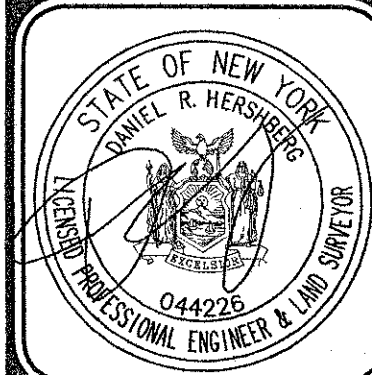


**HERSHBERG  
&  
HERSHBERG**

Consulting Engineers  
and Land Surveyors

18 Locust Street  
Albany, New York 12203

ALTERATION OF THIS  
DOCUMENT EXCEPT BY A  
LICENSED PROFESSIONAL  
ENGINEER OR LAND  
SURVEYOR, IS ILLEGAL

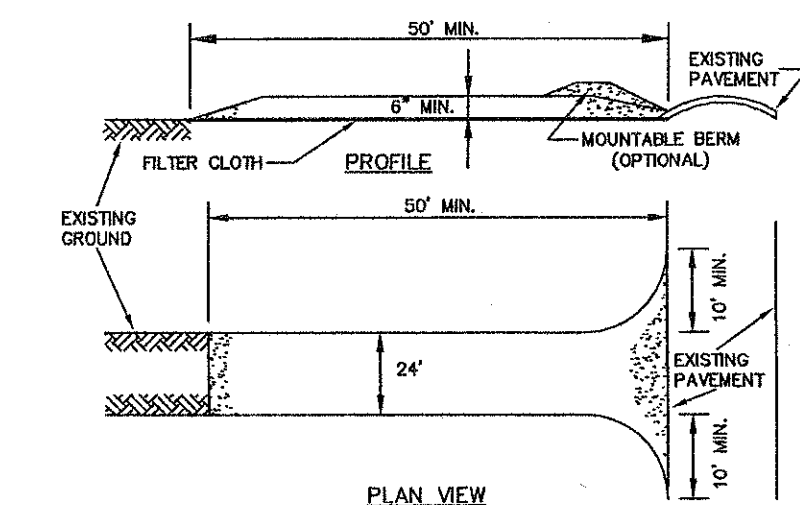


DATE	REMARKS
2/9/15	PLANNING BOARD COMMENTS
2/23/15	MEETING AT BEL WITH W/001/15
3/2/15	RESPONSE TO COMMENTS
3/31/15	RESPONSE TO COMMENTS 3/13/15
4/10/15	RESPONSE TO COMMENTS 3/13/15

REVISIONS

PROPOSED EROSION AND SEDIMENT CONTROL PLAN FOR No. 21 VISTA BOULEVARD  
VISTA TECHNOLOGY CAMPUS  
TOWN OF BETHLEHEM  
ALBANY COUNTY, STATE OF NEW YORK

C6016



#### CONSTRUCTION SPECIFICATIONS

1. INSTALL CONSTRUCTION ENTRANCE IN ACCORDANCE WITH "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", SECTION 7A.
2. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
3. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
4. THICKNESS - NOT LESS THAN (6) INCHES.
5. STABILIZATION FABRIC - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS ONTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

#### Design Criteria

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

#### Criteria for Geotextile

The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydrocarbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties	Light Duty Roads Grade Subgrade	Heavy Duty Roads Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Burst Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 modified
Equivalent Opening Size	40-80	40-80	US Std Sieve CW-02215
Aggregate Depth	6	10	

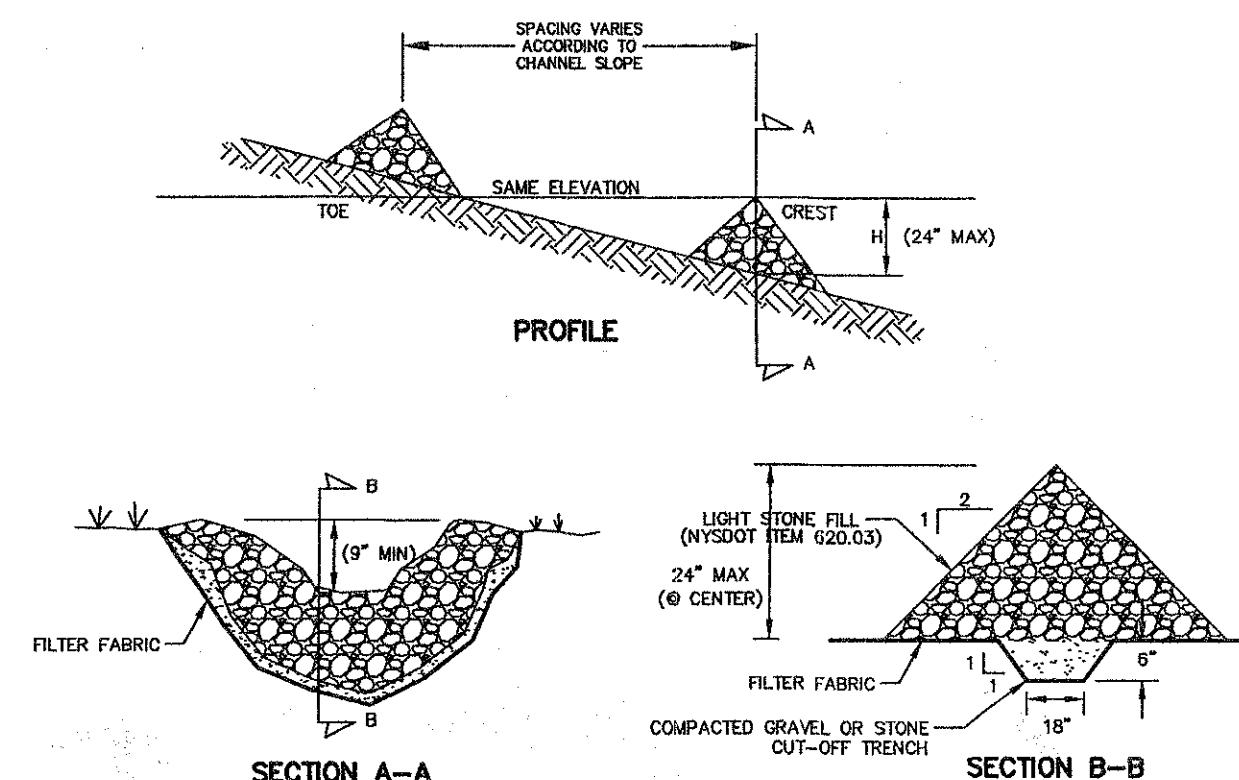
Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and on occasional multiple truck. Acceptable materials are Triax Spunbond 1110, Mirel 100X, Type 3401, or equivalent.

Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Triax Spunbond 1130, Mirel 600X, or equivalent.

Fabric not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

#### STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



#### Design Criteria

Drainage Area: Maximum drainage area above the check dam shall not exceed two (2) acres.

Height: Not greater than 2 feet. Center shall be maintained 9 inches lower than abutments at natural ground elevation.

Side Slopes: Shall be 2:1 or flatter.

Spacing: The check dams shall be spaced as necessary in the channel so that the crest of the downstream dam is at the elevation of the toe of the upstream dam. This spacing is equal to the height of the check dam divided by the channel slope.

Therefore:  
 $S = h/s$

Where:  
 $S$  = spacing interval (ft.)  
 $h$  = height of check dam (ft.)  
 $s$  = channel slope (ft./ft.)

#### Example:

For a channel with a 4% slope and 2 ft. high stone check dams, they are spaced as follows:  
 $S = \frac{2 \text{ ft.}}{.04 \text{ ft./ft.}} = 50 \text{ ft.}$

Stone size: Use a well graded stone matrix 2 to 9 inches in size (NYS -DOT Light Stone Fill meets these requirements).

The overflow of the check dams will be stabilized to resist erosion that might be caused by the check dam. See Figure 5A.9 on page 5A.24 for details.

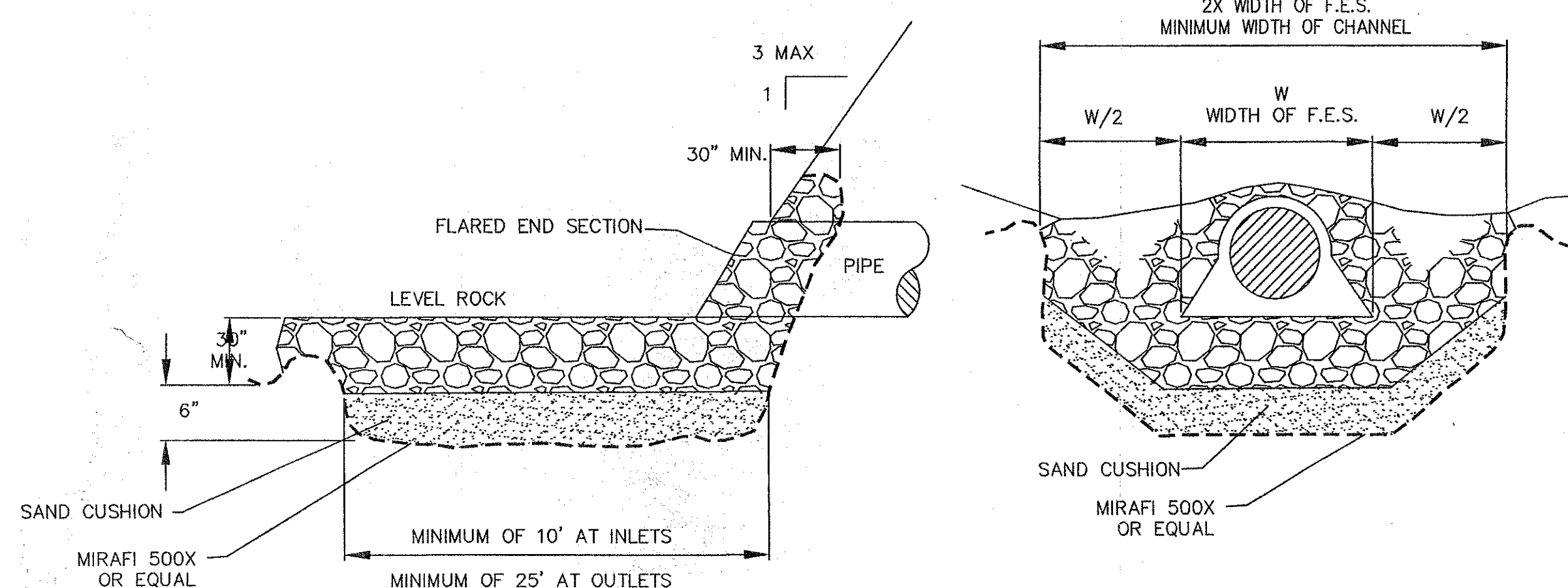
Check dams should be anchored in the channel by a cutoff trench 1.5 ft. wide and 0.5 ft. deep and lined with filter fabric to prevent soil migration.

#### NOTES:

1. INSTALL STONE CHECK DAM IN ACCORDANCE WITH THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", SECTION 7A IN ALL TEMPORARY OF PERMANENT DRAINAGE SWALES ON SITE.
2. CHECK DAMS SHALL REMAIN IN PLACE UNTIL THE DRAINAGE SWALE IS STABILIZED.
3. LIGHT STONE FILL (NYS-DOT ITEM 620.03) SHALL BE PLACED ON FILTER FABRIC ACCORDING TO THE GRADES AND SWALE LINES SHOWN ON THE PLANS.
4. SET SPACING OF CHECK DAMS SO THAT THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
5. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
6. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
7. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO BLOCKAGE OR DAMAGE FROM DISPLACED STONE.
8. MAXIMUM DRAINAGE AREA 2 ACRES.
9. LOCATION OF CHECK DAMS SHALL BE AS REQUIRED TO PROVIDE ADEQUATE EROSION CONTROL AND MAY BE DIRECTED BY THE ENGINEER IN AREAS OTHER THAN SHOWN ON THIS PLAN DURING CONSTRUCTION AND UNTIL SITE IS STABILIZED.

#### STONE CHECK DAM DETAIL

NOT TO SCALE



#### FLARE END SECTION AND RIP-RAP DETAIL

NOT TO SCALE

PLANNING BOARD  
TOWN OF BETHLEHEM  
ALBANY COUNTY, NEW YORK  
By direction of the Chairman,  
These drawings are hereby approved.  
See sheet(s) 3 of 6  
for date and sign U.S.