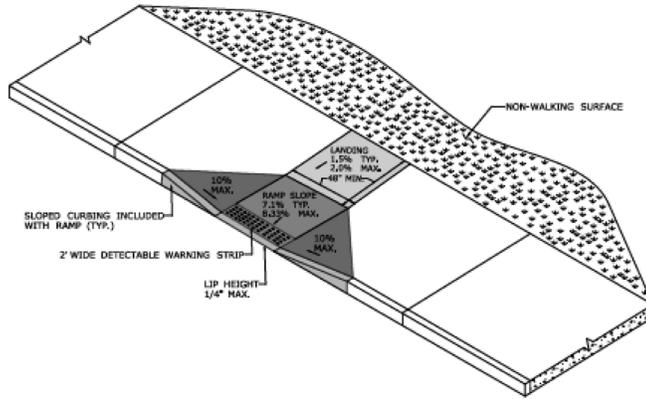


**SIDEWALK RAMPS
GENERAL DETAILS**

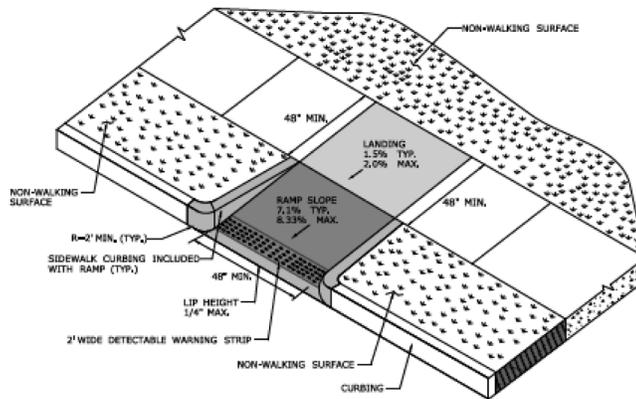
01-01-22
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R-10

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

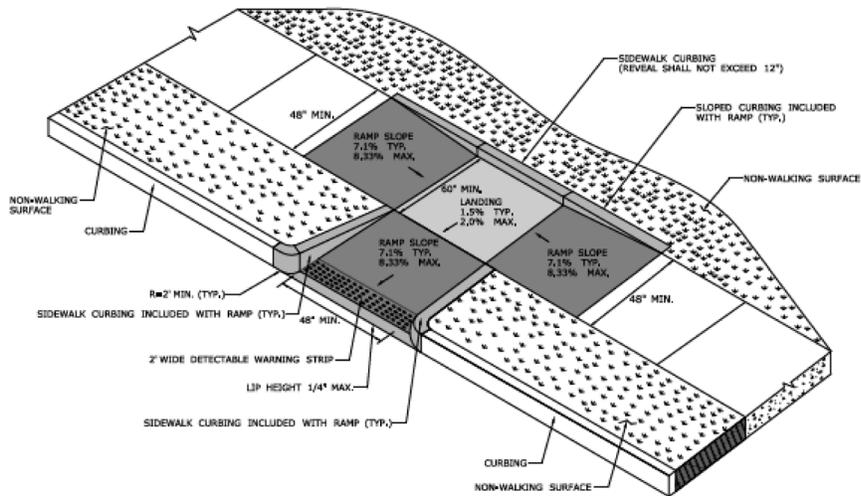
STANDARD DETAILS



PERPENDICULAR RAMP ADJACENT TO CURB w/BY-PASS
DOT TYPE 8



PERPENDICULAR WALK ADJACENT TO GRASS
DOT TYPE 13



PERPENDICULAR WALK ADJACENT TO GRASS
DOT TYPE 12



**SIDEWALK RAMPS
PERPENDICULAR RAMPS**

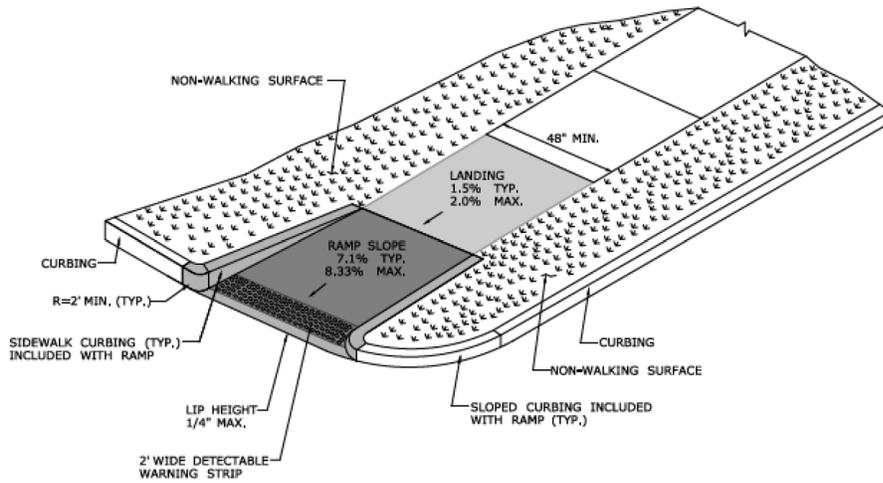
Date: 01-01-22

Scale: N.T.S.

R-11

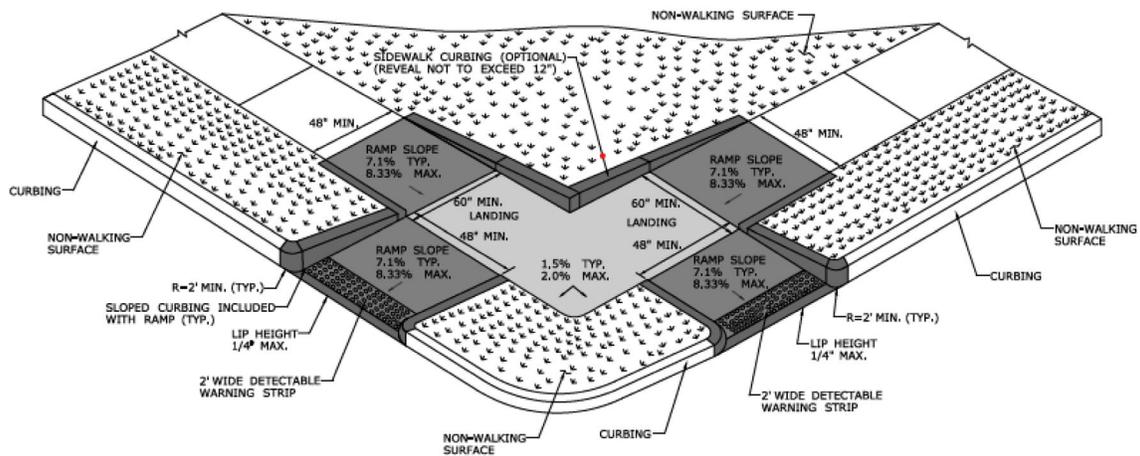
*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS



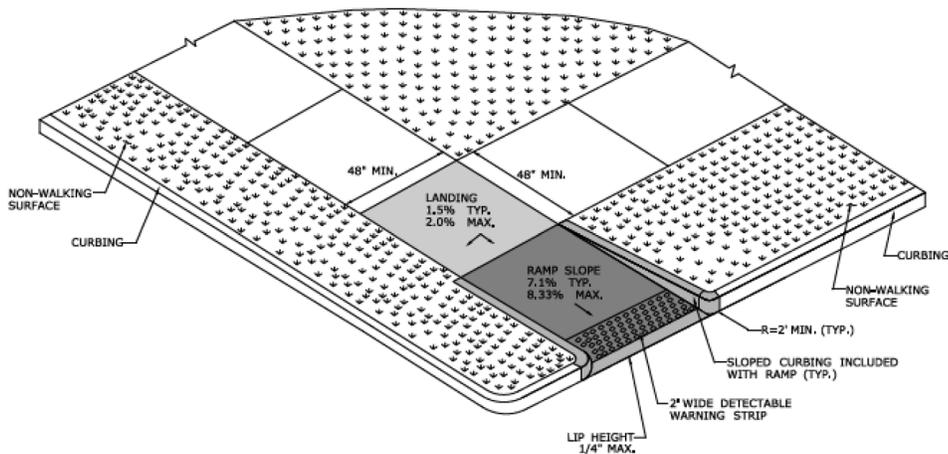
SINGLE DIRECTION RAMP ADJACENT TO GRASS

DOT TYPE 16



PERPENDICULAR RAMP ADJACENT TO GRASS

DOT TYPE 19



RESTRICTED PEDESTRIAN CROSSING RAMP ADJACENT TO GRASS

DOT TYPE 20



SIDEWALK RAMPS CORNER RAMPS

Date: 01-01-22

Scale: N.T.S.

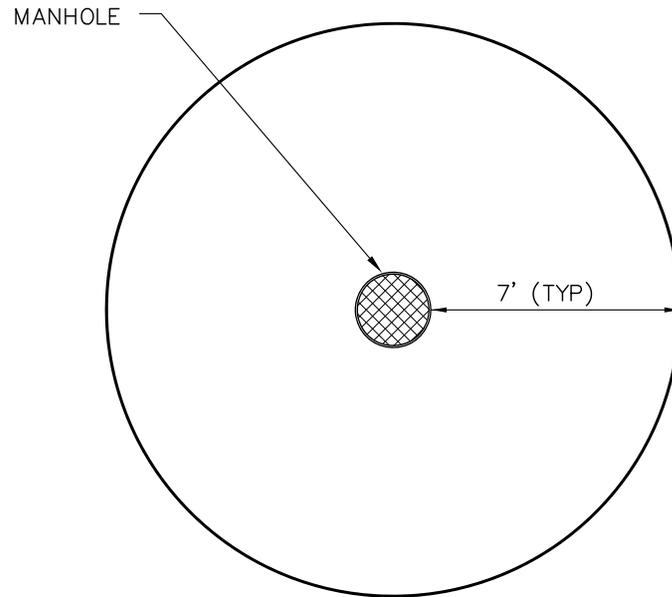
R-12

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

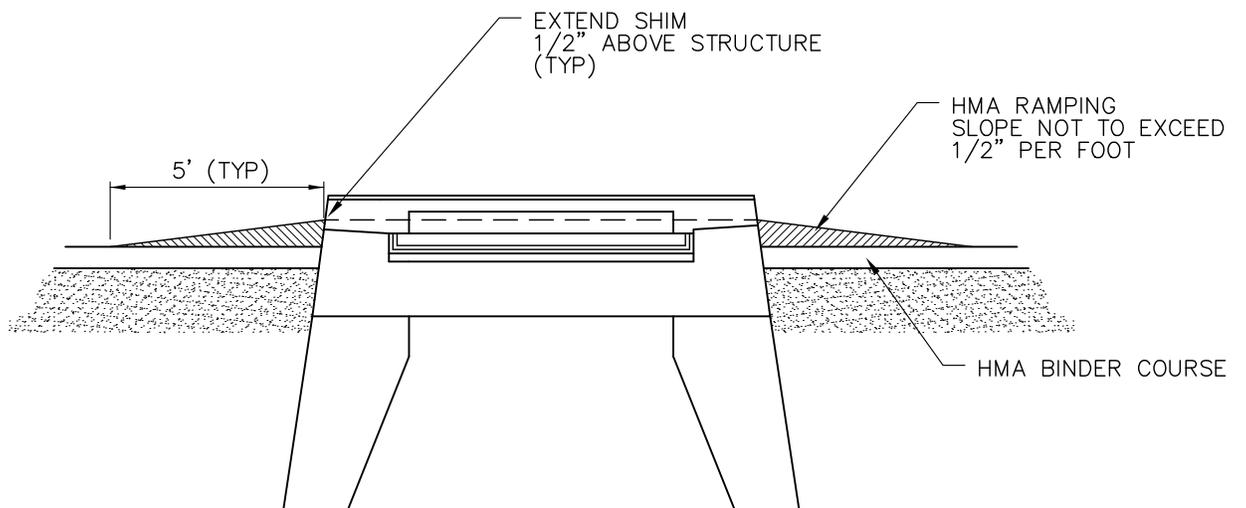
STANDARD DETAILS

NOTES

1. EXTEND SHIM $1/2$ " ABOVE STRUCTURES
2. HMA RAMPING NOT TO EXCEED $1/2$ " PER FT
3. SHIM MATERIAL SHALL BE HMA CURB MIX PER CT DOT FORM 817, OR AS AMMENDED
4. OTHER STRUCTURES LEFT ABOVE FINISHED GRADE FOR THE WINTER MUST BE PROPERLY SHIMMED FOR PLOWING
5. AREA UNDER SHIM TO BE TACK COATED



MANHOLE SHIM



CATCH BASIN SHIM



TEMPORARY PAVEMENT RAMPING

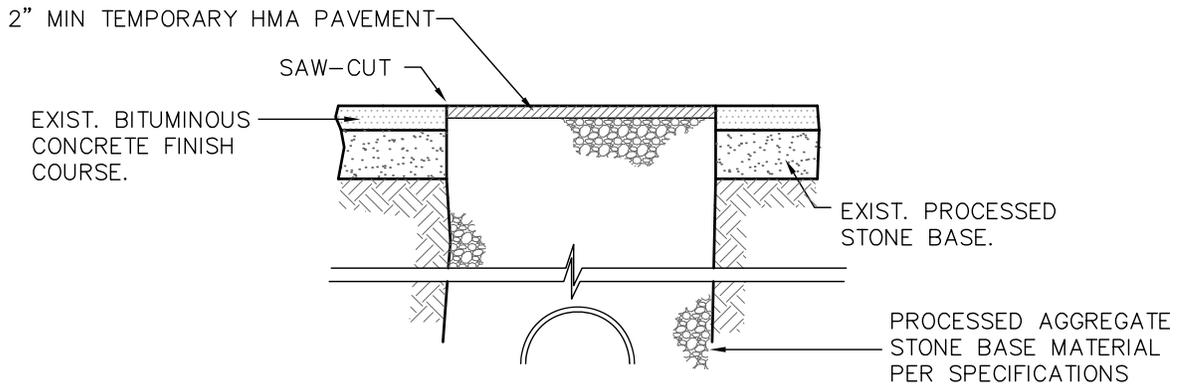
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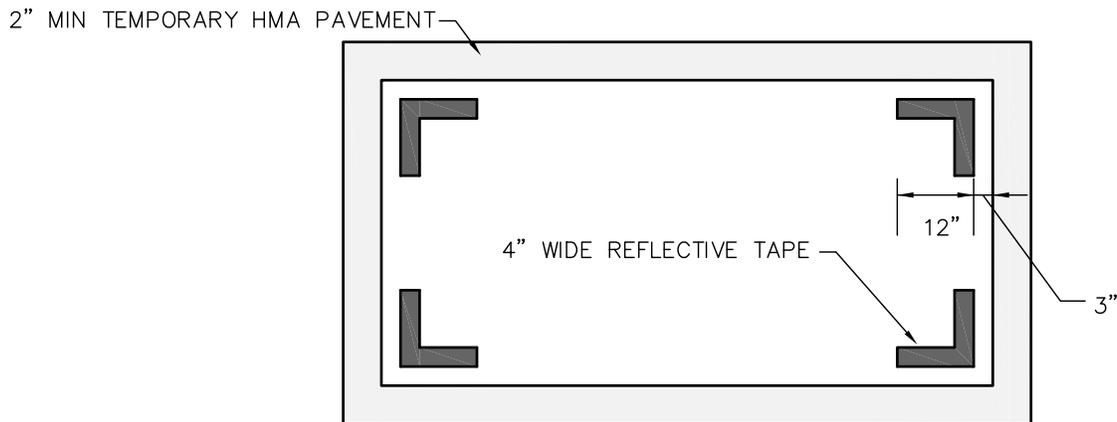
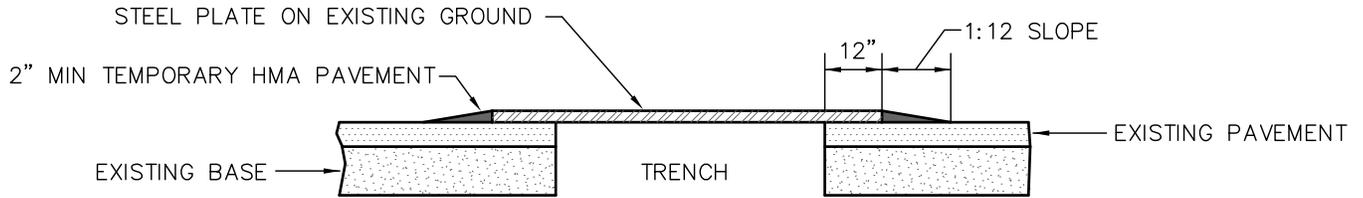
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TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

STANDARD DETAILS



TEMPORARY TRENCH SECTION



STEEL PLATES

NOTES

All repairs to be made in accordance with the Town of Rocky Hill Street Excavation Standards

1. Pavement Cut: All cuts through existing surfaces shall be made with a road saw capable of penetrating all layers of pavement. All cut shall be straight, clean and rectangular in shape. Longitudinal joints are not permitted in the wheelpath.
2. Steel Plates to temporarily cover excavations, may be used if approved by the Town Engineer. Plates must be anchored securely to the surrounding pavement and ramped with bituminous concrete.
3. Backfill: All backfill for open cuts in portions of the Public right-of-way beneath existing pavement, curb, gutter or sidewalk shall be Processed Aggregate
4. Pavement: Temporary hot mix asphalt shall be placed with a minimum thickness of two (2) inches by the end of the work day.. Material shall be Superpave Level 2, 0.5" or 0.375". Patch shall remain for ninety (90) days. COLD PATCH NOT PERMITTED.
5. No street excavation permits, except for emergencies, shall be granted during the local hot mix asphalt plant winter shutdowns (typically December 15–April).



**PAVEMENT PATCH
TEMPORARY PATCH DETAIL
STEEL PLATES**

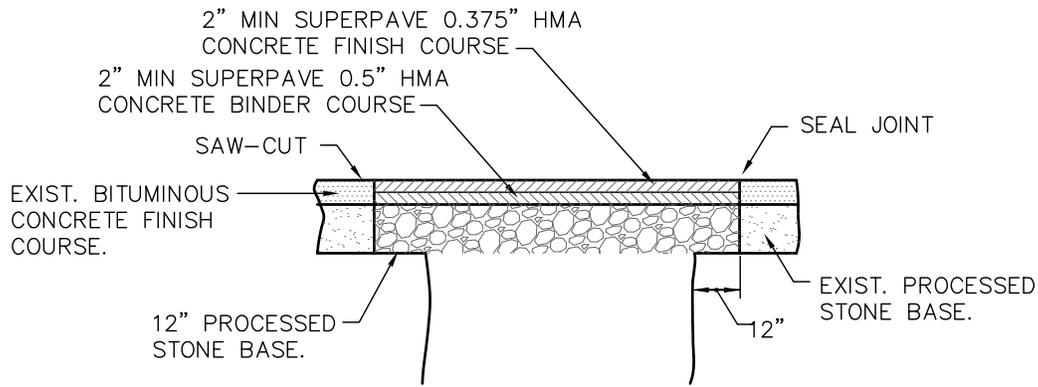
Date: 01-01-22

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*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS



PERMANENT PATCH SECTION

NOTES

1. Prior to placing the permanent patch, the existing pavement shall be removed to clean, straight lines parallel or perpendicular to the flow of traffic.
2. If pavement adjoining the original pavement saw cut is damaged during construction, additional pavement shall be removed with cuts parallel with the original cuts. The additional pavement damaged due to construction shall be repaired at the Permittee expense. Patches should have a smooth longitudinal grade and a cross slope or cross section consistent with the existing roadway.
3. The temporary patch shall be removed, the existing pavement cut back a minimum of twelve (12) inches, or as directed from the trench to make a neat clean square joint which will overlap the original subgrade.
4. Trenches patch lengths shall extend across the full width of the travel lane and at least one (1') foot each side of the trench (see detail).
5. When the excavation and patch fall within three (3') feet of a section of failed pavement, the failed area shall be removed up to sound pavement and patched. Scarring, gouging, or other damaged pavement adjacent to a patch shall be removed and the pavement repaired.
6. Patches within existing patches are to be avoided. Where this does occur, boundaries of the new patch shall match or exceed the existing patch.
- 7.
8. Edges of patches shall not fall in existing wheel paths. The edges of patches parallel to the direction of traffic shall be limited to the boundaries of lanes or to the centerline of travel lanes.
9. A minimum uniform four inches of hot mix asphalt shall be placed in two (2), two (2)-inch lifts. Material shall be Superpave Level 2, 0.5" and/or .0375". The four (4) inches depth is the minimum depth, if the original pavement is thicker than four (4) inches; the minimum depth shall be increased to the depth of the existing pavement.

PENALTY

Failure of the permittee to comply with the above regulations will make him subject to the suspension of any further permits in the Town of Rocky Hill. If the completed work is unsatisfactory to the Town Engineer, the Permittee and bonding company shall be notified by registered mail, allowing him ten (10) days to correct such pavement cut. If the pavement cut is not repaired within the ten (10) days, the Town of Rocky Hill will make the necessary repairs utilizing the Permittees bond.



PAVEMENT PATCH PERMANENT PATCH DETAIL

Date: 01-01-22

Scale: N.T.S.

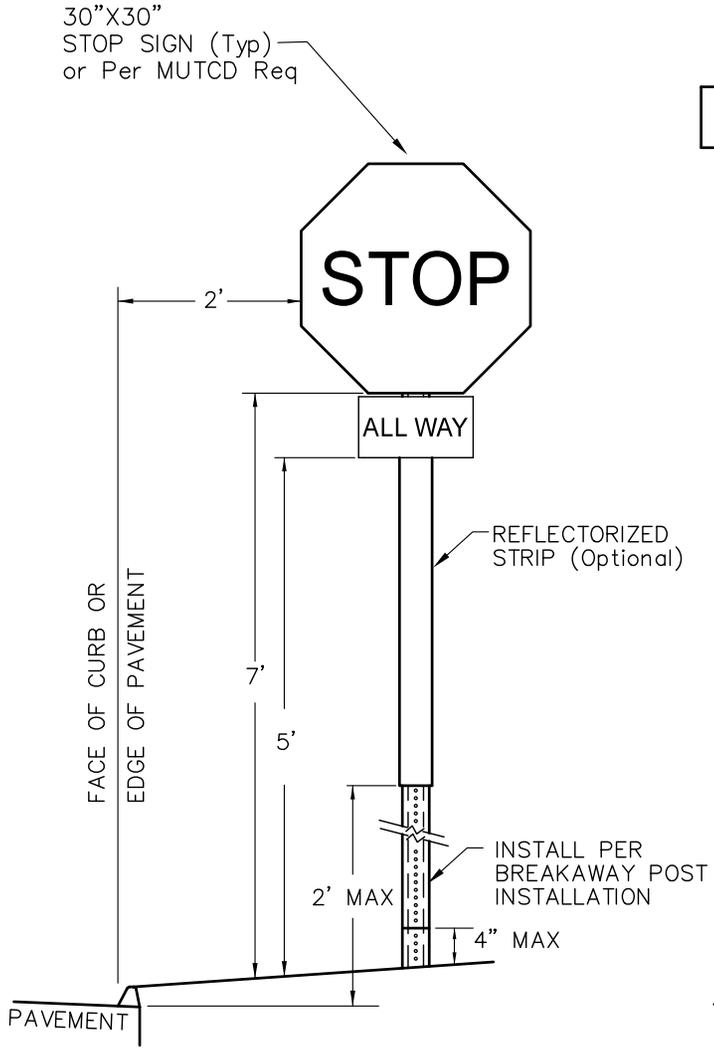
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TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

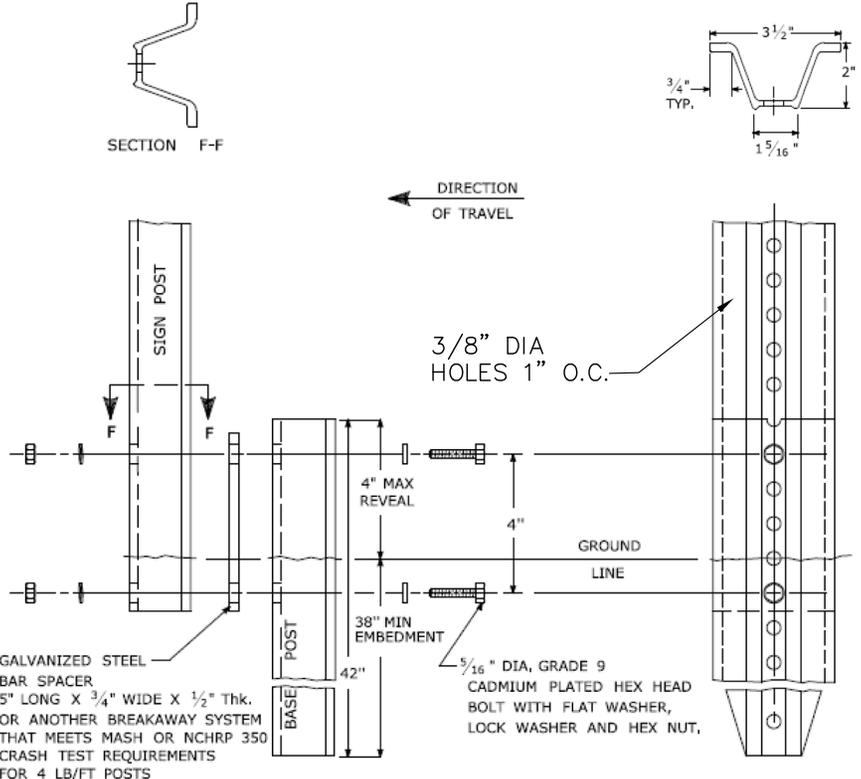
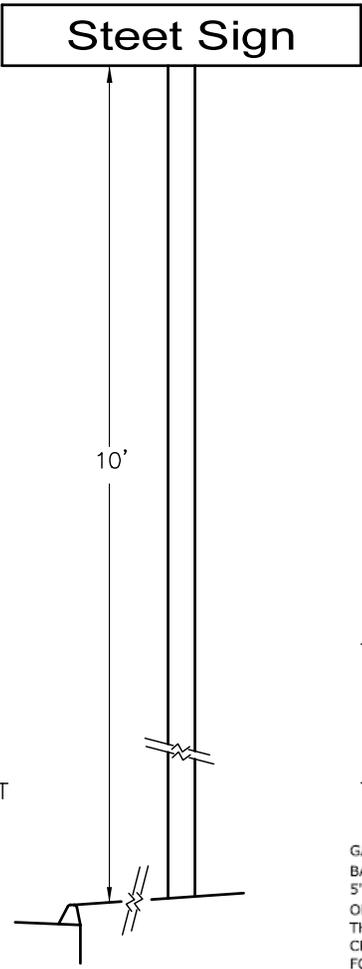
STANDARD DETAILS

NOTES

1. REGULATORY, WARNING AND INFORMATIONAL SIGNAGE PROPERTIES INCLUDING BUT NOT LIMITED TO: SIZE, FONT, FONT SIZE, COLORS SYMBOLS AND LAYOUT SHALL CONFORM TO THE MANUAL OF UNIFORM CONTROL DEVICES (MUTCD), 2009 OR AS AMENDED
2. ALL SIGNS SHALL BE MOUNTED ON GALVANIZED STEEL BREAKAWAY U-CHANNEL POSTS, WITH A WEIGHT OF 4 LB/FT
3. ALL SIGN POSTS SHALL BE IN ACCORDANCE WITH CT. DOT SPECIFICATIONS



SIGN INSTALLATION



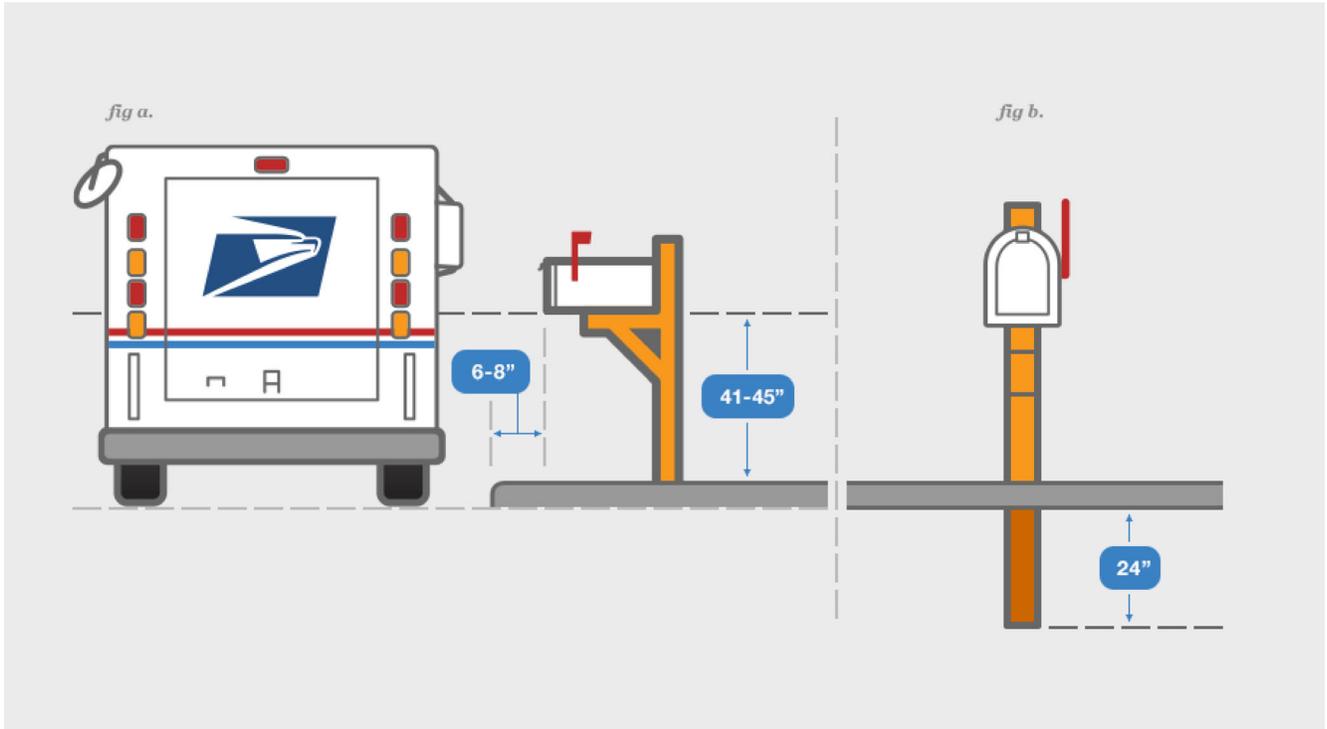
BREAKAWAY POST INSTALLATION



SIGN AND POST INTALLATION

Date: 01-01-22
 Scale: N.T.S.
 R-16

TOWN OF ROCKY HILL
 ENGINEERING DEPARTMENT
STANDARD DETAILS



WHERE TO PLACE THE MAILBOX

ALL MANUFACTURED MAILBOXES MUST MEET THE INTERNAL AND EXTERNAL DIMENSION REQUIREMENTS OF THE USPS.

CURBSIDE MAILBOXES MUST BE PLACED ON THE RIGHT-HAND SIDE OF THE ROAD AND FACING OUTWARD SO THAT MAIL CARRIERS CAN ACCESS IT EASILY WITHOUT LEAVING THEIR VEHICLE.

THE BOX OR HOUSE NUMBER ON A MAILBOX MUST BE REPRESENTED IN NUMBERS THAT ARE AT LEAST 1 INCH TALL, AND THEY MUST BE POSITIONED ON THE FRONT OR FLAG SIDE OF THE BOX.

MAILBOXES MUST BE PLACED 6 TO 8 INCHES AWAY FROM THE CURB, IF THERE IS NO RAISED CURB, CONTACT THE LOCAL POSTMASTER FOR GUIDANCE.

THE BOTTOM OF THE MAILBOX OR POINT OF MAIL ENTRY MUST BE 41 TO 45 INCHES FROM THE ROAD SURFACE.

NEWSPAPER RECEPTACLES MAY BE MOUNTED ON THE SAME POST AS THE MAILBOX, BUT THEY MUST NOT CONTACT IT DIRECTLY OR BE SUPPORTED BY IT.

INSTALLING THE MAILBOX POST

THE BEST MAILBOX SUPPORTS ARE STABLE BUT BEND OR FALL AWAY IF A CAR HITS THEM. THE FEDERAL HIGHWAY ADMINISTRATION RECOMMENDS:

CURBSIDE MAILBOX POSTS SHOULD BE BURIED LESS THAN 24 INCHES DEEP AND MADE FROM A 4" X 4" WOODEN SUPPORT OR A 2"-DIAMETER STANDARD STEEL OR ALUMINUM PIPE.

AVOID UNYIELDING AND POTENTIALLY DANGEROUS SUPPORTS, LIKE HEAVY METAL PIPES, CONCRETE POSTS, AND FARM EQUIPMENT (E.G., MILK CANS FILLED WITH CONCRETE).

From U.S. Postal Service® guidelines for installing and placing a new mailbox at your home
<https://www.usps.com/manage/mailboxes.htm>, 11/01/21



MAILBOX INSTALLATION (From the United States Postal Service)

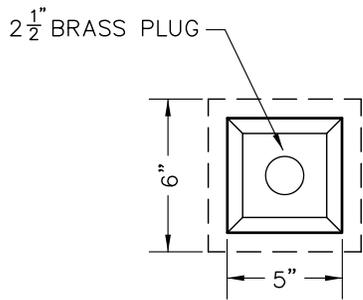
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TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

STANDARD DETAILS

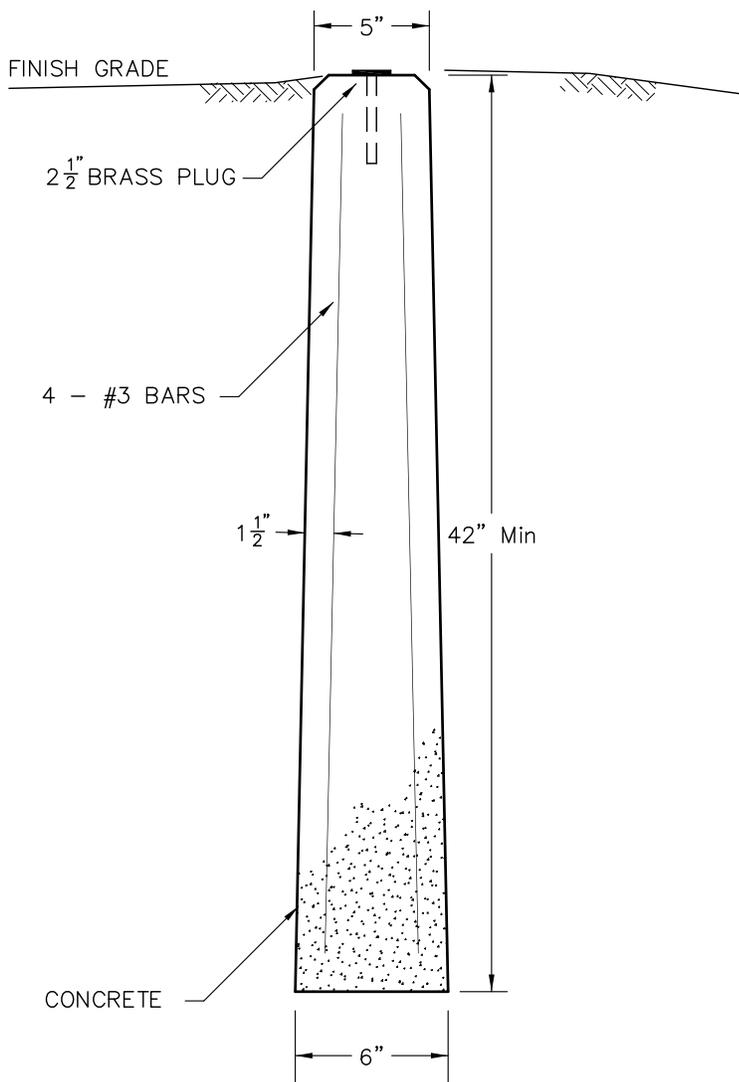


PLAN

NOTES

ALL MONUMENTS SHALL BE SET ON POINTS OF CURVATURE POINTS OF TANGENCY AND ALL ANGLE POINTS ON STREET LINES. IN ADDITION, MONUMENTS SHALL BE SET ON CORNERS AND ANGLE POINTS SUBDIVISIONS AND OPEN SPACE

ALL MERESTONES TO BE SET FLUSH WITH FINISH GRADE



PROFILE



CONCRETE MONUMENT

Date: 01-01-22

Scale: N.T.S.

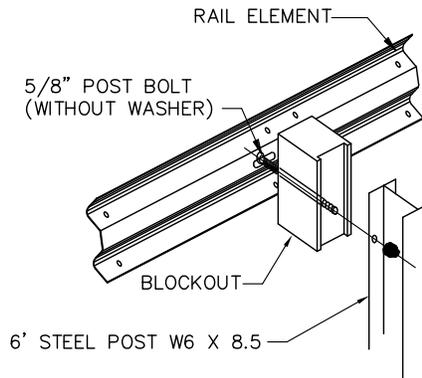
R-18

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

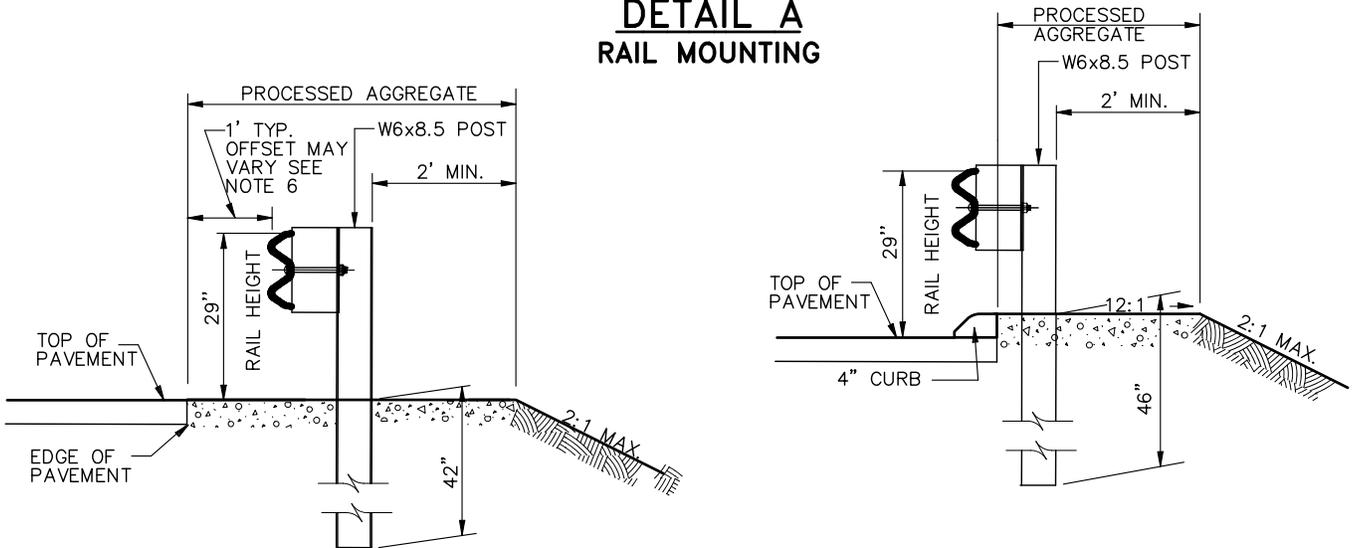
STANDARD DETAILS

NOTES

1. ALL GUIDERAIL TO BE IN ACCORDANCE WITH CDOT 818 AS AMMENDED AND DETAIL SHEETS HW-910-01 THRU HW-911-05, AS AMMENDED
2. METAL BEAM RAIL TO BE GALVANIZED OR CORE 10 WEATHERED STEEL

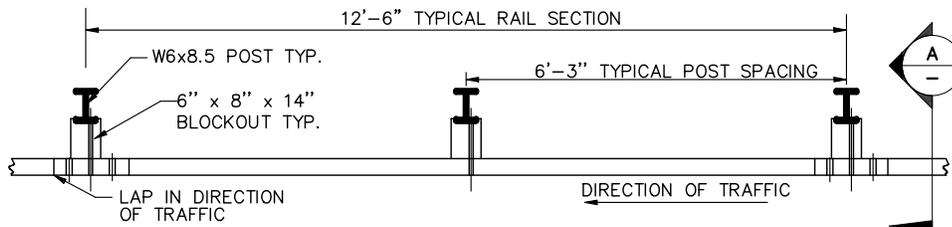


DETAIL A RAIL MOUNTING

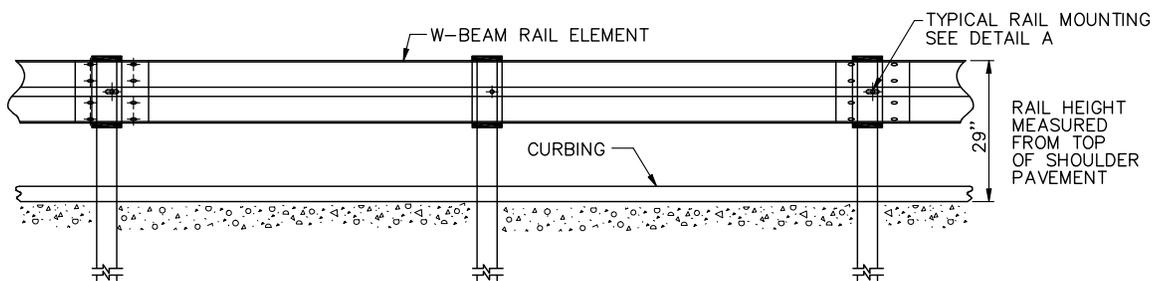


NO CURB APPLICATION SECTION A

CURB APPLICATION SECTION A



PLAN



ELEVATION



**GUIDERAIL
METAL BEAM RAIL
TYPE R-B 350**

03-01-21

Scale: N.T.S.

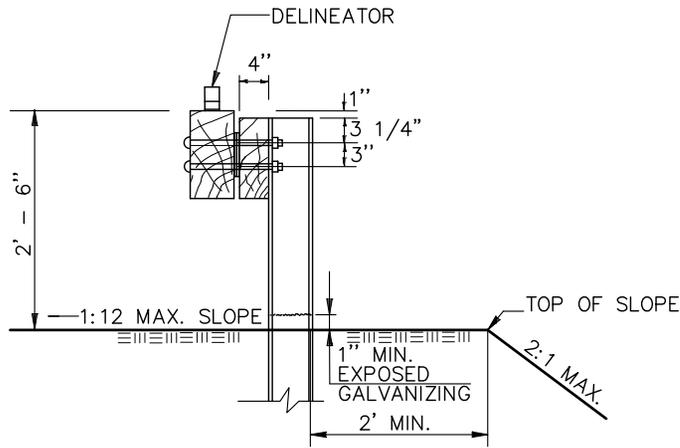
R-19

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

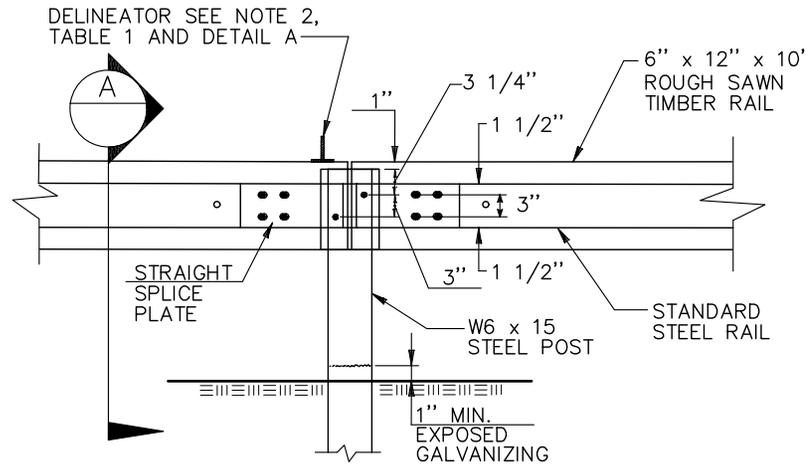
STANDARD DETAILS

NOTES

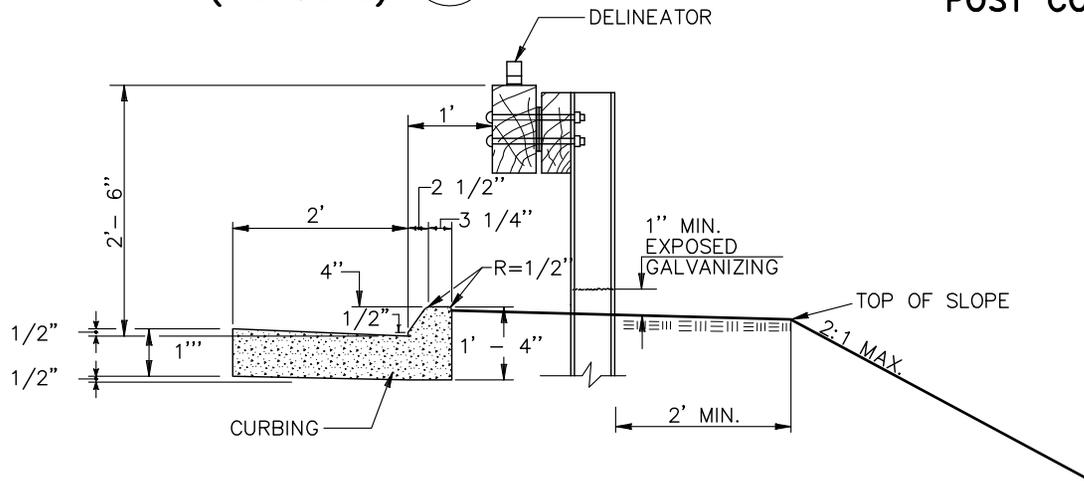
1. ALL GUIDERAIL TO BE IN ACCORDANCE WITH CDOT 818 AS AMMENDED AND DETAIL SHEETS HW-910-12a THRU HW-910-12d, AS AMMENDED



SECTION (NO CURB) A



REAR VIEW ELEVATION POST CONNECTION



MERRITT PARKWAY CONCRETE CURBING WITH MERRITT PARKWAY GUIDERAIL

TABLE 1

DELINEATOR SPACING	
CURVE RADIUS	SPACE
< 300'	20'
≥ 300'	50'



**GUIDERAIL
MERRITT PARKWAY GUIDERAIL**

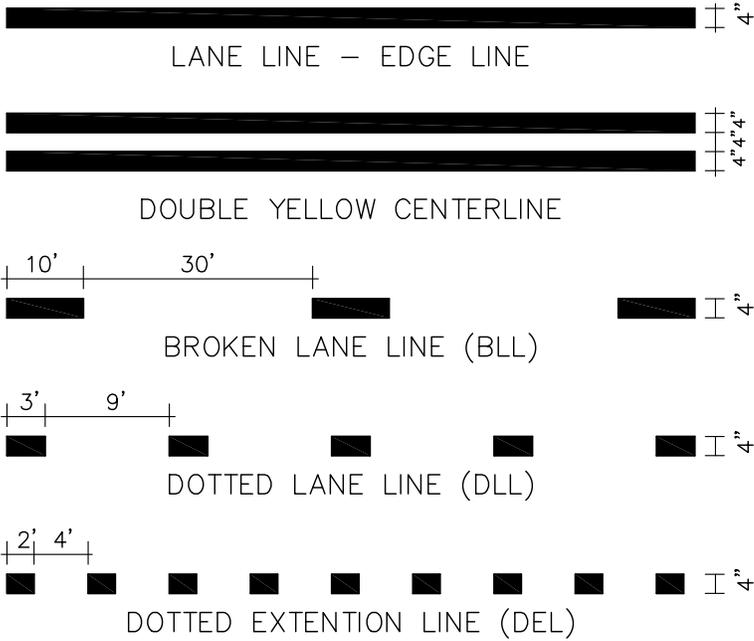
Date: 01-01-22

Scale: N.T.S.

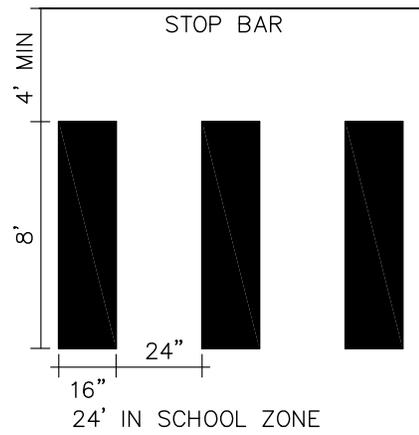
R-20

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

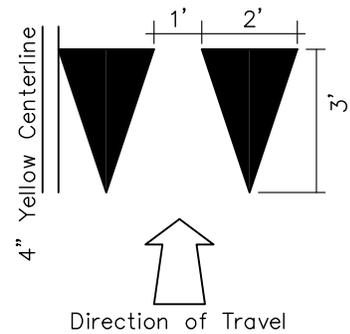
STANDARD DETAILS



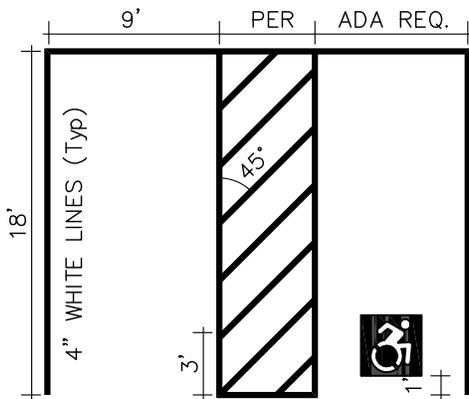
LINES



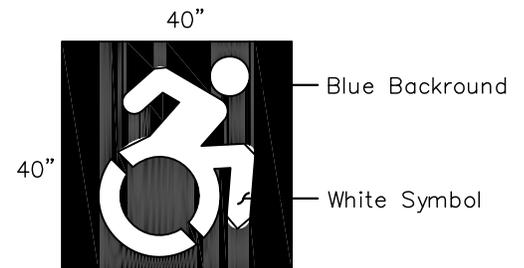
CROSSWALK



YIELD LINE DETAIL



PARKING STALLS



CT. HANDICAP SYMBOL



**PAVEMENT MARKINGS
LINES**

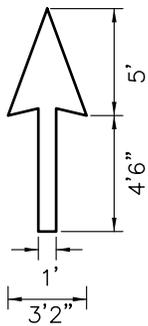
01-01-22

Scale: N.T.S.

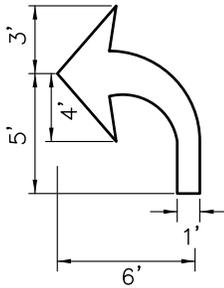
R-21

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

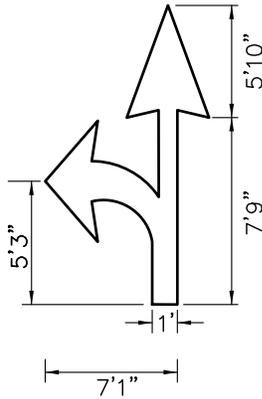
STANDARD DETAILS



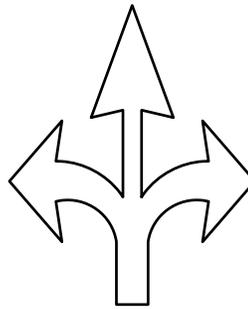
THRU ARROW
12.5 SF



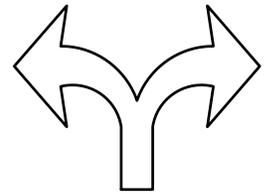
TURN ARROW
15.5 SF



2 WAY COMBO
27.0 SF



3 WAY ARROW
38.5 SF



LEFT-RIGHT COMBO
27.0 SF

ARROWS

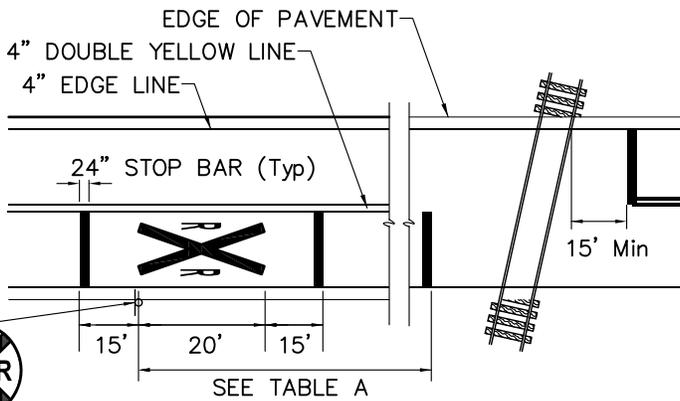


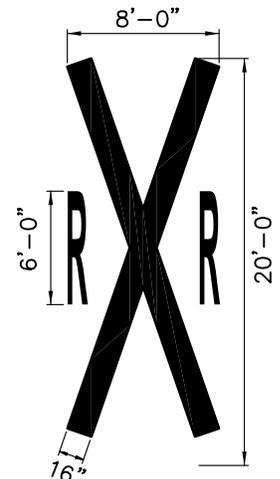
TABLE A

POSTED SPEED (MPH)	DISTANCE D (FEET)
65	475
60	400
55	325
50	250
45	175
40	125
35	100
30	100
25	100
20	100

ALL DISTANCES ARE MINIMUM

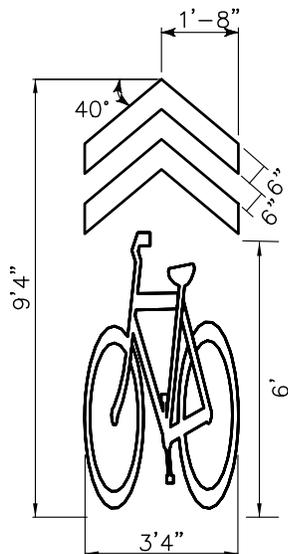


W10-1

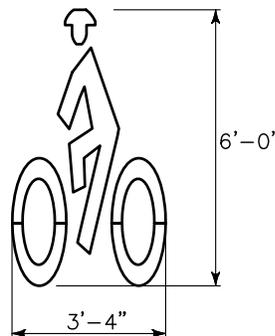


67.5 SF

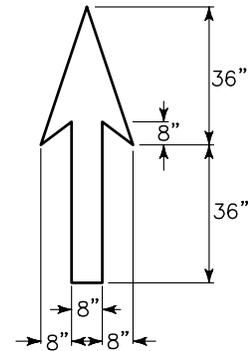
RAILROAD GRADE CROSSINGS



SHARROW
9.7 SF



5.8 S.F.



4.7 S.F.

BICYCLE LANE SYMBOL MARKINGS



PAVEMENT MARKINGS SYMBOLS

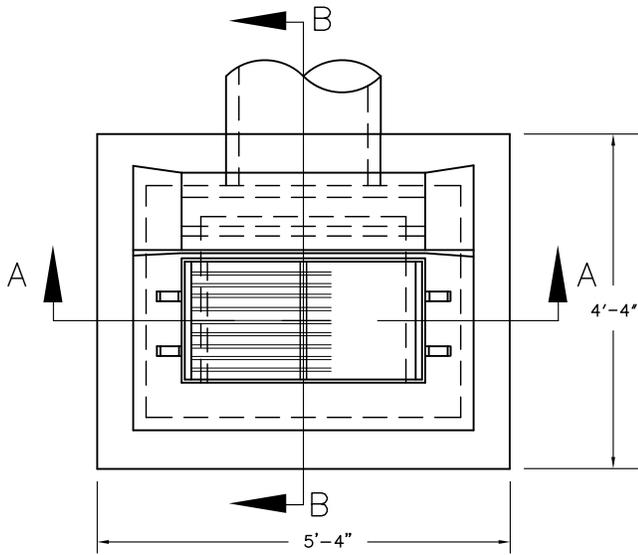
01-01-22

Scale: N.T.S.

R-22

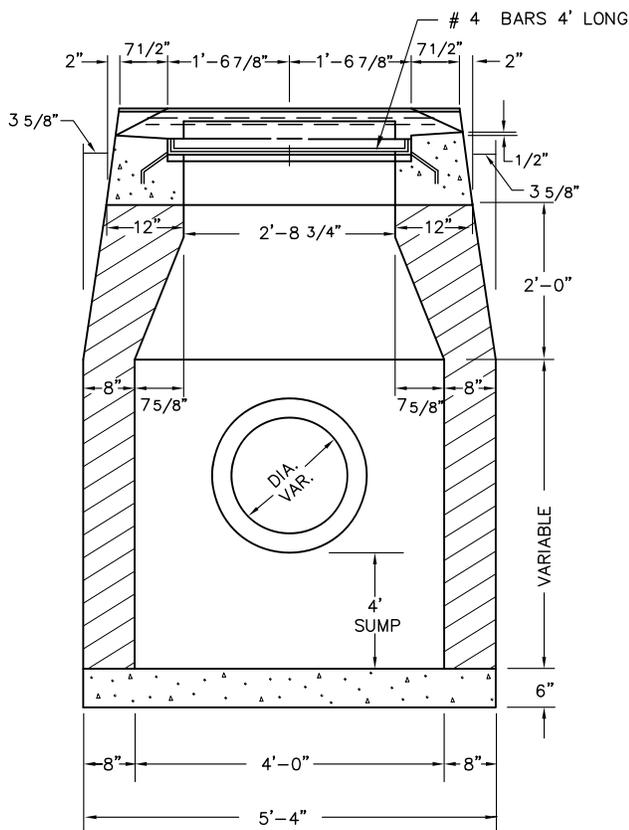
*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS

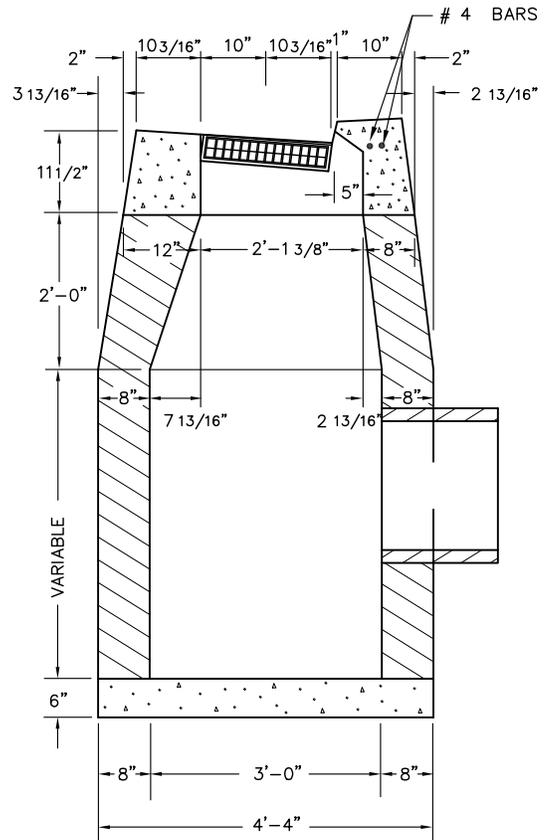


NOTES

1. Use 6'-0" on upgrade side (see plan view) of continuous grade and 1'-0" on downgrade side of continuous grade or as directed by the engineer.
2. If masonry units are required, the basin shall be constructed in conformance with the dimensions shown. corbelling shall be permitted to a maximum of 3". No projection shall extend inside the limits for the catch basin openings shown in the section views
3. Wall thickness of all catch basins over 10' deep shall be increased to 12" thick. inside dimension shall remain the same. 12" thickness shall start after the first 10'.
4. Spacers can be either concrete masonry unit or precast with the required reinforcing (recommended by the manufacturer) as needed to provide the proper grade shown on the plan
5. Top of frame elevation shall be measured in the center of grate at gutter line.
6. All grates to be galvanized Type A Bicycle grates



SECTION A-A



SECTION B-B



TYPE "C" CATCH BASIN

Date: 01-01-22

Scale: N.T.S.

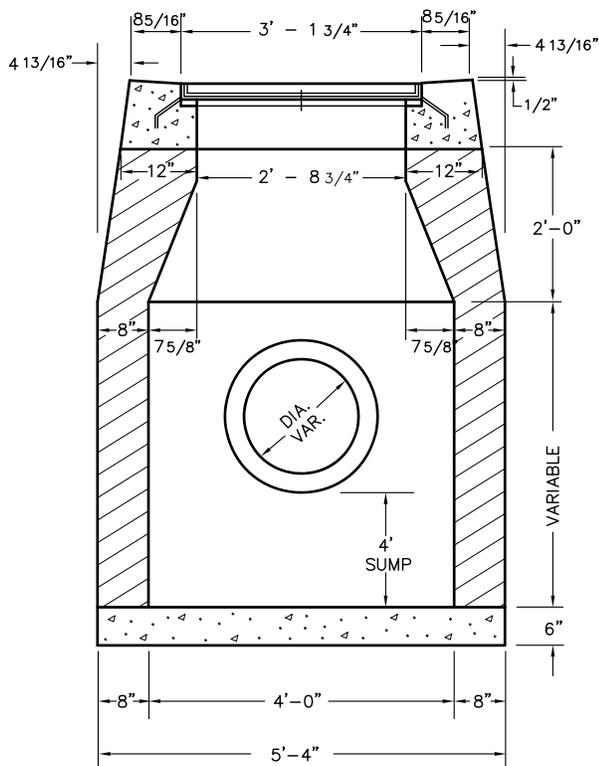
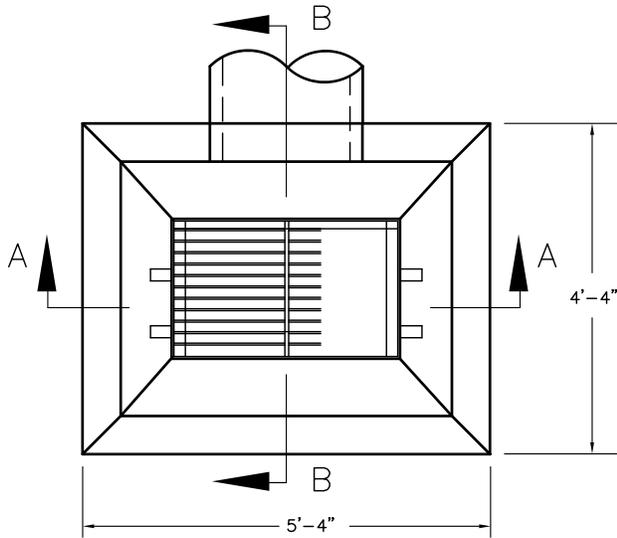
D-1

TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

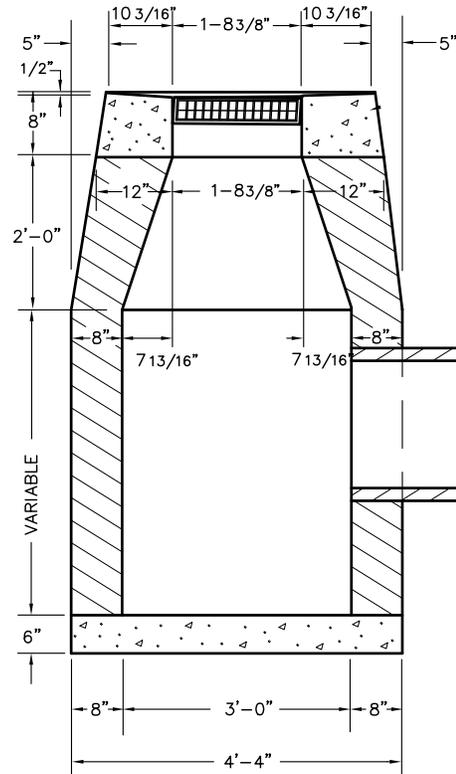
STANDARD DETAILS

NOTES

1. Use 6'-0" on upgrade side (see plan view) of continuous grade and 1'-0" on downgrade side of continuous grade or as directed by the engineer.
2. If masonry units are required, the basin shall be constructed in conformance with the dimensions shown. corbelling shall be permitted to a maximum of 3". No projection shall extend inside the limits for the catch basin openings shown in the section views
3. Wall thickness of all catch basins over 10' deep shall be increased to 12" thick. inside dimension shall remain the same. 12" thickness shall start after the first 10'.
4. Spacers can be either concrete masonry unit or precast with the required reinforcing (recommended by the manufacturer) as needed to provide the proper grade shown on the plan
5. Top of frame elevation shall be measured in the center of grate at gutter line.
6. All grates to be galvanized Type A Bicycle grates



SECTION A-A



SECTION B-B



TYPE "C-L" CATCH BASIN

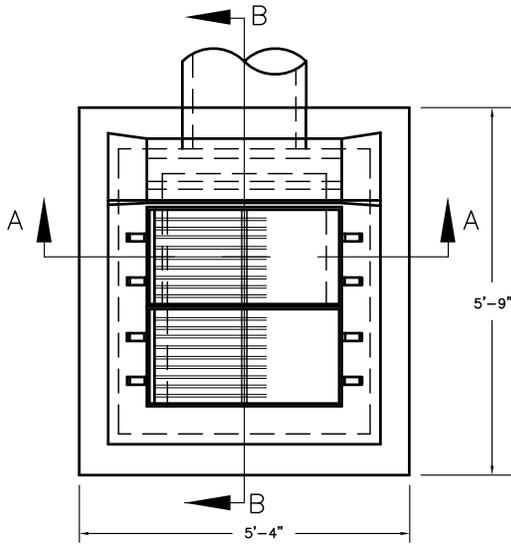
Date: 01-01-22

Scale: N.T.S.

D-2

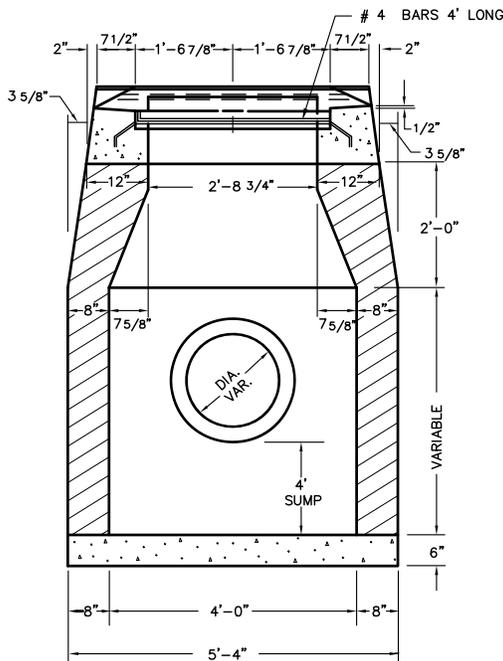
*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS

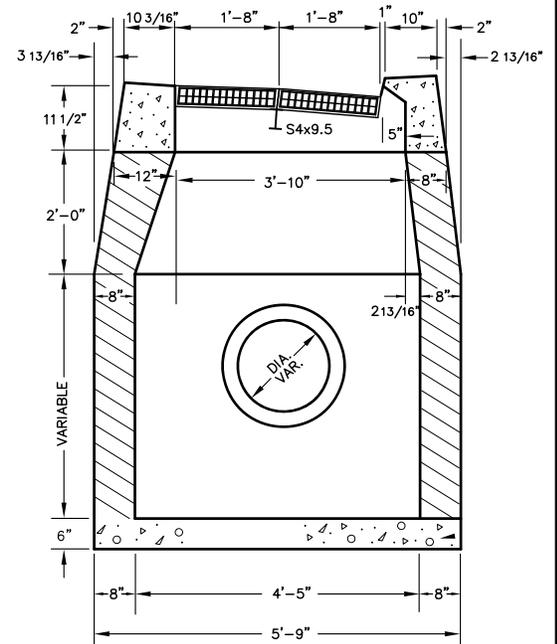


NOTES

1. Use 6'-0" on upgrade side (see plan view) of continuous grade and 1'-0" on downgrade side of continuous grade or as directed by the engineer.
2. If masonry units are required, the basin shall be constructed in conformance with the dimensions shown. corbelling shall be permitted to a maximum of 3". No projection shall extend inside the limits for the catch basin openings shown in the section views
3. Wall thickness of all catch basins over 10' deep shall be increased to 12" thick. inside dimension shall remain the same. 12" thickness shall start after the first 10'.
4. Spacers can be either concrete masonry unit or precast with the required reinforcing (recommended by the manufacturer) as needed to provide the proper grade shown on the plan
5. Top of frame elevation shall be measured in the center of grate at gutter line.
6. All grates to be galvanized Type A Bicycle grates



SECTION A-A



SECTION B-B



TYPE "C" CATCH BASIN DOUBLE GRATE TYPE I

Date: 01-01-22

Scale: N.T.S.

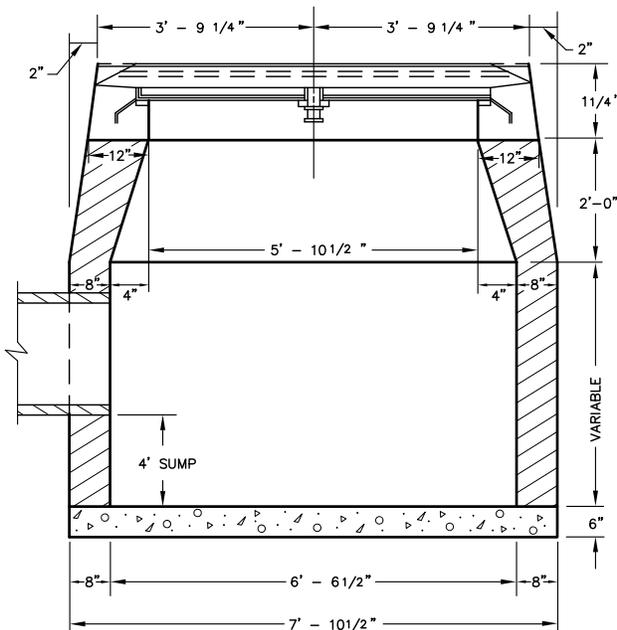
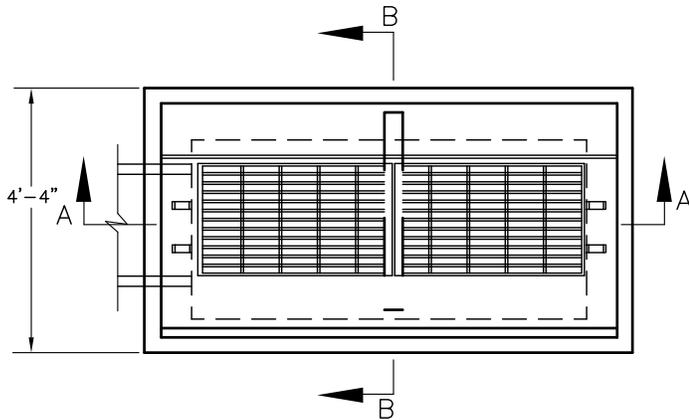
D-3

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

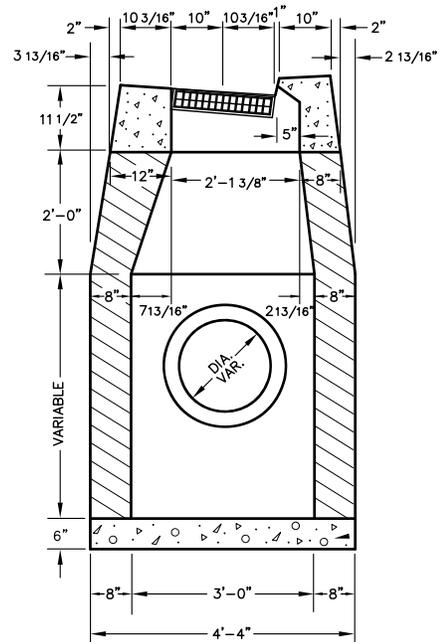
STANDARD DETAILS

NOTES

1. Use 6'-0" on upgrade side (see plan view) of continuous grade and 1'-0" on downgrade side of continuous grade or as directed by the engineer.
2. If masonry units are required, the basin shall be constructed in conformance with the dimensions shown. corbelling shall be permitted to a maximum of 3". No projection shall extend inside the limits for the catch basin openings shown in the section views
3. Wall thickness of all catch basins over 10' deep shall be increased to 12" thick. inside dimension shall remain the same. 12" thickness shall start after the first 10'.
4. Spacers can be either concrete masonry unit or precast with the required reinforcing (recommended by the manufacturer) as needed to provide the proper grade shown on the plan
5. Top of frame elevation shall be measured in the center of grate at gutter line.
6. All grates to be galvanized Type A Bicycle grates



SECTION A-A



SECTION B-B



**TYPE "C" CATCH BASIN
DOUBLE GRATE TYPE II**

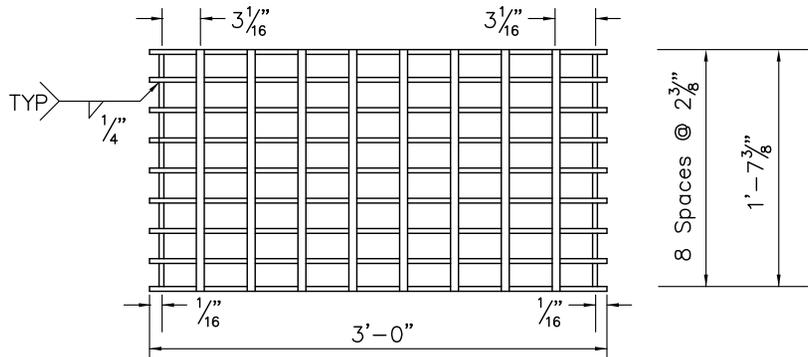
Date: 01-01-22

Scale: N.T.S.

D-4

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

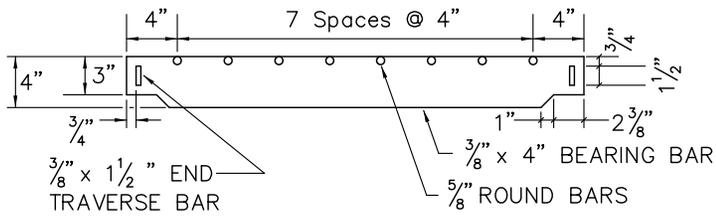
STANDARD DETAILS



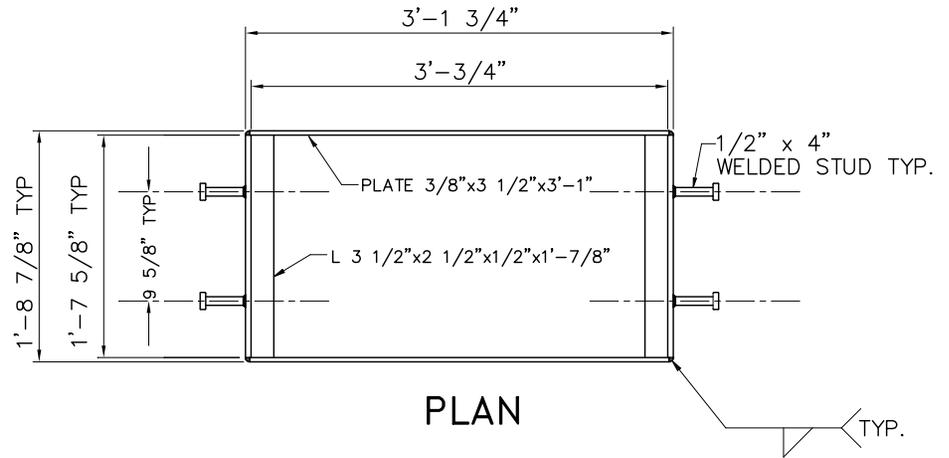
GRATE - PLAN

NOTES

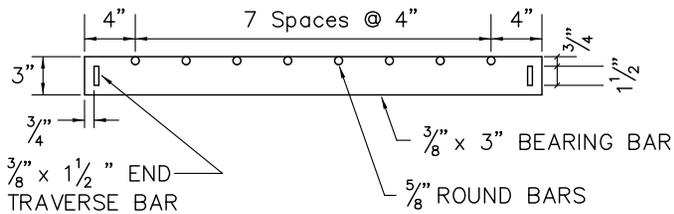
1. ALL GRATES TO BE TYPE "A" BICYCLE GRATES
2. ALL GRATES TO BE GALVANIZED



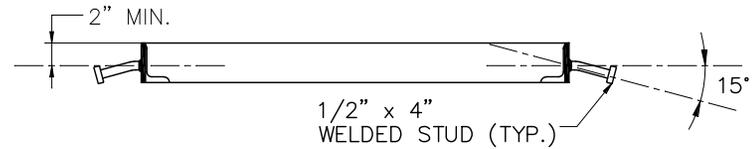
ELEVATION - INTERIOR BAR



PLAN



ELEVATION - END BAR



FRAME



CATCH BASIN FRAME AND GRATE

Date: 01-01-22

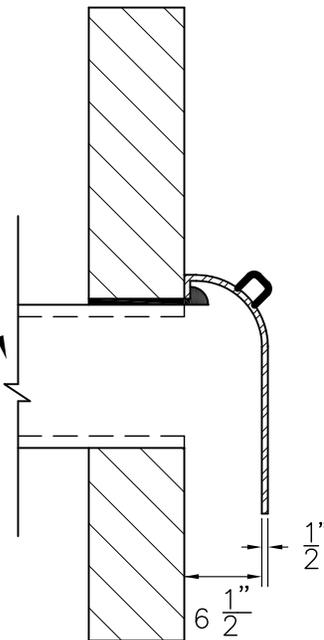
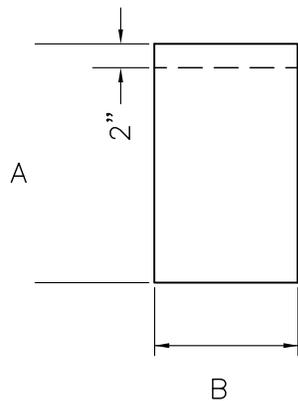
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D-5

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS

CATCH BASIN OUTLET

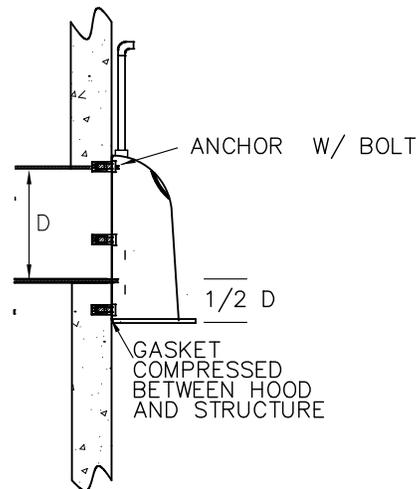
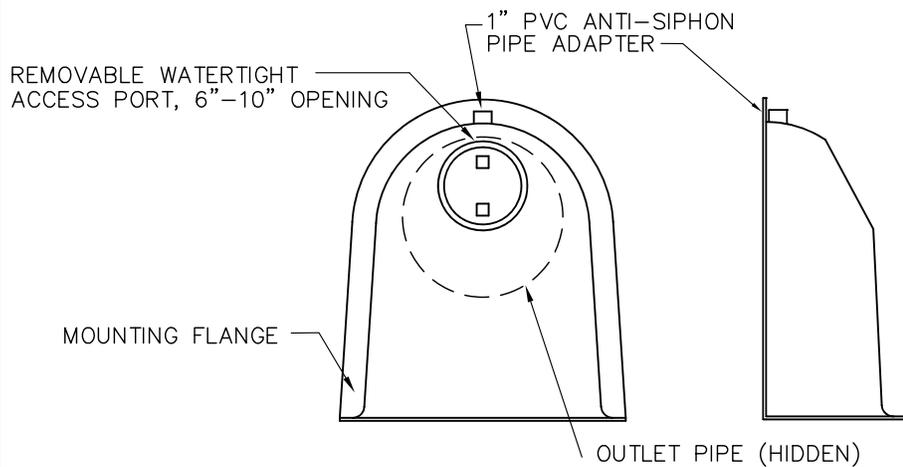


PIPE DIA	A	B
10"	20"	12"
12"	22"	16"
15"	25"	19"
18"	28"	22"

CAST IRON CATCH BASIN HOOD

INSTALLATION NOTE:

POSITION HOOD SUCH THAT BOTTOM FLANGE IS A DISTANCE OF 1/2" OUTLET PIPE DIAMETER (MIN.) BELOW THE PIPE INVERT. MINIMUM DISTANCE FOR PIPES < 12" I.D. IS 6".



FIBERGLASS VENTED CATCH BASIN HOOD



CATCH BASIN TRAP

Date: 01-01-22

Scale: N.T.S.

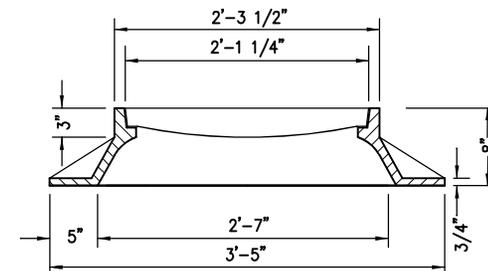
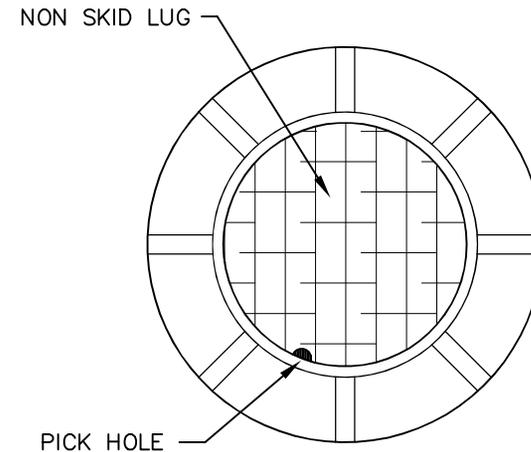
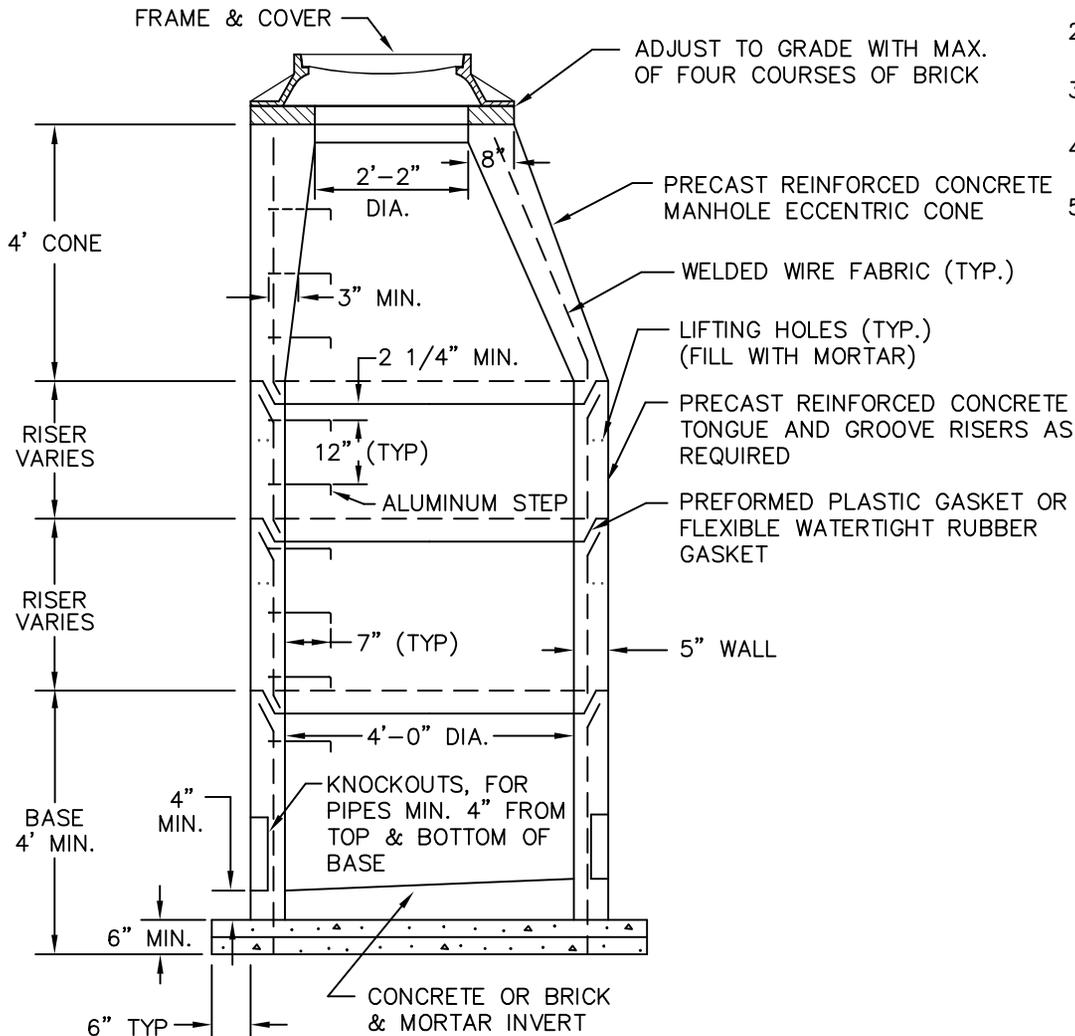
D-6

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS

NOTES

1. ALL PRECAST CONCRETE PRODUCTS MUST HAVE THE CASTING DATE CLEARLY LABELED AND SHALL NOT BE DELIVERED WITHIN 7 DAYS OF OF THE CASTING DATE.
2. ENDS OF PIPES SHALL EXTEND TO AND BE CUT FLUSH WITH INSIDE FACE OF MANHOLE.
3. LADDER RUNGS SHALL BE INSTALLED IN ALL MANHOLES WHEN THE DEPTH EXCEEDS 4 FEET.
4. 5' OR 6' DIA. PRECAST BASES MAY BE USED WHEN REQUIRED DUE TO SIZE OR NUMBER OF PIPES AT THE MANHOLE
5. MANHOLE FRAME TO BE SET TO FINISH GRADE. ASPALT SHIMS TO BE PLACED PRIOR TO WINTER IF FINAL PAVING HAS NOT BEEN COMPLETED



STORM MANHOLE, FRAME AND COVER

Date: 01-01-22

Scale: N.T.S.

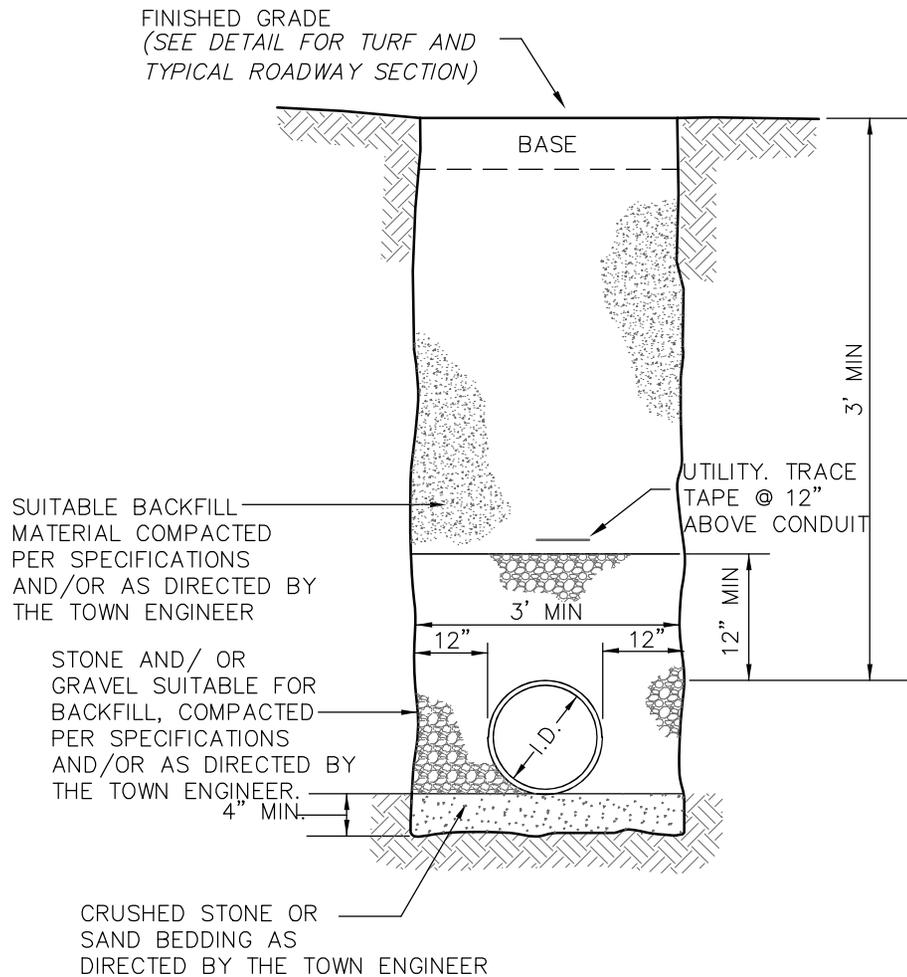
D-7

TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

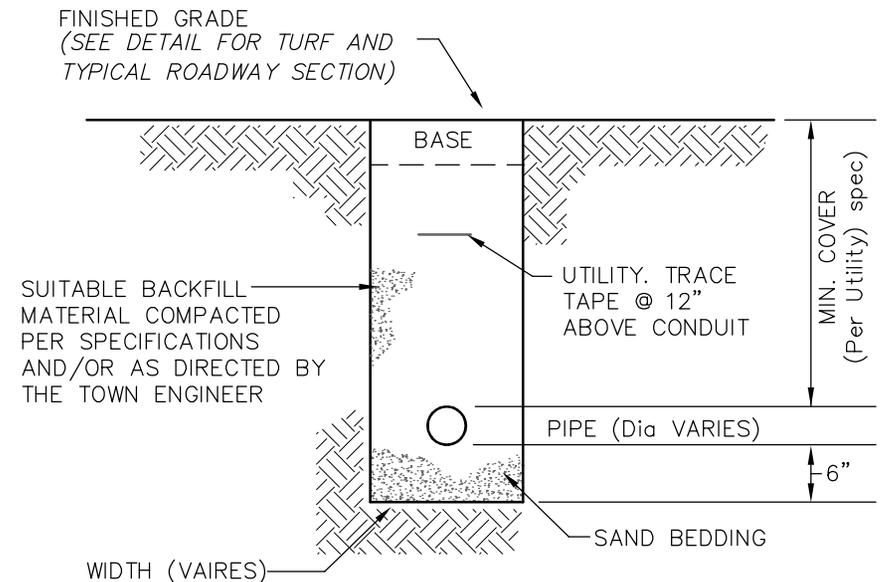
STANDARD DETAILS

NOTES

1. Backfill: The excavated materials will be acceptable for use as subbase material, if approved by the Town Engineer. If the material is unacceptable, processed aggregate stone base compacted will be required.



STORM WATER TRENCH



UTILITY TRENCH SECTION



TYPICAL TRENCH DETAILS STORM WATER AND UTILITY TRENCHES NEW CONSTRUCTION

Date: 01-01-22

Scale: N.T.S.

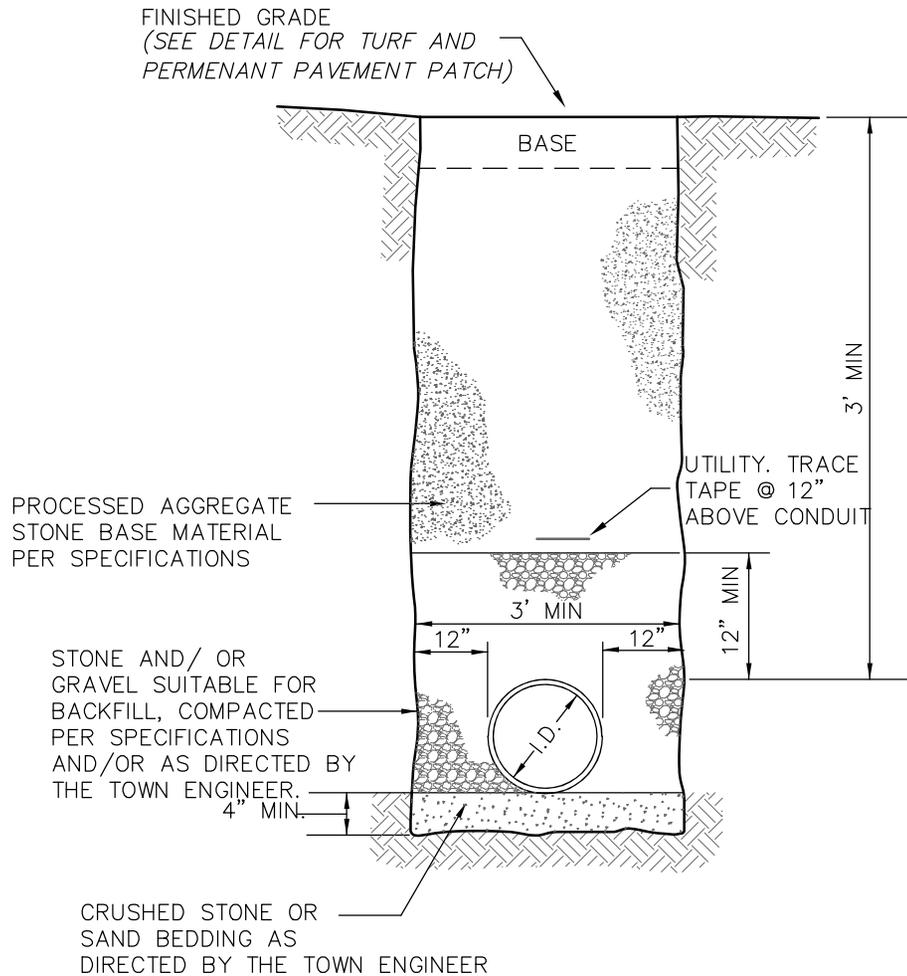
D-8

TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

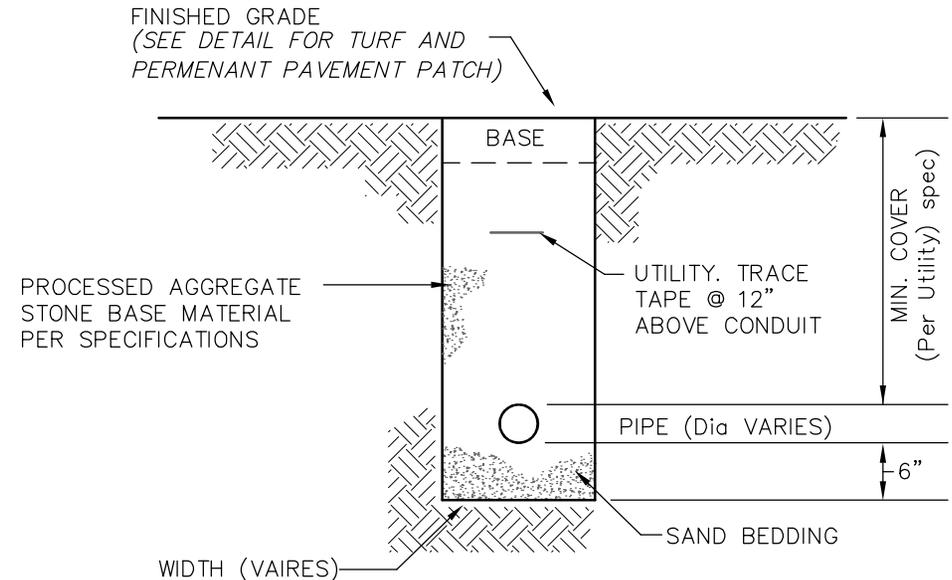
STANDARD DETAILS

NOTES

1. All repairs to be made in accordance with the Town of Rocky Hill Street Excavation Standards
2. No street excavation permits, except for emergencies, shall be granted during the local hot mix asphalt plant winter shutdowns (typically December 15–April).
3. All backfill for open cuts in portions of the Public right-of-way beneath existing pavement, curb, gutter or sidewalk shall be Processed Aggregate.
4. Processed Aggregate shall meet CDOT Specification Section 3.05 and M5.02 specifications and be placed and compacted in maximum six (6) inch lifts and mechanically compacted.
5. Alternate backfill methods for large excavations (greater than one hundred (100) cubic yards) will be considered on an individual basis with the Town Engineer.



STORM WATER TRENCH



UTILITY TRENCH SECTION



TYPICAL TRENCH DETAILS STORM WATER AND UTILITY TRENCHES EXCAVATIONS IN EXISTING TOWN RIGHT OF WAYS

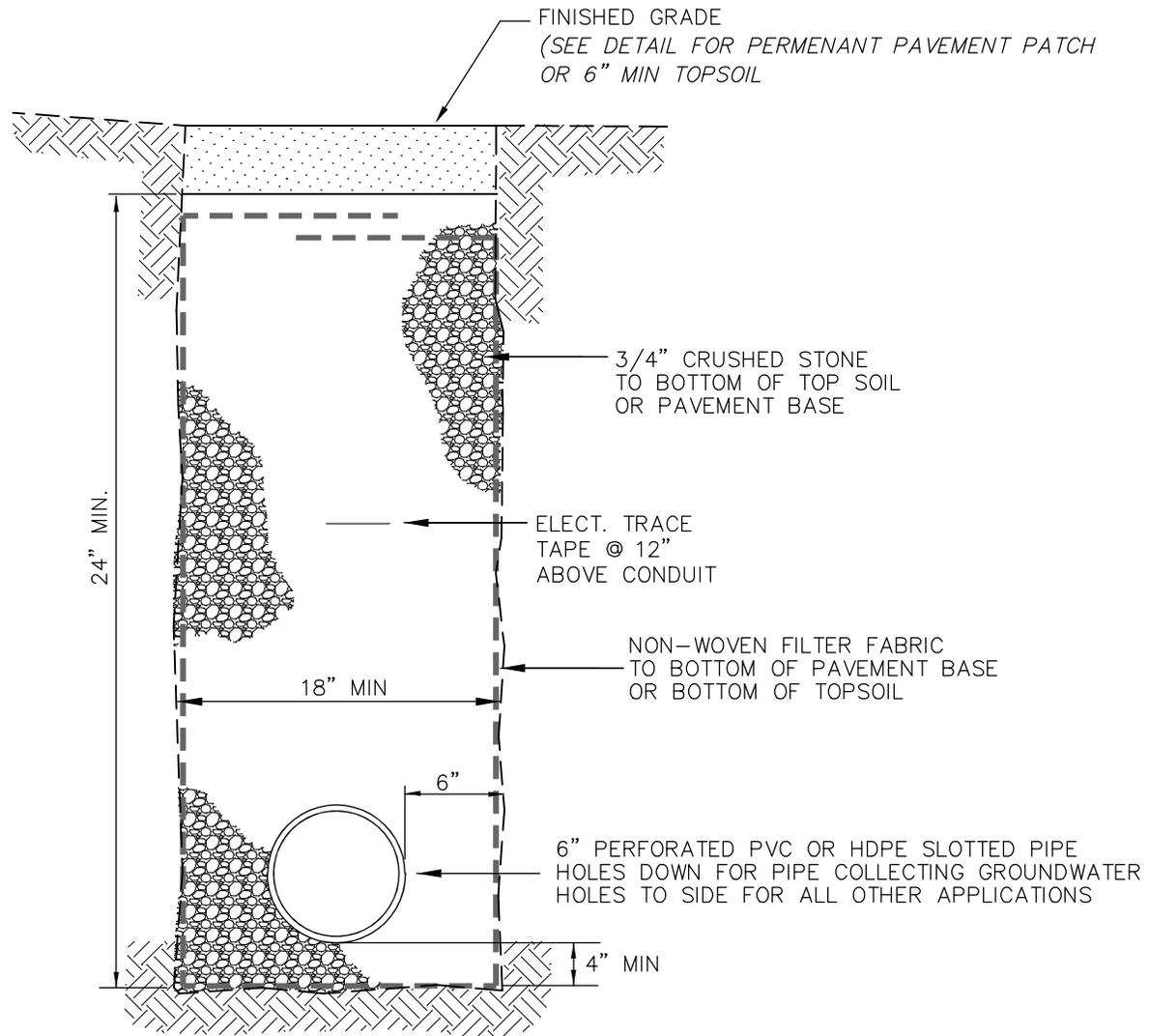
Date: 01-01-22

Scale: N.T.S.

D-9

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS



UNDERDRAIN



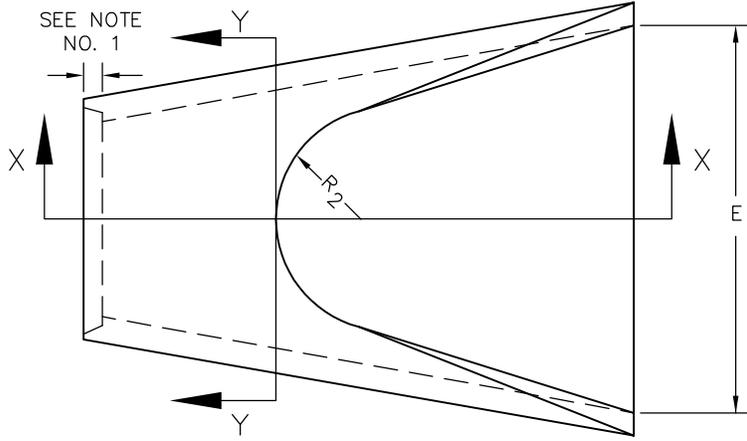
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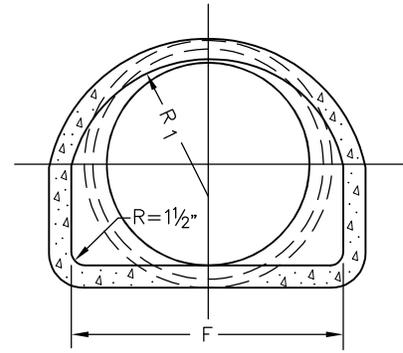
D-10

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

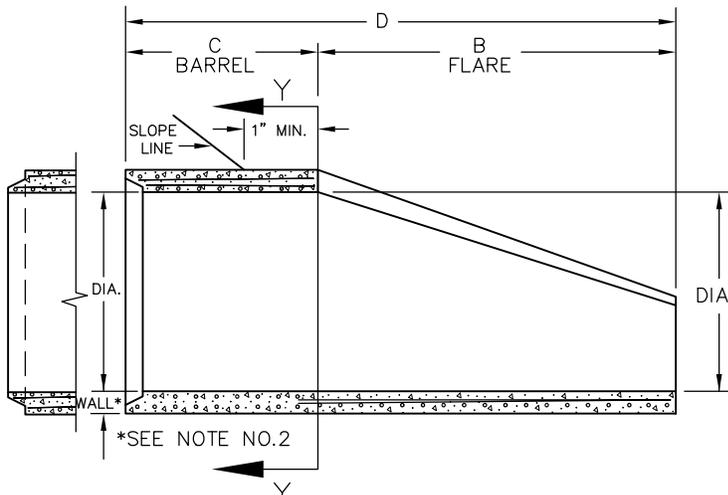
STANDARD DETAILS



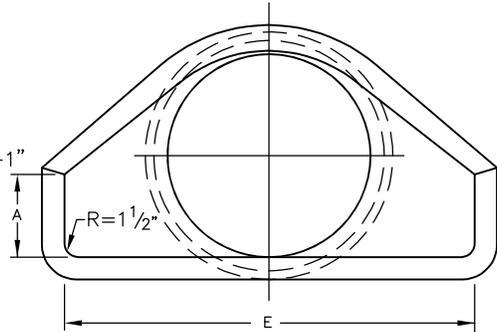
PLAN



SECTION Y-Y



SECTION X-X



END VIEW

DIMENSIONS FOR REINFORCED CONCRETE CULVERT END									FLARE REINFORCEMENT ONE LAYER ONLY IN CENTER OF WALL	
DIA.	A	B	C	D	E	F	R ₁	R ₂	MIN. AREA OF LONGITUDINALS SQ. IN PER FT.	MIN. AREA OF TRANSVERSE STEEL SQ. IN PER FT.
12"	4"	2'-0"	4'-0 ³ / ₈ "	6'-0 ³ / ₈ "	2'-0"	1'-7 ⁵ / ₁₆ "	10 ¹ / ₄ "	9"	0.048	0.048
15"	6"	2'-3"	3'-10"	6'-1"	2'-6"	2'-0 ⁵ / ₁₆ "	1'-0 ¹ / ₂ "	11"	0.054	0.054
18"	9"	2'-3"	3'-10"	6'-1"	3'-0"	2'-5"	1'-3 ¹ / ₂ "	1'-0"	0.060	0.060
21"	9"	2'-11"	3'-2"	6'-1"	3'-6"	2'-7 ¹ / ₂ "	1'-4"	1'-1"	0.066	0.066
24"	9 ¹ / ₂ "	3'-7 ¹ / ₂ "	2'-6"	6'-1 ¹ / ₂ "	4'-0"	2'-9 ³ / ₁₆ "	1'-4 ³ / ₁₆ "	1'-2"	0.072	0.072
30"	1'-0"	4'-6"	1'-7 ³ / ₄ "	6'-1 ³ / ₄ "	5'-0"	3'-1"	1'-6 ¹ / ₂ "	1'-3"	0.084	0.084
36"	1'-3"	5'-3"	2'-10 ³ / ₄ "	8'-1 ³ / ₄ "	6'-0"	3'-11 ³ / ₁₆ "	2'-0 ⁵ / ₁₆ "	1'-8"	0.096	0.096
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	4'-5 ¹ / ₈ "	2'-3 ¹ / ₂ "	1'-10"	0.108	0.108
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	4'-8 ¹ / ₂ "	2'-4 ¹ / ₂ "	1'-10"	0.120	0.120
54"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	5'-5 ¹ / ₂ "	2'-9 ¹ / ₈ "	2'-0"	0.132	0.132
60"	2'-9"	5'-0"	3'-3"	8'-3"	8'-0"	6'-0 ¹ / ₂ "	3'-0 ¹ / ₁₆ "	2'-0"	0.144	0.144

NOTES

1. ALL PRECAST CONCRETE PRODUCTS MUST HAVE THE CASTING DATE CLEARLY LABELED AND SHALL NOT BE DELIVERED WITHIN 7 DAYS OF THE CASTING DATE.
2. JOINT SHALL BE TONGUE AND GROOVE OR BELL AND SPIGOT AS REQUIRED TO CONFORM TO PIPE INSTALLED.
3. WALL THICKNESS SHALL CONFORM TO PIPE THICKNESS.



FLARED END

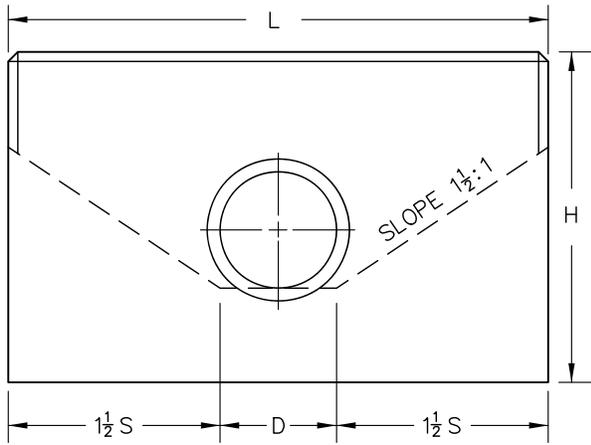
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D-11

TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

STANDARD DETAILS



- H - TOTAL HEIGHT OF ENDWALL
- B - BASE
- D - INSIDE DIAMETER OF PIPE
- S - HEIGHT OF SLOPE ABOVE FLOW LINE AT FACE OF WALL - MINIMUM = D+2
- L - LENGTH OF WALL = 3S+D

FRONT ELEVATION

DIMENSIONS AND QUANTITIES FOR ONE ENDWALL BASED ON $S = D + 2$

D	S	H	L	BATTER	B	VOL
INS	FT&IN	FT&IN	FT&IN	IN/FT	FT&IN	CY
12"	1'-2"	4'-6"	4'-6"	2 1/2"	1'-11 1/4"	1.10
15"	1'-5"	4'-9"	5'-6"	2 1/2"	1'-11 7/8"	1.45
18"	1'-8"	5'-0"	6'-6"	2 1/2"	2'-0 1/2"	1.83
24"	2'-2"	5'-6"	8'-6"	2 1/2"	2'-1 3/4"	2.72
30"	2'-8"	6'-0"	10'-6"	2 1/2"	2'-3"	3.79
36"	3'-2"	6'-6"	12'-6"	3"	2'-7 1/2"	5.45
42"	3'-8"	7'-0"	14'-6"	3"	2'-9"	6.40*
48"	4'-2"	7'-6"	16'-6"	3"	2'-10 1/2"	8.00*

* VOLUME BASED ON "D" AND WALL THICKNESS AT ϕ OF PIPE HAS BEEN DEDUCTED

NOTES

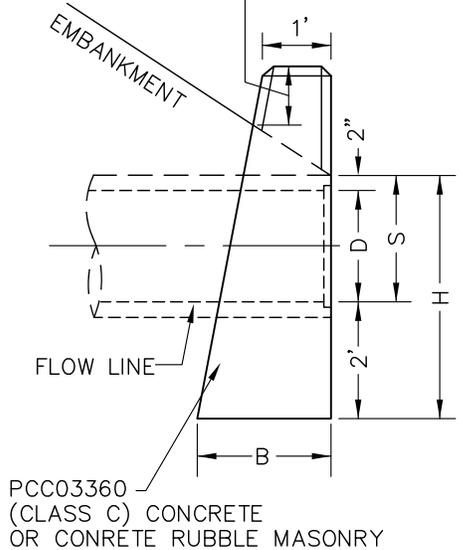
ALL CONSTRUCTION DIMENSIONS NOMINAL

WHEN ONE ENDWALL IS TO BE USED FOR TWO PIPES, THE DIMENSIONS OF THAT ENDWALL SHALL CONFORM TO THAT REQUIRED FOR THE LARGER PIPE, EXCEPT THE DIMENSION "L" SHALL BE INCREASED BY THE OUTSIDE DIAMETER OF THE SMALLER PIPE PLUS ONE FOOT

ENDWALLS WILL BE USED ONLY AT LOCATIONS WHERE THEY WILL NOT BE A HAZARD TO VEHICLES THAT RUN OFF THE ROAD. IN NO CASE WILL THE LOCATION OF AN ENDWALL BE LESS THAN 30' FROM THE EDGE OF THE TRAVELWAY

ALL EDGES OF EXPOSED SURFACES TO BE CHAMFERED APPROXIMATELY 1 INCH

EXPOSED HEIGHT OF BACK OF WALL ABOVE SLOPE TO BE:
 7" FOR SLOPES OF 1 1/2" AND 4:1
 9" FOR SLOPE 2:1



WALL AT FOOT OF SLOPE



END WALL

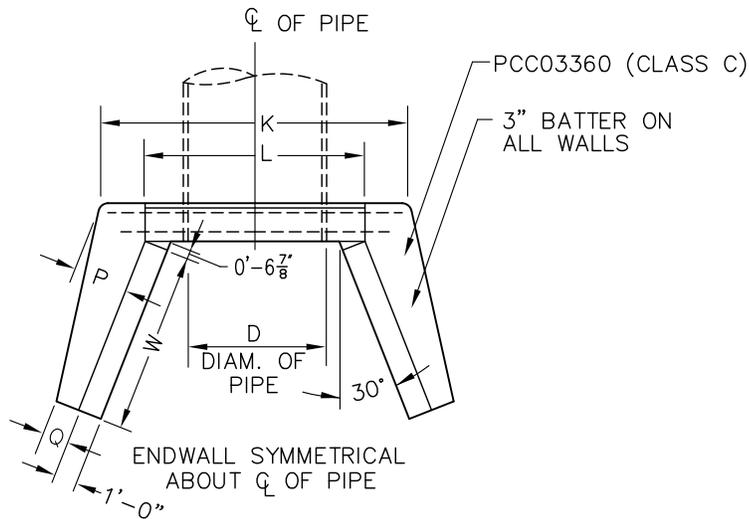
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D-12

*TOWN OF ROCKY HILL
 ENGINEERING DEPARTMENT*

STANDARD DETAILS

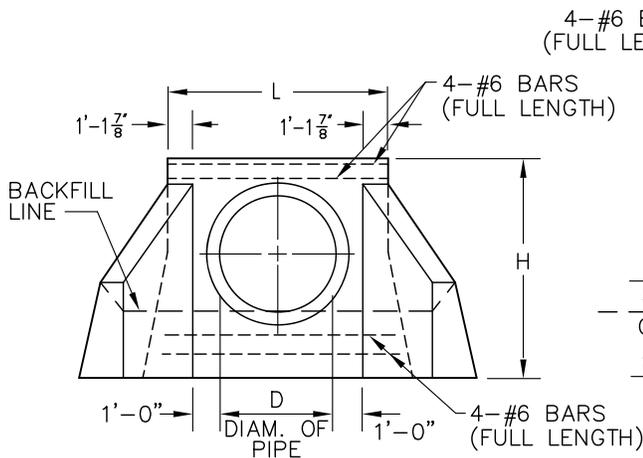


PLAN

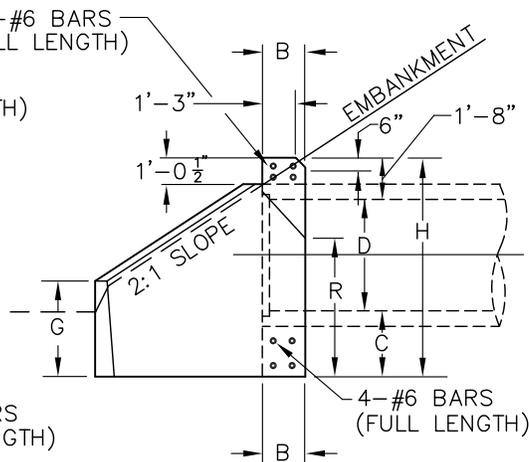
NOTE:
 COST OF REINFORCING BARS TO BE INCLUDED IN THE CONCRETE UNIT PRICE FOR PCC03360 (CLASS C) CONCRETE

DIMENSIONS AND QUANTITIES FOR ONE WING TYPE ENDWALL											
D	B	C	G	H	K	L	P	Q	R	W	VOL
INS	FT&IN	FT&IN	FT&IN	FT&IN	FT&IN	FT&IN	FT&IN	FT&IN	FT&IN	FT&IN	CU YD
36"	1'-6"	2'-0"	3'-3"	6'-9"	9'-1 $\frac{1}{2}$ "	7'-3 $\frac{3}{4}$ "	1'-4 $\frac{7}{8}$ "	0'-9 $\frac{3}{4}$ "	3'-4 $\frac{7}{8}$ "	5'-5 $\frac{3}{4}$ "	5.87
42"	1'-6"	2'-0"	3'-3"	7'-2"	9'-10 $\frac{1}{2}$ "	7'-9 $\frac{3}{4}$ "	1'-6 $\frac{3}{8}$ "	0'-9 $\frac{3}{4}$ "	3'-10 $\frac{1}{2}$ "	6'-7 $\frac{3}{4}$ "	6.67
48"	1'-7"	2'-6"	3'-9"	8'-2"	10'-10"	8'-3 $\frac{3}{4}$ "	1'-9 $\frac{3}{8}$ "	0'-11 $\frac{1}{4}$ "	4'-9"	7'-9 $\frac{1}{2}$ "	9.11
60"	1'-7"	2'-6"	3'-9"	9'-2"	12'-4 $\frac{1}{2}$ "	9'-3 $\frac{3}{4}$ "	2'-0 $\frac{3}{8}$ "	0'-11 $\frac{1}{4}$ "	5'-9"	10'-1 $\frac{1}{4}$ "	12.43
72"	1'-7"	2'-6"	3'-9"	10'-2"	13'-10 $\frac{3}{4}$ "	10'-3 $\frac{3}{4}$ "	2'-3 $\frac{3}{8}$ "	0'-11 $\frac{1}{4}$ "	6'-9"	12'-5"	16.30

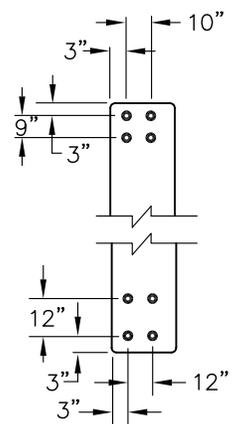
H - TOTAL HEIGHT OF ENDWALL
 B - BASE
 D - INSIDE DIAMETER OF PIPE
 S - HEIGHT OF SLOPE ABOVE FLOW LINE AT FACE OF WALL - MINIMUM = D+2
 L - LENGTH OF WALL = 3S+D



FRONT ELEVATION



SIDE ELEVATION



DETAIL OF BAR SPACING



WING WALL

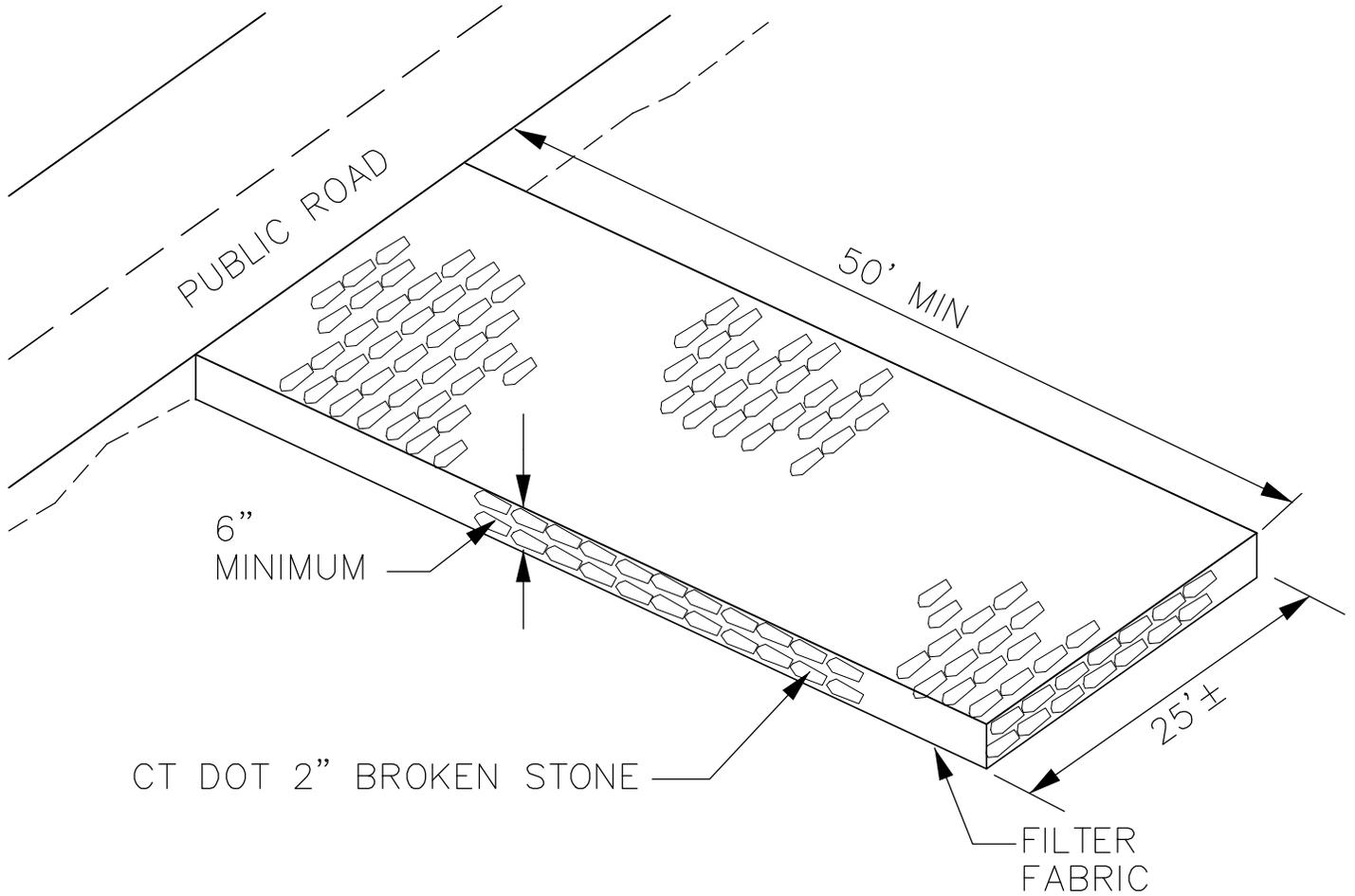
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D-13

**TOWN OF ROCKY HILL
 ENGINEERING DEPARTMENT**

STANDARD DETAILS



CONSTRUCTION ENTRANCE

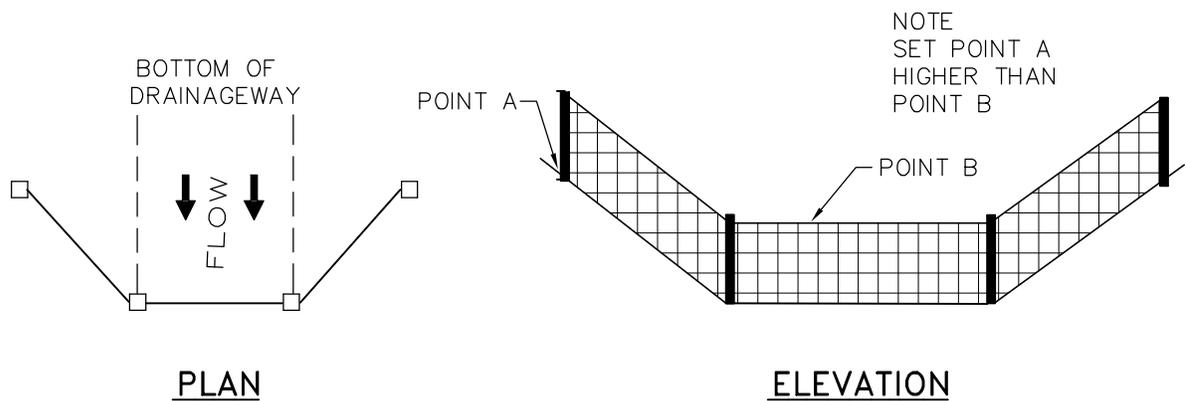
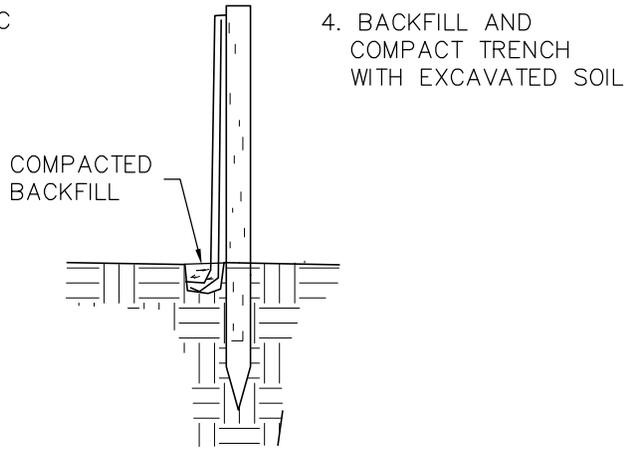
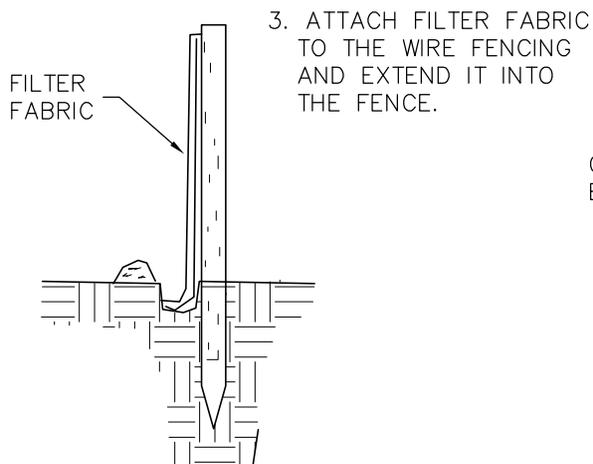
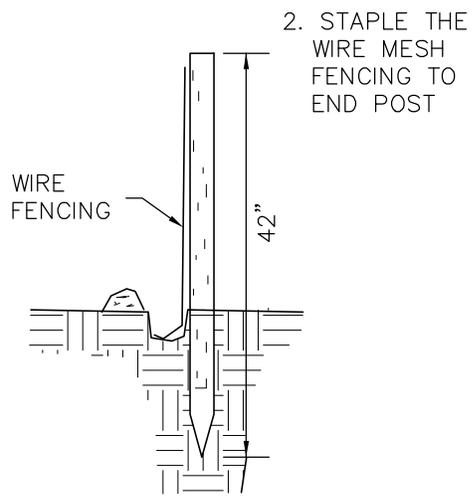
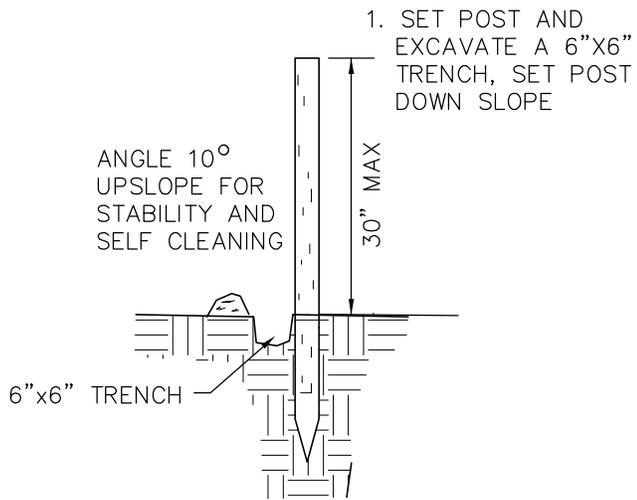
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E-1

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS



SILT FENCE

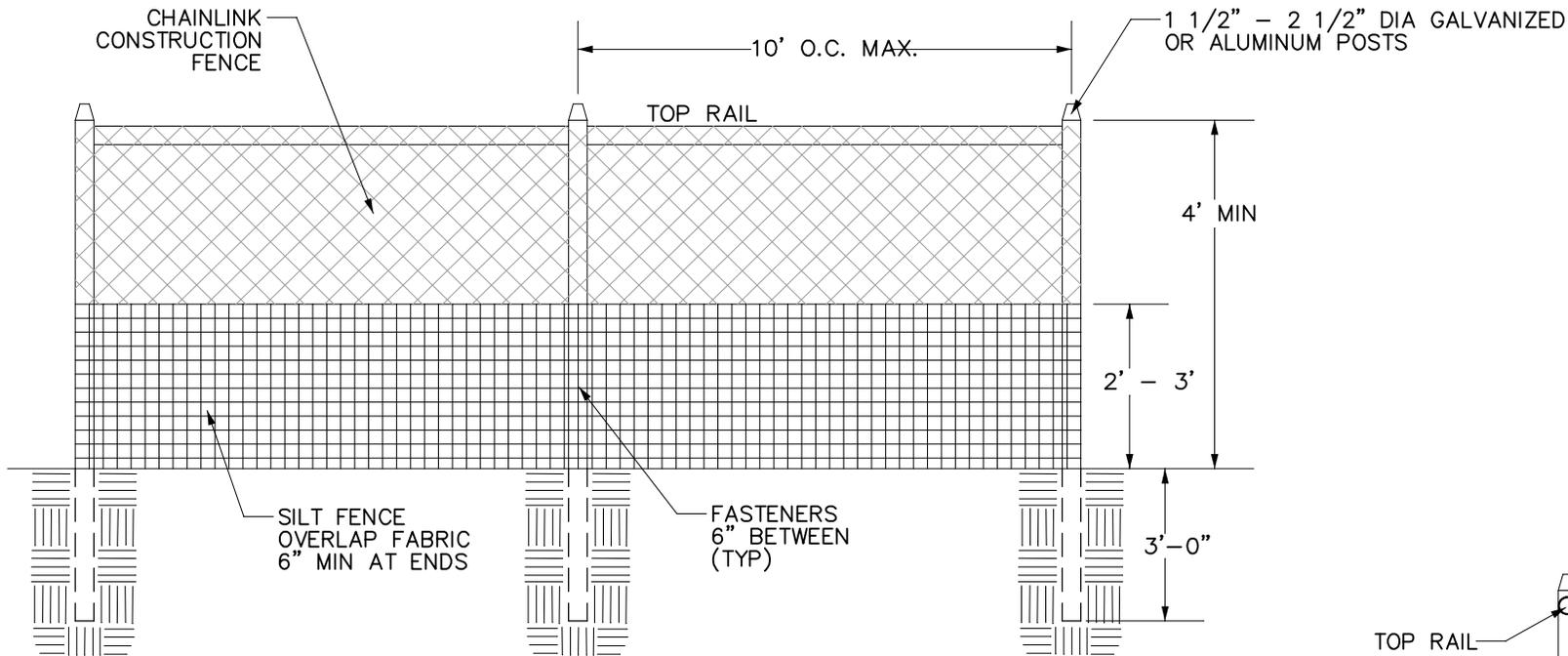
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E-2

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

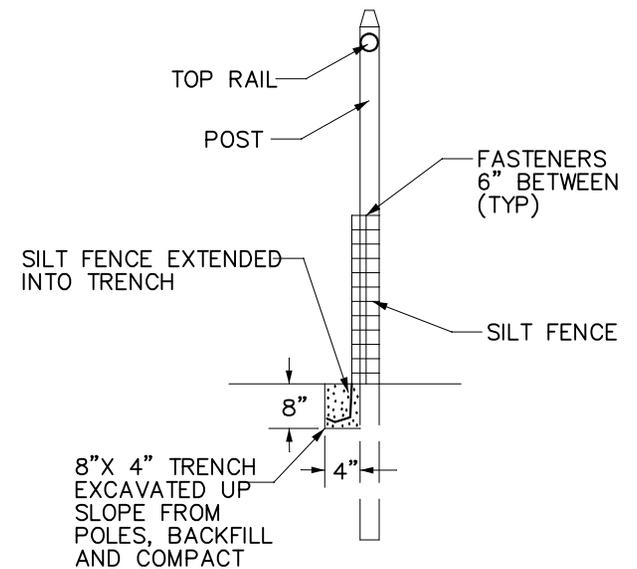
STANDARD DETAILS



PLAN VIEW

NOTES

1. MAINTENANCE SHALL OCCUR WHEN NECESSARY. SILT FENCE SHALL BE REPLACED EVERY 6 MONTHS AND POSTS SHALL BE INSPECTED TO ENSURE STRUCTURAL INTEGRITY. SILT FENCE SHALL BE INSPECTED WEEKLY AND ALL MAINTENANCE ISSUES SHALL BE CORRECTED AT THAT TIME.
2. SILT FENCE SHOULD BE A MINIMUM OF 5 FEET FROM THE TOE OF SLOPE.



SUPER SILT FENCE

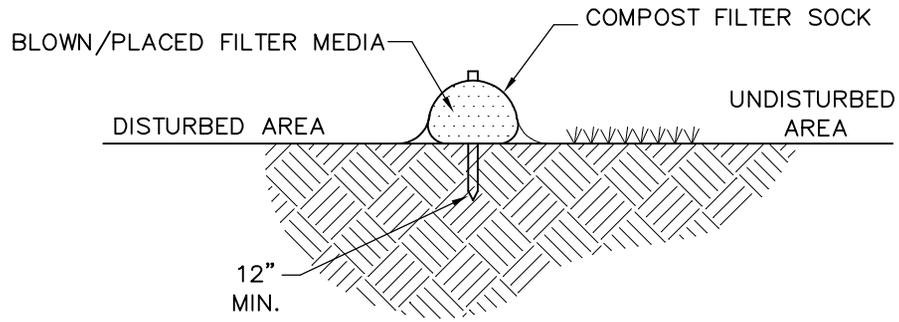
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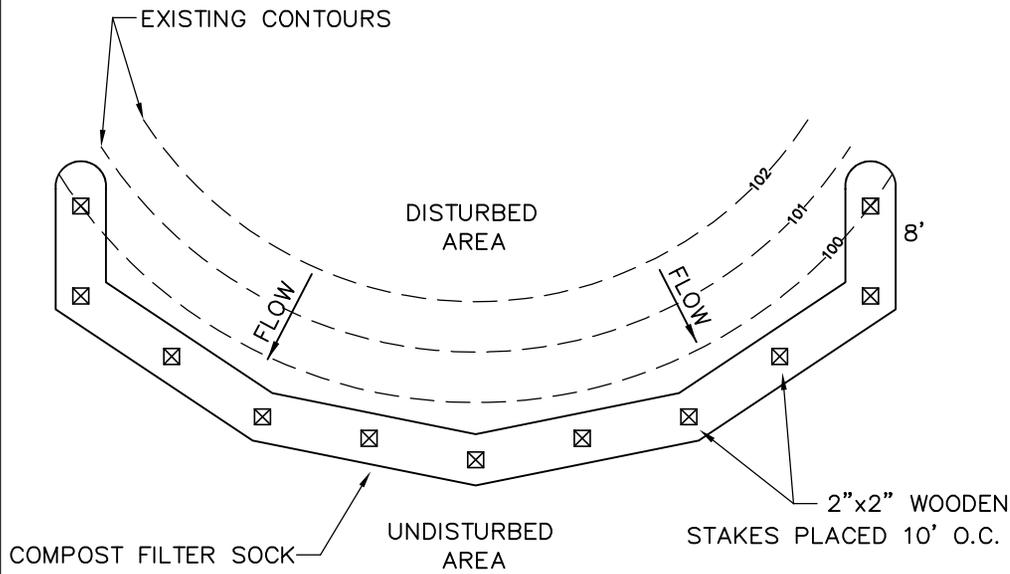
E-3

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS

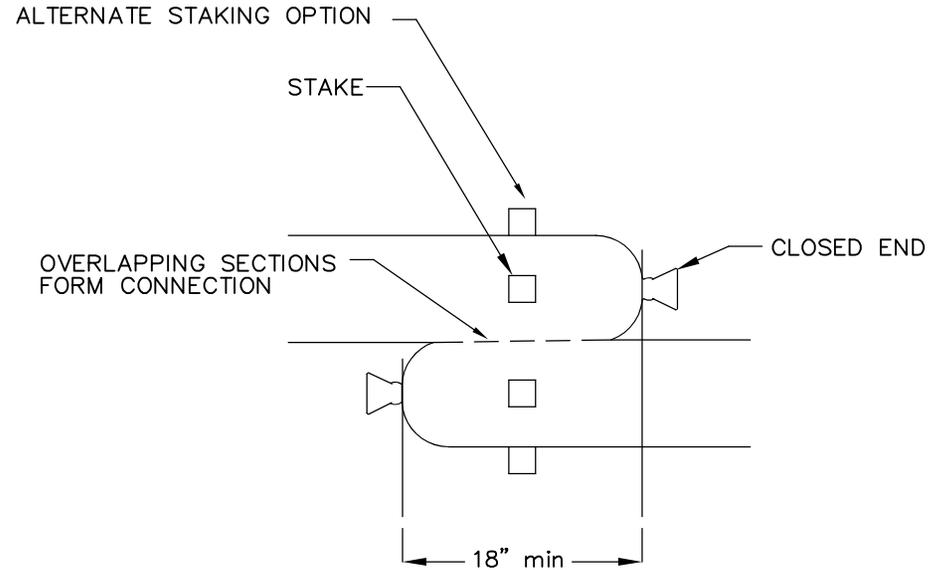


PROFILE



PLAN VIEW

- NOTES**
1. WATTLES SHALL BE FILLED WITH COMPOST OR OTHER APPROVED MATERIAL.
 2. SPACING FOR WATTLES SHALL BE DETERMINED BY THE DESIGN ENGINEER.
 3. WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP INLETS WITH APPROVAL BY THE TOWN ENGINEER
 4. COMPOST MATERIAL TO BE DISPERSED ON SITE



COMPOST SOCK CONNECTION/ATTACHMENT DETAIL



FILTER SOCK - WATTLE

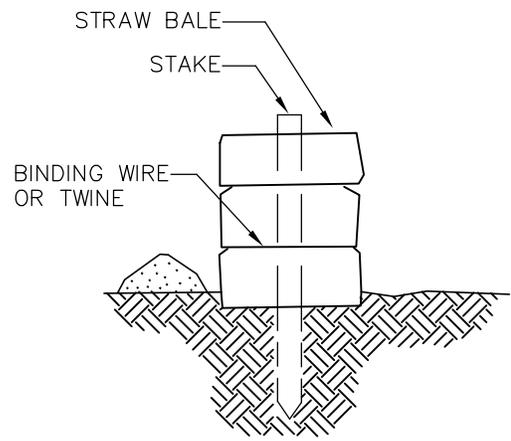
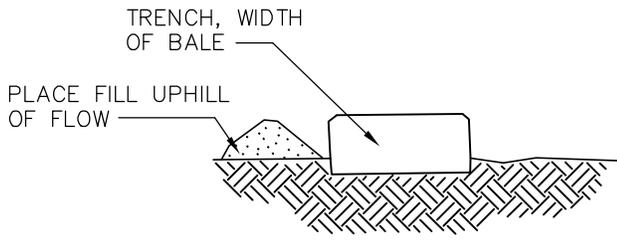
Date: 01-01-22

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E-4

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

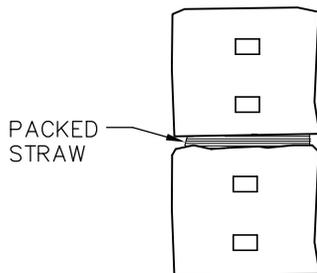
STANDARD DETAILS



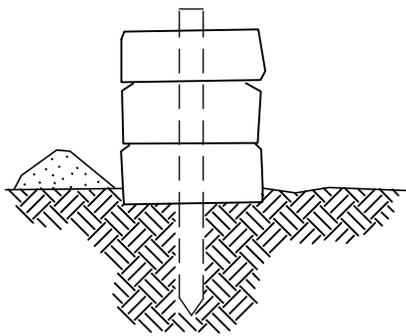
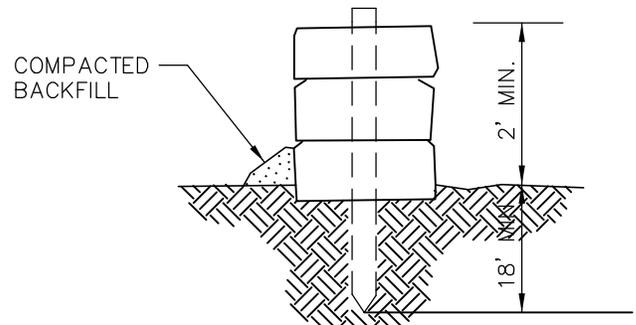
SEQUENCE

1. EXCAVATE A TRENCH 4" DEEP AND THE WIDTH OF A STRAW BALE, 5-10' FROM THE TOE OF SLOPE

2. PLACE AND STAKE STRAW BALES, TWO STAKES PER BALE, 18" INTO GROUND



PLAN



3. WEDGE LOOSE STRAW BETWEEN BALES TO CREATE A CONTINUOUS BARRIER

4. BACKFILL AND COMPACT THE EXCAVATED SOIL AS SHOWN ON THE UPHILL SIDE OF THE BARRIER TO PREVENT PIPING



HAY BALES

Date: 01-01-22

Scale: N.T.S.

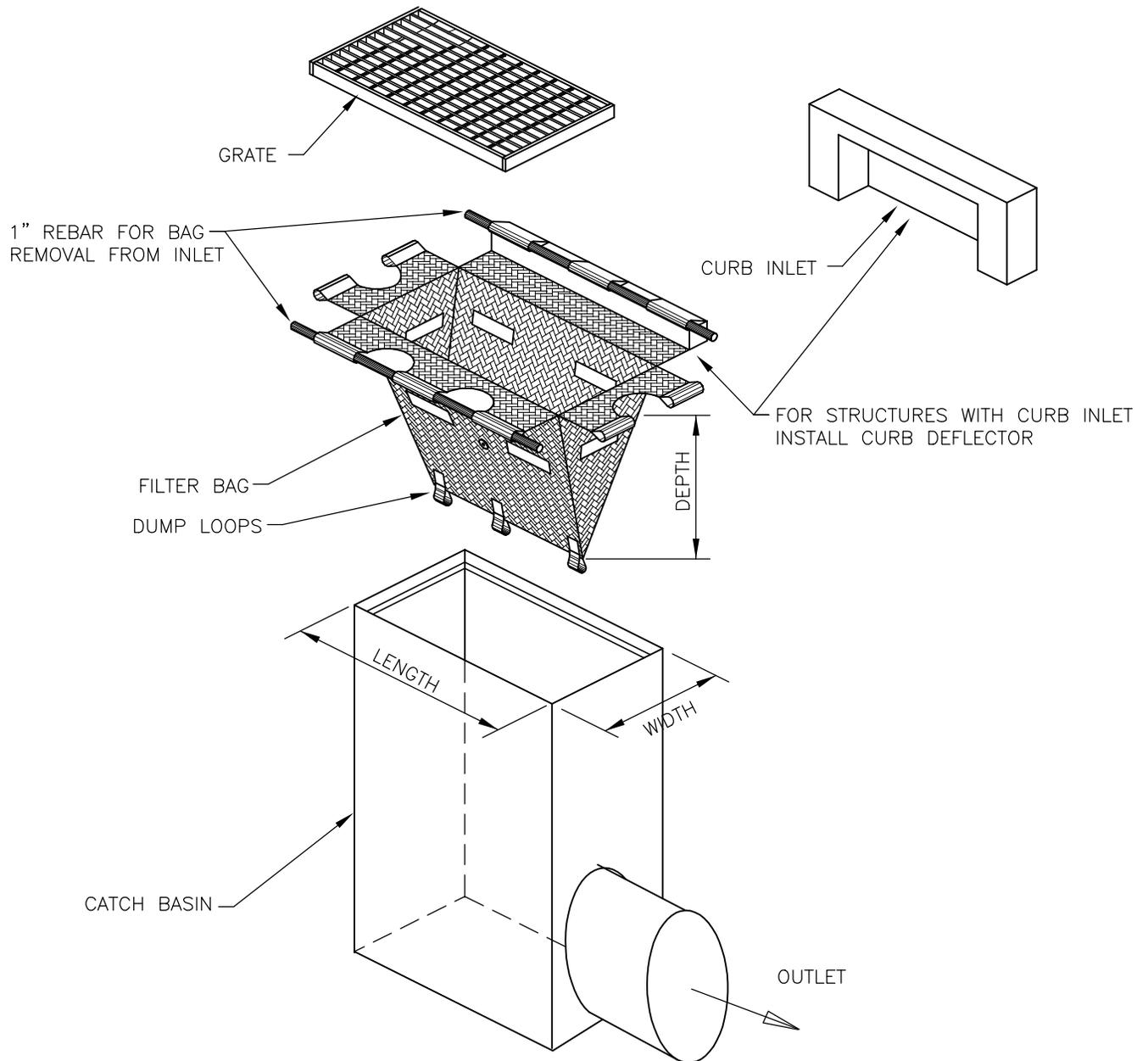
E-5

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS

NOTES

1. INLET MAINTENANCE SHALL BE DOCUMENTED IN PROJECT LOG BOOK.
2. FILTER TYPES SHALL BE APPROVED BY THE TOWN ENGINEER PRIOR TO INSTALLATION.
3. FILTER BAGS MAY BE REMOVED WHEN SITE IS STABILIZED AT THE DIRECTION OF THE ENGINEER.
4. FILTER BAGS SHALL BE REMOVED PRIOR TO STREET ACCEPTANCE.
5. FILTER BAGS SHALL BE CLEANED OR REPLACED ON A REGULAR BASIS (NOT BE MORE THAN HALF FULL AT ANY TIME).
6. FILTER BAGS SHALL NOT BE ALLOWED IN EXISTING TOWN ROADS



CATCH BASIN INLET PROTECTION

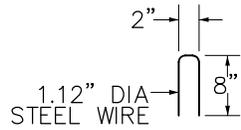
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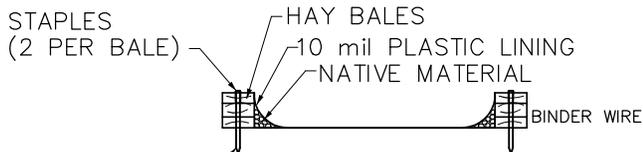
E-6

TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

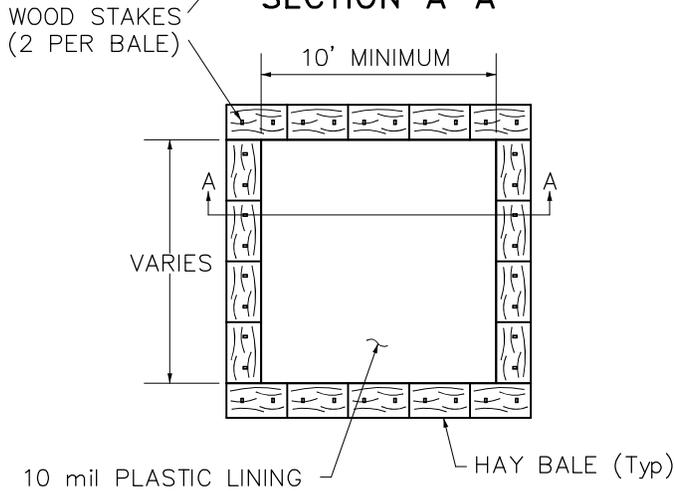
STANDARD DETAILS



STAPLE



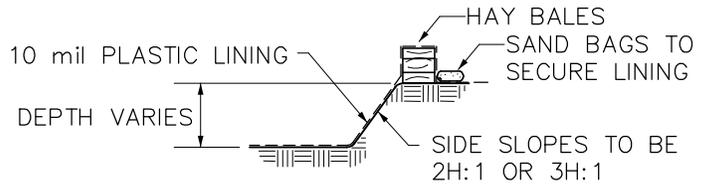
SECTION A-A



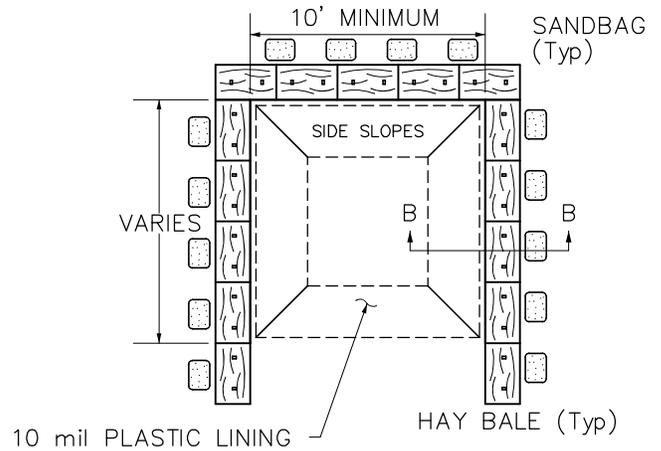
PLAN

"ABOVE GRADE" WASHOUT AREA

NOT TO SCALE



SECTION B-B



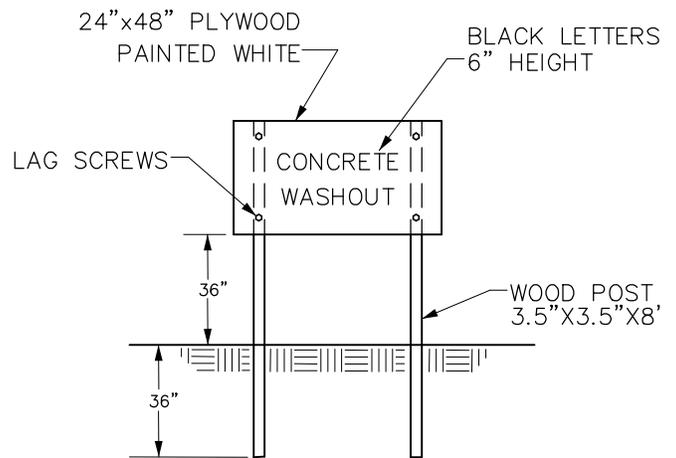
PLAN

"BELOW GRADE" WASHOUT AREA

NOT TO SCALE

NOTES

1. CONCRETE WASHOUT TO BE INSTALLED PRIOR TO CONCRETE PLACEMENT
2. INSTALL SIGN WITHIN 30' OF WASHOUT AREA.
3. LOCATION TO BE SHOWN ON PLAN AND VERIFIED IN FIELD
4. WASHOUT MUST BE LOCATED AT LEAST 50 FEET FROM ANY STREAM, WETLAND OR STORM DRAIN
5. WASHOUT SHALL BE SIZED TO HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
6. WASHOUT DISCHARGE IS UNACCEPTABLE. HAY BALES SHALL SURROUND WASHOUT AREA TO CONTAIN WASHOUT DISCHARGE.
7. HARDENED CONCRETE SHALL BE REMOVED FROM SITE AND DISPOSED OF OR RECYCLED ONCE WASHOUT AREA CAPACITY IS HALF FULL
8. MATERIALS USED TO CONSTRUCT WASHOUT AREA TO BE REMOVED FROM SITE AND DISPOSED OR RECYCLED
9. ALL HOLES, DEPRESSIONS AND OTHER DISTURBANCES SHALL BE BACKFILLED AND STABILIZED UPON REMOVAL OF THE WASHOUT.
10. WASHOUT AREA SHALL BE INSPECTED WEEKLY AND AFTER HEAVY RAIN FOR STRUCTURAL INTEGRITY, CAPACITY AND LEAKS AND REPAIRS SHOULD BE MADE IF NECESSARY



SIGN DETAIL



CONCRETE WASHOUT AREA

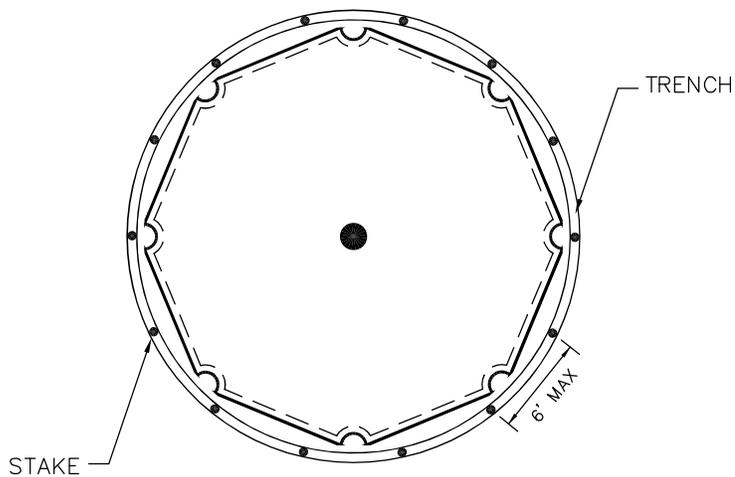
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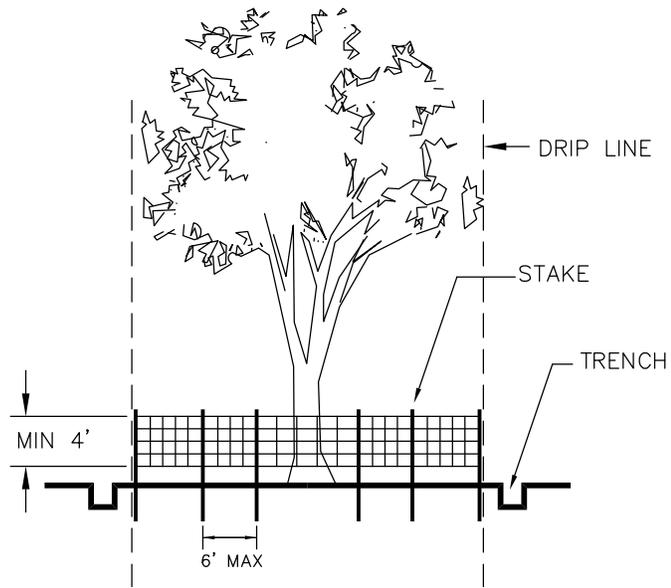
E-7

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS



PLAN



CROSS-SECTION

NOTES

1. EXCAVATE TRENCH 4-6" W X 18" D TRENCH ALONG DRIP LINE (LIMIT OF CLEARING) AND BACKFILL WITH SAND AND LIGHTLY COMPACT.
2. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
3. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
4. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
5. FENCE SHALL BE ORANGE VINYL "SNOW FENCE" 4' HIGH MINIMUM.



TREE PROTECTION

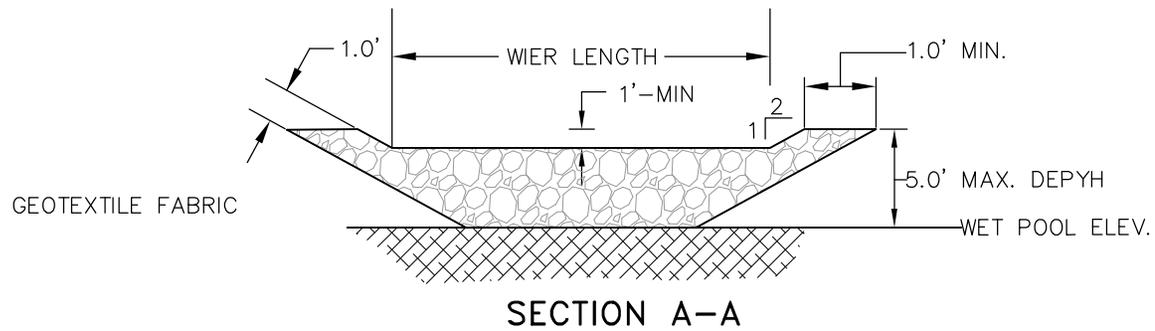
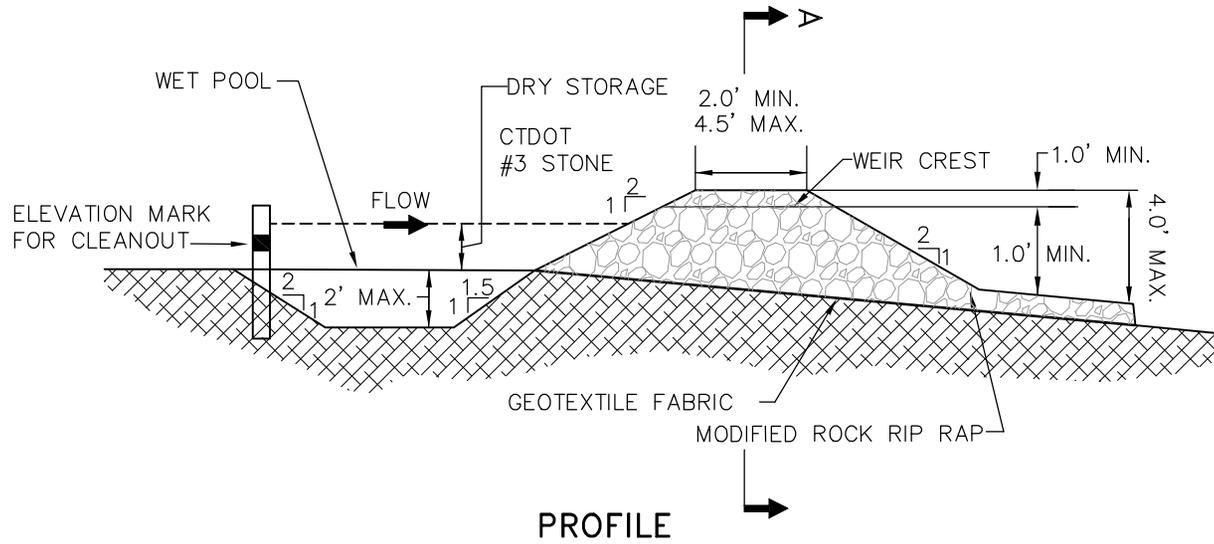
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E-8

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS



TEMPORARY SEDIMENT TRAP

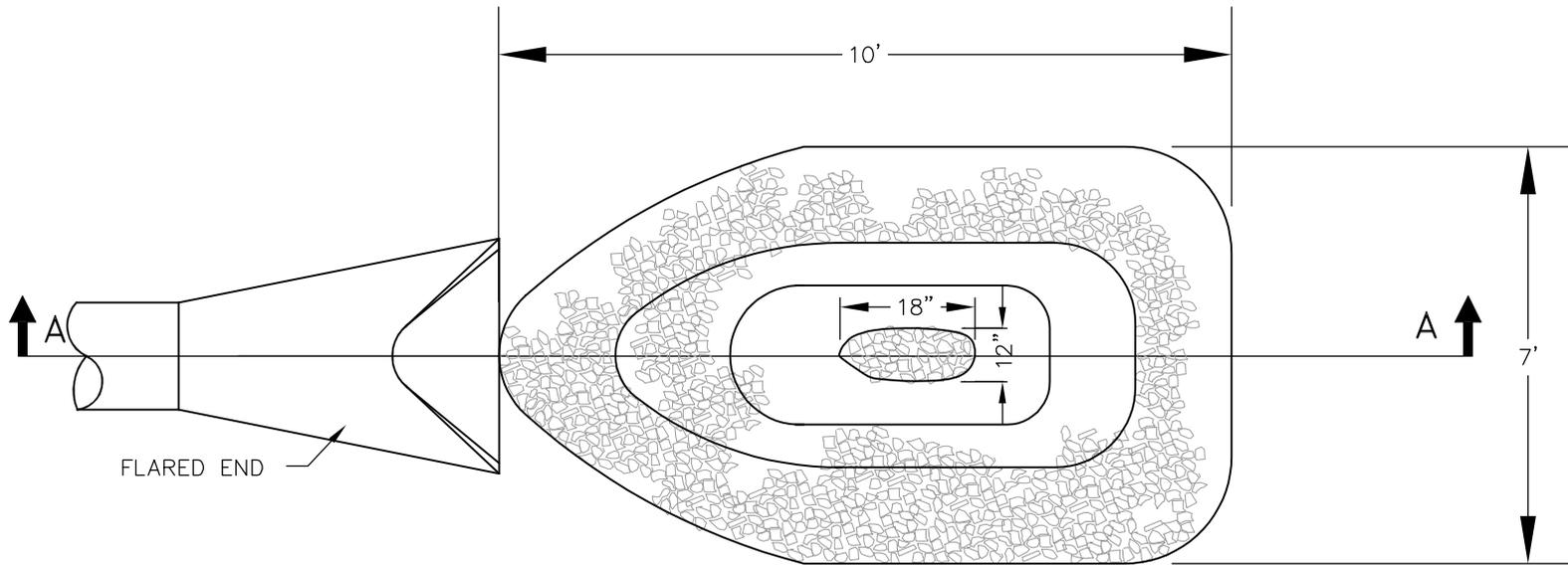
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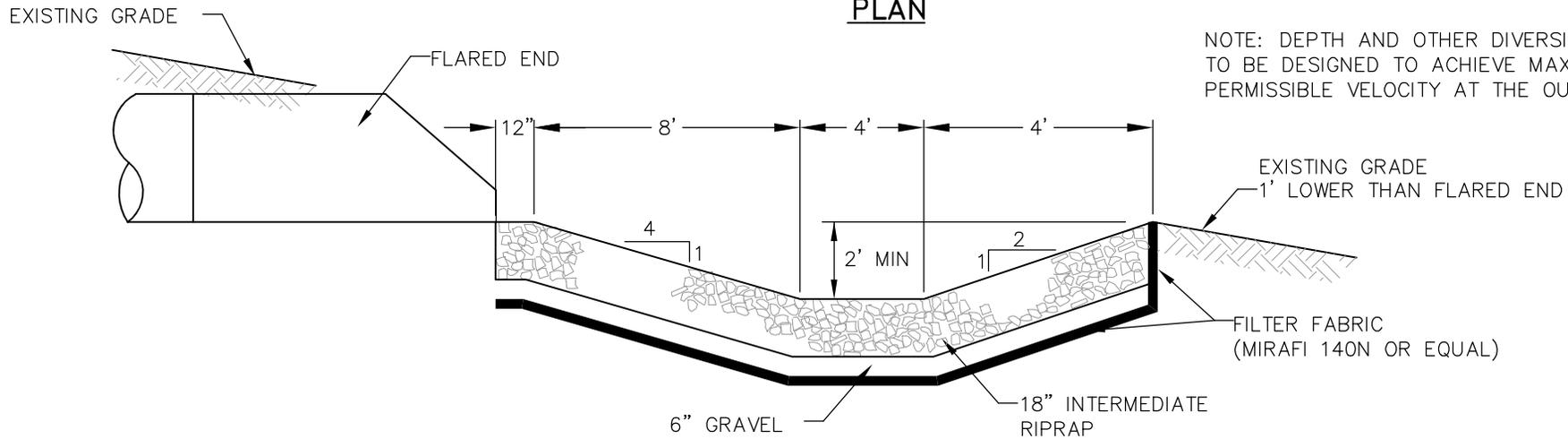
E-9

TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT

STANDARD DETAILS



PLAN



NOTE: DEPTH AND OTHER DIVERSIONS TO BE DESIGNED TO ACHIEVE MAXIMUM PERMISSIBLE VELOCITY AT THE OUTFALL

SECTION A-A

RIPRAP PLUNGE POOL

PLUNGE POOL



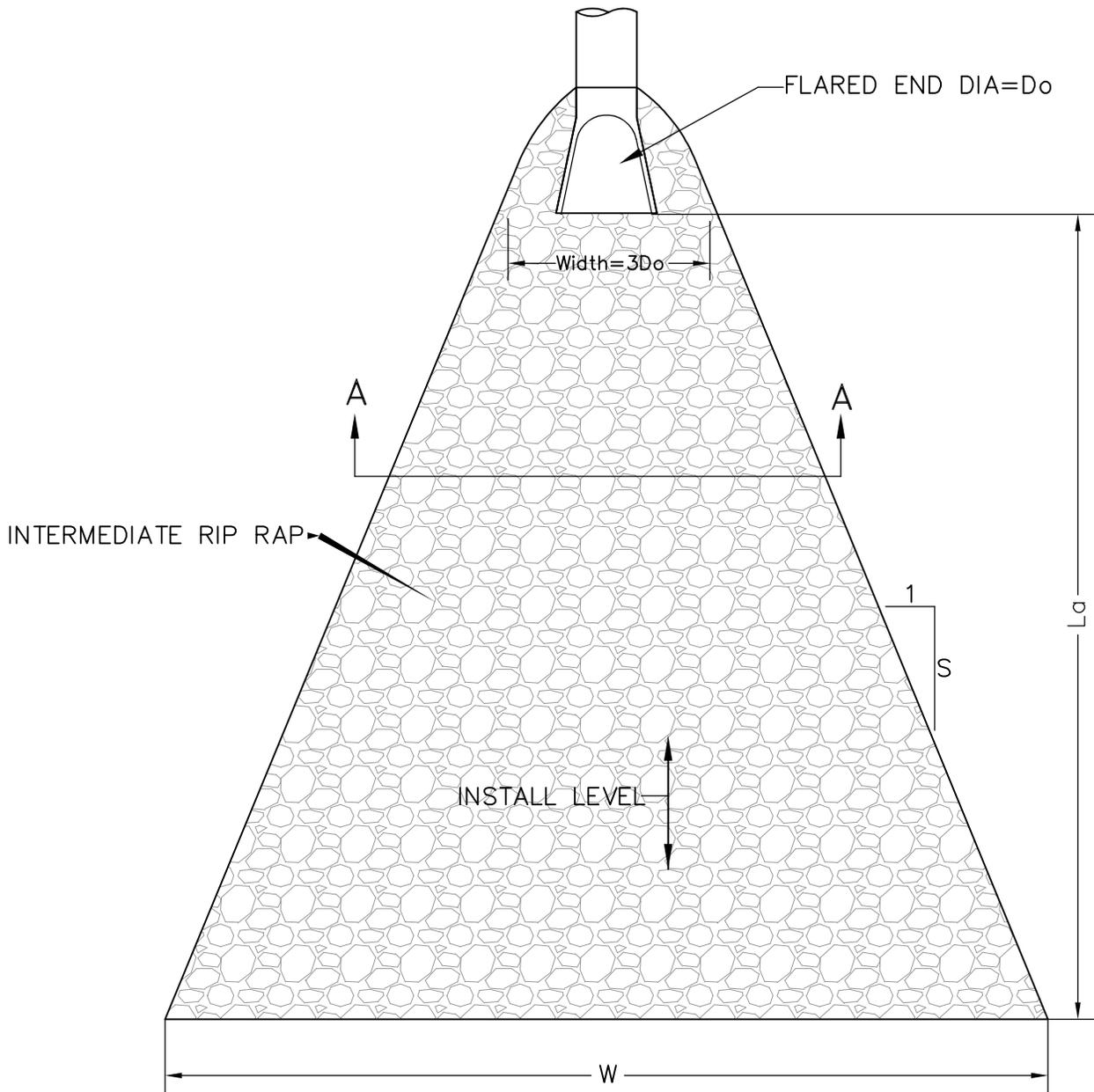
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E-10

*TOWN OF ROCKY HILL
ENGINEERING DEPARTMENT*

STANDARD DETAILS

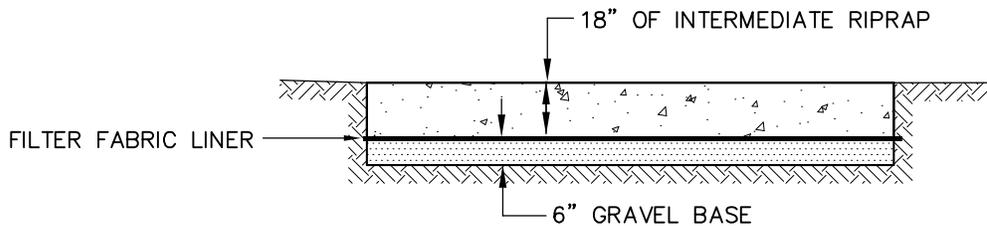


$S=2$ IF TAILWATER $< 0.5D_o$
 $W=3D_o+L_a$

$S=5$ IF TAILWATER $> 0.5D_o$
 $W=3D_o+0.4L_a$

*Refer to 2002 Connecticut Guidelines For Soil Erosion and Sediment Control

PLAN VIEW



SECTION A-A



RIP RAP ENERGY DISSIPATOR

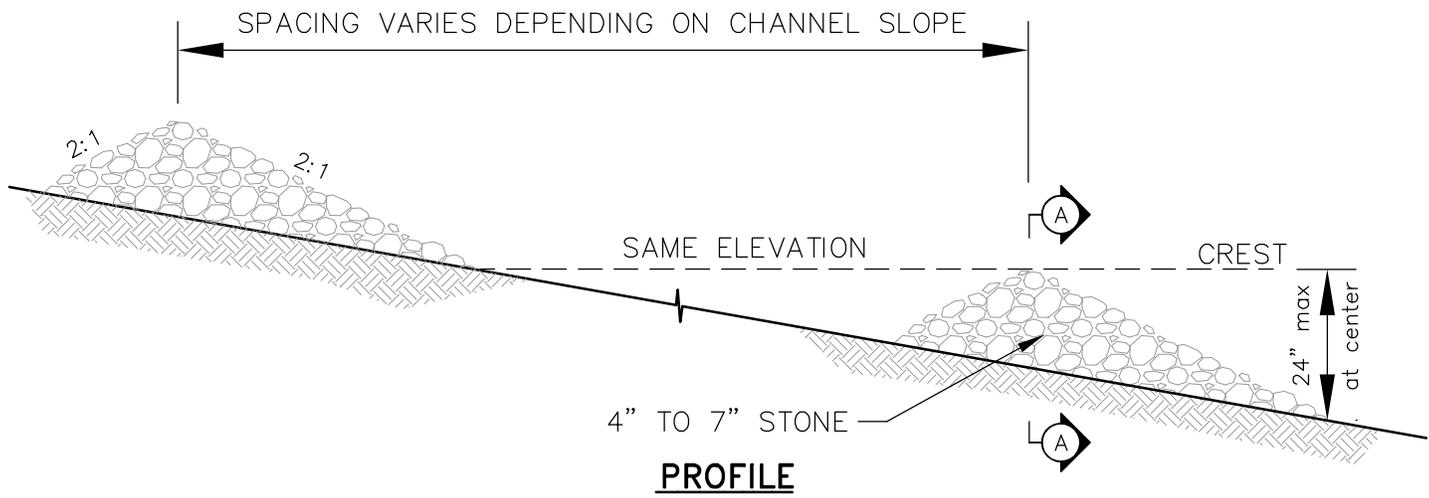
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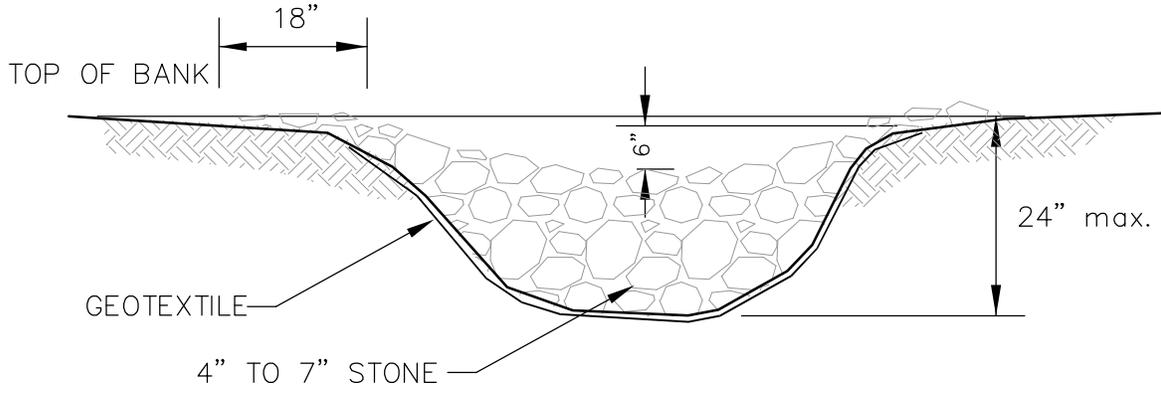
E-11

*TOWN OF ROCKY HILL
 ENGINEERING DEPARTMENT*

STANDARD DETAILS



PROFILE



SECTION A

STANDARD STONE CHECK DAM

SLOPE	SPACING
2% or less	80 feet
2.1% to 4%	40 feet
4.1% to 7%	25 feet
7.1% to 10%	15 feet
over 10%	use lined waterway design

NOTES

Key stone into channel banks and extend it beyond the abutments a minimum of 18" to prevent flow around dam.

This drawing requires supporting technical documentation prior to use and must be adapted to the specific site.



CHECK DAM

Date: 01-01-22
 Scale: N.T.S.
 E-12

TOWN OF ROCKY HILL
 ENGINEERING DEPARTMENT
STANDARD DETAILS