

EROSION AND SEDIMENT CONTROL CONSTRUCTION SEQUENCE NOTES:

1. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THEIR TRIBUTARY AREAS.
2. CONTRACTOR SHALL COMMENCE SITE CONSTRUCTION ACTIVITIES AS REQUIRED.
3. INSTALL SILT FENCING AS NEEDED AS CLEARING AND GRADING ACTIVITIES PROGRESS. UPON COMPLETION OF INITIAL ROUGH GRADING OF BUILDING AREAS, TEMPORARY SEEDING AND ESTABLISHMENT OF VEGETATIVE COVER SHALL OCCUR.
4. IMMEDIATELY FOLLOWING COMPLETION OR SUSPENSION OF CONSTRUCTION ACTIVITIES OR WITHIN 14 DAYS IN ANY PORTION OF THE SITE, PERMANENT VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SOILS.
5. PRIOR TO FINALIZING CONNECTION TO THE STORM SEWER SYSTEM, ALL CATCH BASINS AND DRAINAGE LINES SHALL BE CLEANED OF ALL SILT AND SEDIMENT.
6. ONCE ROAD SURFACE HAS BEEN STABILIZED, SILT FENCING SHALL BE INSTALLED ALONG ROADWAY TO PREVENT SEDIMENT FROM ENTERING THE CLOSED DRAINAGE NETWORK WITHIN THE ROADWAY.
7. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AND IMMEDIATELY ESTABLISH PERMANENT VEGETATION ON THE AREAS DISTURBED DURING THE REMOVAL.

CONSTRUCTION SEQUENCE (APPLICABLE TO EACH PHASE)

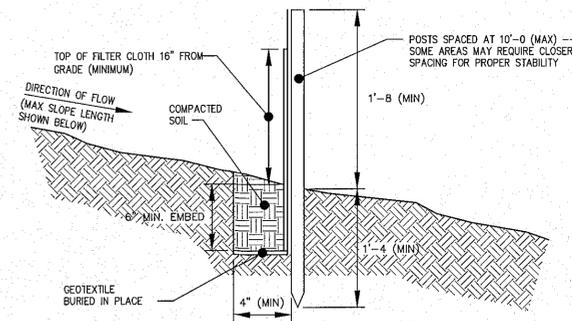
1. ESTABLISH PERIMETER SILT FENCING, WETLAND BARRIERS, AND STABILIZED CONSTRUCTION ENTRANCES.
2. CONSTRUCT PAVED AND GRAVEL ACCESS ROAD TO DETENTION POND.
3. CONSTRUCT DETENTION POND, ESTABLISH VEGETATIVE COVER ONCE IT IS COMPLETED.
4. CONSTRUCT OUTLET STRUCTURE WITH THE NECESSARY COMPONENTS SO THE DETENTION POND CAN BE USED AS A TEMPORARY SEDIMENT BASIN DURING THE SITE CONSTRUCTION.
5. BEGIN ROUGH GRADING OF ROADWAY ALIGNMENTS, TAKING CARE TO ESTABLISH TEMPORARY SWALES AND PERMANENT SWALES WITH TEMPORARY CHECK DAMS TO DIVERT RUNOFF TO STORM SEWER; STABILIZE CUT AND FILL SLOPES; STABILIZE INTERNAL ROADWAY AREAS WITH SUBBASE COURSE, AS NECESSARY.
6. INSTALL SEWER LINES, STORM DRAINAGE SYSTEM AND WATER LINES. INSTALL DROP INLET SEDIMENT TRAPS AND CHECK DAMS IN DRAINAGE FLOW LINES.
7. COMPLETE SUBGRADE EXCAVATION, CONSTRUCT BASE COURSE, STABILIZE WITH SUB ROADWAY. PERFORM THE RESURFACING OF EXISTING NORFOLK STREET.
8. COMPLETE GRADING IN BUILDING AREAS, STABILIZE GRADED AREAS WITH TEMPORARY SEEDING AND MULCHING. INSTALL SILT FENCING ALONG NEW ROADWAY EDGE UNTIL AREAS ARE STABILIZED.
9. INSTALL BITUMINOUS PAVEMENT FOR ALL NEW ROADWAYS.
10. CONTINUE INSPECTION AND MAINTENANCE OF SITE AND EROSION/SEDIMENT CONTROL DEVICES THROUGHOUT THE DURATION OF THE CONSTRUCTION.
11. REMOVE ALL SEDIMENT AND TEMPORARY SEDIMENT BASIN COMPONENTS FROM THE SEDIMENT BASIN.

EROSION CONTROL GENERAL NOTES:

1. THIS PROJECT IS AUTHORIZED UNDER NYSDEC PERMIT GP-0-15-002.
2. ANY CONTRACTOR INVOLVED IN EARTHWORK ACTIVITIES, INCLUDING BUT NOT LIMITED TO: CLEARING, GRADING AND TRENCHING, SHALL REVIEW ALL PERMIT CONDITIONS AND CERTIFY UNDERSTANDING OF THESE CONDITIONS, IN WRITING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT ALL EROSION CONTROLS DESCRIBED IN GP-0-15-002, AND IT IS NOT THE INTENT OF THESE DRAWINGS TO REPLACE OR DISSEMINATE THE PERMIT REQUIREMENTS. THE CONTRACTOR SHALL REMAIN IN COMPLIANCE WITH THE PERMIT AT ALL TIMES.
3. AT NO TIME, SHALL MORE THAN FIVE (5) ACRES REMAIN UNSTABILIZED. THE CONTRACTOR SHALL COORDINATE EARTHWORK ACTIVITIES AND IMPLEMENTATION OF SOIL STABILIZATION MEASURES TO THIS PERMIT REQUIREMENT.
4. THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION AND EQUIPMENT ENTRANCE WHENEVER PRACTICABLE.
5. DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF COMPLETION OR SUSPENSION OF GRADING OPERATIONS.
6. A NOTICE OF INTENT (NOI) MUST BE FILED WITH THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION FIVE (5) BUSINESS DAYS PRIOR TO CONSTRUCTION ACTIVITIES WHICH DISTURB MORE THAN ONE ACRE OF LAND AFFIRMING THAT A STORMWATER POLLUTION PREVENTION PLAN HAS BEEN PREPARED CONSISTENT WITH THE REQUIREMENTS INCLUDED IN THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SPODES GENERAL PERMIT FOR STORMWATER DISCHARGES (GP-0-15-002).

TEMPORARY EROSION AND SEDIMENT CONTROL NOTES:

1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE LATEST EDITION OF NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL" (aka: THE BLUE BOOK) EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES.
2. IT IS THE INTENT OF THESE PLANS AND NOTES TO BE USED AS A GUIDE BY THE CONTRACTOR TO ENSURE THAT NO ERODED MATERIAL MIGRATES FROM THE SITE OR ENTERS ANY WATER COURSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THIS GOAL IS MET, BY IMPLEMENTING THESE PLANS AND ANY ADDITIONAL MEANS THAT MAY BE NECESSARY. FURTHER MEASURES MAY BE REQUIRED BY THE CITY, VILLAGE, OR TOWN ENGINEER. WHILE MANY OF THE EROSION CONTROL DETAILS CONTAINED WITHIN THESE PLANS ARE TAKEN DIRECTLY FROM THE BLUE BOOK, THE CONTRACTOR SHOULD CONSIDER ANY OF THE DETAILS CONTAINED IN SECTION 7A OF THE BLUE BOOK AS ACCEPTABLE PRACTICE IN THE APPROPRIATE APPLICATION.
3. THE DEVELOPER/CONTRACTOR OR HIS BUILDER SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES WEEKLY AND AFTER EACH RAINFALL EVENT THROUGH THE ENTIRE DEVELOPMENT PROCESS. TO ASSURE PROPER FUNCTION, SITUATION BARRIERS SHALL BE MAINTAINED IN GOOD CONDITION AND REPAIRED, EXTENDED, REPAIRED, RE-SEEDED AND PROTECTED FROM FURTHER EROSION. ALL SEDIMENT ACCUMULATED SHALL BE REMOVED AND CONTAINED IN APPROPRIATE SPOIL AREAS. WATER SHALL BE APPLIED TO NEWLY SEEDER AREAS AS NEEDED UNTIL GRASS COVER IS WELL ESTABLISHED. DURING THESE PERIODIC INSPECTIONS, THE FOLLOWING ITEMS SHOULD BE PAID PARTICULAR ATTENTION: A. SILT FENCING SHALL BE INSPECTED FOR UNDERMINING AND DETRIORATION. B. SEEDER/MULCHER AREAS SHALL BE INSPECTED TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE REPAIRED AS NECESSARY.
4. EROSION CONTROL DEVICES SHALL NOT BE REMOVED UNTIL THE CITY, VILLAGE OR TOWN ENGINEER HAS APPROVED FINAL STABILIZATION.
5. SILT FENCE AND OTHER EROSION CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THESE DETAIL SHEETS AND SECTION 7A OF THE BLUE BOOK.
6. PRIOR TO ANY CONSTRUCTION ACTIVITY, THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED.
7. CONSTRUCTION TRAFFIC SHALL NOT CROSS STREAMS OR DITCHES EXCEPT AT SUITABLE CROSSING FACILITIES. EQUIPMENT SHALL NOT OPERATE, UNNECESSARILY, WITHIN WATERWAYS OR DRAINAGE DITCHES.
8. EXISTING PAVEMENT AREAS SHALL BE CLEANED AT THE DIRECTION OF THE CITY, VILLAGE, OR TOWN ENGINEER.
9. WATER TRUCKS SHALL BE USED TO MINIMIZE DUST POLLUTION ON SITE, AND ON ADJACENT ROADWAY AREAS AS DIRECTED BY THE CITY, VILLAGE, OR TOWN ENGINEER.
10. ANY WATER PUMPED AS A RESULT OF DEWATERING ACTIVITIES SHALL BE PUMPED INTO A DEWATERING PIT.
11. ALL AREAS DISTURBED IN THE CONSTRUCTION PROCESS SHALL BE STABILIZED WITH SEED AND MULCH NO MORE THAN 14 DAYS AFTER THE COMPLETION OF WORK IN THAT AREA. IF WORK IN AN AREA IS SUSPENDED, IT SHALL NOT REMAIN UNSTABILIZED FOR MORE THAN 21 DAYS. IT MAY BE NECESSARY TO SEED AND MULCH SOME AREAS SEVERAL TIMES TO MEET THIS REQUIREMENT.
12. IT IS RECOMMENDED THAT ALL EROSION CONTROL DEVICES BE PLACED FOR THE ENTIRE PHASE AS SHOWN ON THE EROSION CONTROL PLAN.
13. STOCK PILES SHALL BE PROTECTED BY SILT FENCE PER GP-0-15-002. THESE DEVICES SHALL BE MAINTAINED IN GOOD CONDITION UNTIL SAID STOCK PILES ARE REMOVED AND STOCK PILING AREAS ARE PERMANENTLY STABILIZED.
14. STOCK PILES SHALL BE SEEDER UPON SUSPENSION OF WORK OR IF MATERIAL IS NOT TO BE USED WITHIN 14 DAYS, IN ACCORDANCE WITH GP-0-15-002.
15. IN NO CASE SHALL ERODIBLE MATERIALS BE STOCKPILED WITHIN 25 FEET OF ANY DITCH, STREAM OR OTHER SURFACE WATER BODY.
16. SILT FENCING SHALL BE INSTALLED AT THE PERIMETER OF ALL SLOPES TO BE GRADED, PRIOR TO GRADING OPERATIONS.
17. CLEARING OPERATIONS SHALL BE LIMITED TO ACTIVE WORK AREAS.
18. CARE SHALL BE TAKEN TO PRESERVE AS MUCH EXISTING VEGETATION AS POSSIBLE AND HEALTHY TREES OF DESIRABLE SPECIES SHALL BE PROTECTED.
19. WHEN RUNOFF IS COLLECTED AND FLOW IS CONCENTRATED IN A SWALE OR DRAINAGE DITCH, THEN CHECK DAMS SHALL BE INSTALLED TO REDUCE VELOCITY UNTIL THE SWALE AND THE AREA DRAINING TO THE SWALE ARE STABILIZED. SEDIMENT SHALL BE REMOVED FROM THE DAM AS NEEDED TO ALLOW THE CHANNEL TO DRAIN THROUGH THE DAM AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM.



MAXIMUM ALLOWABLE SLOPE LENGTH

MAXIMUM ALLOWABLE SLOPE LENGTHS CONTRIBUTING RUNOFF TO A SECTION OF SILT FENCE SHALL BE AS FOLLOWS:

SLOPE STEEPNESS:	MAX. SLOPE LENGTH:
1:2	25 FT
1:3	50 FT
1:4	75 FT
1:5 OR FLATTER	100 FT

NOTE:

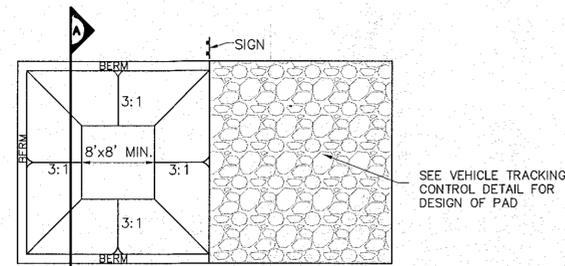
MAXIMUM DRAINAGE AREA FOR OVERLAND FLOW TO SILT FENCE SECTION SHALL NOT EXCEED 1/4 ACRE PER 100 FT OF FENCE. CONCENTRATED DISCHARGE OF SEDIMENT LADEN WATER SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO THE FENCING.

SILT FENCE DETAIL
NOT TO SCALE

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. INSTALL SILT FENCE IN ACCORDANCE WITH THE "NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL", SECTION 7A.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE WRAPPED TOGETHER PER DETAIL 4 ON THIS PAGE.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED WHEN ACCUMULATION REACHES 1/2 OF DESIGN CAPACITY OF FENCE (1/2 HEIGHT OF FILTER FABRIC) OR WHEN "BULGES" DEVELOP IN FENCING.

- POSTS: STEEL EITHER "1" OR "U" TYPE OR 2" HARDWOOD
- FILTER CLOTH: FILTER X, MIRAFI 100X, STABILUNA T140N OR APPROVED EQUAL
- PREFABRICATED UNIT: GEOFAB, ENVROFENCE, OR APPROVED EQUAL



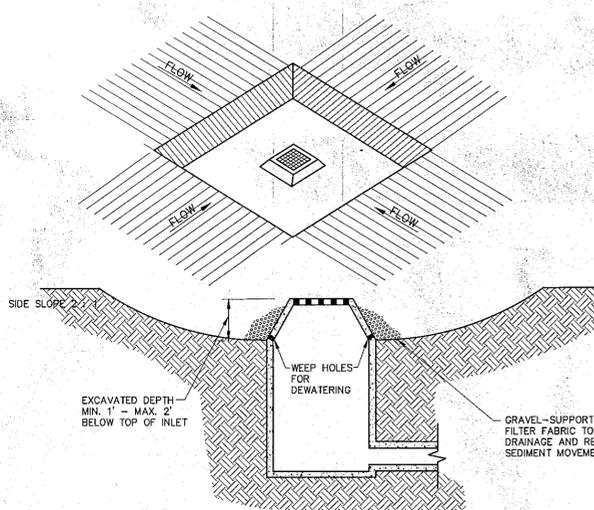
CONCRETE WASHOUT AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATIONS OF CONCRETE WASHOUT AREA
2. THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT.
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION

CONCRETE WASHOUT AREA MAINTENANCE NOTES

1. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
2. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
3. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, DRILL SEED AND CRIMP MULCH OR OTHERWISE STABILIZE IN A MANNER APPROVED BY THE LOCAL JURISDICTION.
4. INSPECT WEEKLY, DURING AND AFTER ANY STORM EVENT.

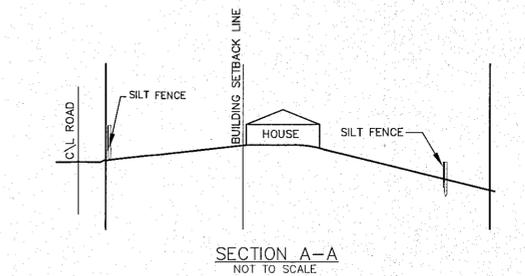
CONCRETE WASHOUT AREA
NOT TO SCALE



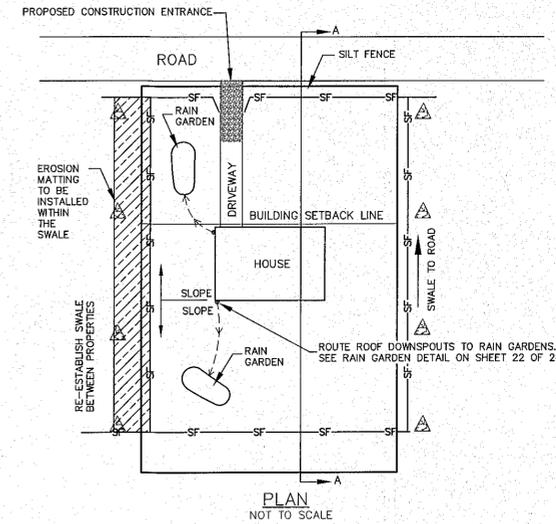
EXCAVATED DROP INLET PROTECTION DETAILS FOR UNPAVED AREAS
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS:

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
6. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING. MAXIMUM DRAINAGE AREA 1 ACRE

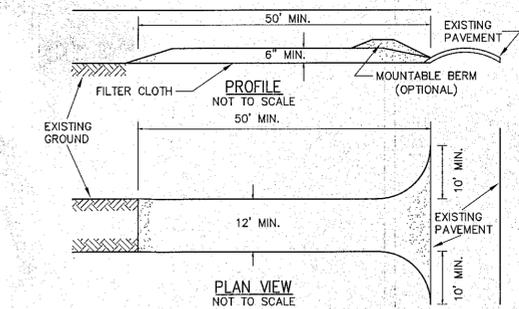


SECTION A-A
NOT TO SCALE



TYPICAL EROSION & SEDIMENT CONTROL PLAN FOR AN INDIVIDUAL LOT UNDER CONSTRUCTION

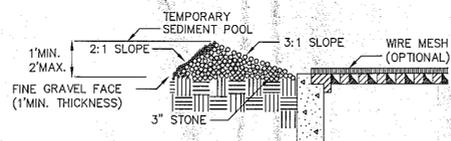
- NOTES:
GRADE, SEED & MULCH ANY EXPOSED SOIL AREAS IMMEDIATELY.
NOTE:
ALL SWALES SHALL BE GRASS SODDED OR USE TURF REINFORCED MAT.
- SEED MIX: TRIPLE RYE
34% MAJESTY PERENNIAL RYE GRASS
34% ASCEND PERENNIAL RYE GRASS
34% DIVINE PERENNIAL RYE GRASS
MULCH: 2 TONS/ACRE



CONSTRUCTION SPECIFICATIONS:

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FEET MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY - FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - 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 INTO AN APPROVED SEDIMENT TRAPPING DEVICE. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED
9. AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



PAVED SURFACE DROP INLET PROTECTION
NOT TO SCALE

NOTE: 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK TO LOCATE ALL UNDERGROUND UTILITIES. 1-800-962-7962

NO.	DATE:	REVISIONS	BY:
6	11/16/15	REVISED PER TOWN COMMENTS	PJY
5	10/16/15	REVISED PER TOWN COMMENTS	PJY
4	8/13/15	REVISED PER TOWN & TDE COMMENTS	PJY
3	8/19/15	REVISED PER TOWN & TDE COMMENTS	PJY
2	3/5/15	REVISED PER TOWN & TDE COMMENTS	PJY
1	10/23/14	REVISED PER TOWN & TDE COMMENTS	PJY

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DRAWING IS A VIOLATION OF SECTION 7209 SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW. ONLY COPIES MADE FROM THE ORIGINAL OF THIS DRAWING BEARING AN ORIGINAL INKED OR EMBOSSED SEAL AND SIGNATURE SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

© Copyright 2015 - Ingalls & Associates, LLP - All rights reserved

STATE OF NEW YORK
Professional Engineer
DAVID F. INGALLS JR., P.E.
N.Y.S. LIC. NO. 064993

ingalls & associates, LLP
engineering, environmental, surveying
2883 GULDBERLAND AVENUE
SCHENECTADY, N.Y. 12308
PHONE: (518) 393-7725
FAX: (518) 393-2524

TOWN OF BETHLEHEM, NEW YORK
PLANNING DEPT. ORIGINAL
- SCANNED -
DATE: JUNE 19, 2013
DRAWN BY: PJY
CADD FILE: 11038DF

PLANNING BOARD
TOWN OF BETHLEHEM
ALBANY COUNTY, NEW YORK
By direction of the Chairman
These drawings are hereby approved
See sheet(s) 5167
For date and signature

ESC DETAILS
NEWELL PLACE
WEMPLE ROAD
TOWN OF BETHLEHEM
ALBANY COUNTY
STATE OF NEW YORK

SCALE: AS SHOWN
SHEET 21 OF 27