"ROLLING" the sidewalk grade may be required to establish 0.50% minimum sidewalk grades if the street grade is less than 0.50%.

MIN. 15", UNLESS OTHERWISE APPROVED BY THE VILLAGE ENGINEER

DETECTABLE SURFACE TRUNCATED DOMES

MIN. 150' BETWEEN STREET LIGHTS

MIN. 30' BETWEEN DRIVEWAYS

MIN. 150' BETWEEN D.I. WATER

MIN. 6" Ø UNDERDRAIN

MIN. 8" Ø D.I. WATER

MIN. 8" SANITARY SEWER

S=.004 FT./FT. MIN.

STREET GRADE = 0.50% MIN.

STREET GRADE = 0.50% MIN.

MIN. 8.00% MAX

DETECTABLE SURFACE TRUNCATED DOMES

MIN. 5'-6"

20' MIN. RADIUS

MIN. 150' BETWEEN DRIVEWAYS

MIN. 30' BETWEEN DRIVEWAYS

STREET DETAIL

NOT TO SCALE

TYPICAL PLAN

PAGE D-1 04/21/2016

MAJOR ARTERIAL

LOCAL RESIDENTIAL STREET

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>60'</td>
<td>32'</td>
<td>5'</td>
<td>4'</td>
</tr>
<tr>
<td>50'</td>
<td>20'</td>
<td>5'</td>
<td>1'</td>
</tr>
</tbody>
</table>
1. Minimum slope of drainage pipes shall be 0.2%.
2. All material and construction shall be in accordance with Village of Essex Public Works specifications.
3. Match existing slopes at property lines. Maximum slope 1 vertical/3 horizontal.
4. Some areas may require walks of greater width at the discretion of the Village.
5. Soil borings and test pits may be required by the Village to verify proposed design.
6. Mirafi 500X fabric or approved equal shall be installed under gravel subbase course beneath the street, curb and sidewalk unless other approved by Village.
7. Yellow or orange warning tape shall be buried 15" above all gas and electric lines.
8. 26' minimum width of pavement may be approved by Village for streets serving single family units if the design average daily traffic (ADT) is less than 250 vehicles.
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2. All material and construction shall be in accordance with Village of Essex Public Works Specifications.
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**Insulation Requirements:**
Insulation shall be Owens Corning Rigid Foam Insulation: Foamular 400. Insulation shall be 2" thick, supplied in 2'x 8' pieces with square edges. Compressive strength shall be a minimum of 40 pounds per square inch.

**Insulation Installation:** The Contractor must prepare the sand bed so that all projections that interfere with placement of insulation boards are to be removed, formed to fit around or as specified by the engineer. The contractor may not move equipment onto foam until the first 12" minimum, of gravel has been placed.
1. All curb radii less than 200' shall be formed using flexible forms.
2. Curb reveal at driveways shall be 1" max. and 1/4" max. at handicap access ramps.
3. Curb shall be constructed in 10 foot sections with 1/8" joints between sections.
4. Sidewalk shall be cast in 100' sections with no expansion joints. Connection to existing sidewalk and between 100 foot sections shall be accomplished with steel dowels, spaced 12" on center. Sidewalk adjacent to curb shall be separated by 4 mil polyethylene. Sidewalk joints shall be saw cut at 5' intervals to 1/3 the sidewalk depth. Struck transverse false joints shall not be utilized.
5. All materials and construction to be according to specifications.
6. Some areas require walks of greater width of the discretion of the village.
7. Concrete walks shall be 6" thickness across drives.
8. All sidewalks shall be treated with Certi-Vex AC 1315, per the manufacturer's instructions.
12' MIN. - 20' MAX.

Curb

Grass

Sidewalk

5% MAX.

R.O.W

PLAN

SECTION A-A

NOTE: The Algebraic Difference Between Two Adjacent Slopes Shall Not Exceed 8%

SECTION B-B

STREET DETAIL

NOT TO SCALE

RESIDENTIAL

DRIVEWAY APRON

PAGE D-5  04/21/2016
12' - 15' ONE TRAFFIC LANE
24' - 30' TWO TRAFFIC LANES
30' - 45' THREE TRAFFIC LANES

CONTINUE CURBING OR TAPER END OF CURB

NOTE: The Algebraic Difference Between Two Adjacent Slopes Shall Not Exceed 8% R.O.W

5% MAX.

12'-15' ONE TRAFFIC LANE
24'-30' TWO TRAFFIC LANES
30'-45' THREE TRAFFIC LANES

CONTINUE CURBING OR TAPER END OF CURB

NOTE: The Algebraic Difference Between Two Adjacent Slopes Shall Not Exceed 8% R.O.W

1/2 FT SLOPE

STREET

GRAVEL

SECTION A-A

STREET DETAIL
NOT TO SCALE
COMMERCIAL/INDUSTRIAL
DRIVEWAY APRON

PAGE D-6 04/21/2016
HYDRANT SHALL BE ONE OF THE FOLLOWING: KENNEDY K-81, MUELLER A-243, OR WATEROUS PACER.

STEAMER CONNECTION SHALL BE A 5" STORZ CONNECTOR.

2-1/2" SPUD CONNECTION THREADS SHALL BE 'DOUBLE START' STYLE.

ALL FITTINGS AND JOINTS SHALL BE WRAPPED IN MINIMUM 9 MIL. POLYETHYLENE PLASTIC PRIOR TO POURING THRUST BLOCKING.

THRUST BLOCKS ARE NOT TO EXTEND PAST THE FITTINGS ON THE PIPES NOR FOUL FITTINGS LUGS, BOLTS, ETC.

THRUST BLOCK DESIGN SHALL BE BASED ON WATER PRESSURE EQUAL TO 200 PSI, SOIL BEARING CAPACITY EQUAL TO 2000 LB/SQFT., AND THE APPROPRIATE SIZE PIPE AND TYPE OF FITTINGS TO BE RESTRAINED.

THRUST BLOCK MUST BEAR AGAINST UNDISTURBED SOIL.

---

<table>
<thead>
<tr>
<th>FITTINGS</th>
<th>SIZE</th>
<th>6&quot;</th>
<th>8&quot;</th>
<th>10&quot;</th>
<th>12&quot;</th>
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<tbody>
<tr>
<td>11-1/4° OR 22-1/2°</td>
<td>3.0</td>
<td>3.0</td>
<td>4.0</td>
<td>6.0</td>
<td></td>
</tr>
<tr>
<td>45°</td>
<td>3.0</td>
<td>5.0</td>
<td>8.0</td>
<td>11.0</td>
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</tr>
<tr>
<td>90°</td>
<td>6.0</td>
<td>10.0</td>
<td>14.0</td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td>TEES OR END CAPS</td>
<td>4.0</td>
<td>7.0</td>
<td>10.0</td>
<td>14.0</td>
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<tr>
<td>VALVES</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td></td>
</tr>
</tbody>
</table>
WATER METER MIN. CLEARANCES
NOT TO SCALE
3/4" METER

SECTION A-A
WATER METER MIN. CLEARANCES

NOT TO SCALE

1", 1-1/2", & 2" METERS
SECTION A-A

1. PRECAST MANHOLE SECTIONS BUILT TO A.S.T.M. SPEC C472-72 WITH "O" RING JOINT.
2. STEEL REINFORCED TO A.S.T.M. SPEC.
3. 5,000 PSI CONCRETE.
4. MONOLITHIC (58° Ø) BASE SECTION.
5. MANHOLE STEPS SHALL BE COPOLYMER POLYPROPYLENE COVERED STEEL.

SANITARY SEWER DETAILS
NOT TO SCALE
MANHOLES

PAGE D-12 04/21/2016
NOTE: WHERE WYE IS TO BE INSTALLED INTO EXISTING SEWER, INSTALLATION SHALL BE DONE WITH RIGID, GASKETED PIPE COUPLINGS. SADDLE CONNECTIONS OR FERNCO COUPLINGS, ARE NOT ACCEPTABLE.
2" PVC PIPE BOTH ENDS CAPPED

CAP AT THIS POINT FOR FUTURE CONNECT

CONCRETE ENCASEMENT TO SURROUND CONNECTION, 4" MINIMUM ENCASEMENT

6" SERVICE CONNECTION

USE WHEN DROP EXCEEDS 4'

SANITARY SEWER DETAILS

NOT TO SCALE

CHIMNEY SERVICE CONNECTION FOR DEEP SEWER
SEWER - WATER SEPARATION NOTES

HORIZONTAL SEPARATION

Sanitary sewers shall be laid at least ten feet horizontally from any existing or proposed water main. This distance can be reduced to five feet for storm sewers. The distance shall be measured edge of pipe to edge of pipe. Where impractical due to ledge, boulders or other unusual conditions, to maintain horizontal separation between sewer and water lines, the water line may be in a separate trench or on an undisturbed earth shelf in the sewer trench provided that the bottom of the water line is a least 1.8' above the top of the sewer. Wherever impossible or impractical to maintain 1.8' vertical separation, the sanitary sewer line shall be constructed to normal waterline standards and pressure tested to 50 psi for 15 minutes prior to backfilling. No leakage shall be allowed for this test.

CROSSING

Sewer crossing water mains shall be laid beneath the water main with at least 18” vertical clearance between the top of the sewer and the bottom of the water main. When it is impossible to maintain the 18” vertical separation or where the sewer must be laid above the water main;

1) The crossing shall be arranged so that one full length of sewer is centered above or below the water line with sewer joints as far as possible from water joints;

2) The sanitary sewer pipe must be constructed to water main standards for a minimum distance of 20 feet either side of the crossing or a total of three pipe lengths, whichever is greater;

3) The section constructed to water main standards must be pressure tested to maintain 50 psi for 15 minutes without leakage prior to backfilling beyond one foot above the pipe to assure water tightness;

4) Where water main crosses under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main.
TRENCH DETAIL

FLEXIBLE & RIGID PIPE

A. FLEXIBLE PIPE
(PVC, HDPE, ETC)

- 3/8"-3/4" CRUSHED GRAVEL
- COMMON BACKFILL
- 6" INITIAL BACKFILL
- 6" BEDDING MATERIAL

B. RIGID PIPE
(DI, RCP, GMP)

- COMMON BACKFILL
- 6" INITIAL BACKFILL
- SAND BORROW

RIGID PIPE NOTES:
1. PROVIDE POLYETHYLENE PROTECTIVE WRAP (BEETLE SKIN) AROUND PIPE IN CORROSIIVE SOILS.
2. IF TRENCH BOTTOM IS FORMED BY CLAY SOILS, PROVIDE 6" (MIN.) BEDDING UNDER PIPE.
1. Minimum size square shaped catch basin or drop inlet is 2' x 2'.
2. Minimum size round catch basin is 3' diameter.
3. Where manhole cover used instead of grate, cover shall be marked with "storm".

### TABLE

<table>
<thead>
<tr>
<th>Structure Diameter</th>
<th>0°-45° Deflection Through Structure</th>
<th>45°-90° Deflection Through Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>36&quot;</td>
<td>18&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td>48&quot;</td>
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<td>84&quot;</td>
<td>48&quot;</td>
<td>30&quot;</td>
</tr>
<tr>
<td>96&quot;</td>
<td>60&quot;</td>
<td>42&quot;</td>
</tr>
</tbody>
</table>

*In no case shall more than 50% of the structure circumference be removed by pipe penetrations, and there shall be at least 6" of wall between penetrations; unless otherwise approved by the Village Engineer.
UNDERDRAIN CLEAN OUT DETAIL

NOTE:
SEE STORM SEWER - PRECAST CONCRETE CATCH BASIN DETAIL FOR UNDERDRAIN CONNECTION.

UNDERDRAIN PIPE SHALL BE 6" MIN. DIA. SDR 35 PVC PERFORATED PIPE OR APPROVED EQUAL

GENERAL NOTES:
1. GRADE FOR UNDERDRAIN SHALL BE PARALLEL WITH THE ROAD GRADE UNLESS OTHERWISE APPROVED BY THE VILLAGE. MINIMUM GRADE IS EQUAL TO 0.005 FT/FT.
3. UNDERDRAINS SHALL OUTLET INTO STORM CATCH BASINS OR AT OTHER SUITABLE FREE OUTLET. THE CROWN OF THE UNDERDRAIN PIPE ENTERING A CATCH BASIN SHALL NOT BE LOWER THAN THE CROWN OF THE OUTLET PIPE.
NO STRUCTURE OR SUPPORT CAN BE PLACED IN THIS AREA BECAUSE THE SNOW PLOW WINGS OVERHANG THE CURB BY 12".

ALTERNATIVE A

ALTERNATIVE B
A. THESE LIGHTS SHALL BE THE STANDARD FOR THE FOLLOWING STREETScape CORRIDORS:
   1. PEARL STREET
   2. LINCOLN STREET
   3. MAPLE STREET
   4. MAIN STREET
   5. PARK STREET
B. THESE LIGHTS SHALL BE THE STANDARD FOR A DOWNTOWN AREA WHICH IS ENCOMPASSED BY THE ABOVE NOTED CORRIDORS AND THE FOLLOWING STREETS:
   1. RAILROAD AVENUE
   2. RAILROAD STREET
   3. THE CRESCENT CONNECTOR
   4. PARK PLACE
   5. SCHOOL STREET
   6. LINCOLN PLACE
   7. CENTRAL STREET
C. STREET LIGHTING FOR ALL OTHER LOCATIONS SHALL BE AS DESCRIBED IN SECTION (704H) OF THE LAND DEVELOPMENT CODE, OR APPROVED BY THE PLANNING COMMISSION.

NOTE:
LIGHT SOURCE TYPE AND OUTPUT TO BE DETERMINED FOR EACH INDIVIDUAL PROJECT.

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