PROJECT DESCRIPTION:

THIS PROJECT CONSISTS OF 25, 4-UNIT CONDOMINIUM UNITS AND 4, 2-UNIT BUILDING (108 UNITS) AND 1 CLUBHOUSE WITH ASSOCIATED ROADWAYS DRIVEWAYS, PARKING AREAS, SIDEWALKS, LANDSCAPE AREAS AND UTILITIES. WATER AND SANITARY SEWER SERVICES WILL BE PROVIDED BY EXTENSIONS OF THE WESTERN VIRGINIA WATER SERVICE AUTHORITY UTILITY SYSTEMS VIA A PRIVATE ONSITE WATER AND SANITARY SEWER SYSTEM. SPECIFICALLY, THE PROJECT WILL CONSIST OF APPROXIMATELY 2,000 LF OF INTERIOR PRIVATE LOOP ROAD, 342 LF OF ENTRANCE ROAD. CONSTRUCTION OF A RIGHT TURN LANE. 12 PARKING SPACES AT THE 3,000 SQFT CLUBHOUSE, DRIVEWAYS TO THE TWO CAR GARAGES PER CONDOMINIUM UNIT, 2,590 LF OF 8" WATERLINE, 2,303 LF OF 8" SANITARY SEWER MAIN A PRIVATE STORM SEWER SYSTEM AND A PUBLIC STORM SYSTEM TO CONVEY RUNOFF THROUGH THE PROPERTY. THE STORM SYSTEM FOR THE SITE INCLUDES THREE SEPARATE PIPE SYSTEMS. THE PIPE SYSTEM LOCATED AT THE ENTRANCE OF THE DEVELOPMENT INCLUDES TWO CURB INLETS ROUTING WATER UNDER THE ENTRANCE AND INTO AN EXISTING VDOT STORM PIPE THAT DISCHARGES INTO A DITCH ALONG RT. 781. THE SECOND PIPE SYSTEM COLLECTS WATER AT THE NORTH EAST SIDE OF THE INTERSECTION OF WINESAP DRIVE RT. 1084 AND RT. 781. THE SYSTEM DIRECTS THE WATER NORTH EAST LINDERGROUND ACROSS THE PROPOSED SITE, AND DRAINING INTO AN EXISTING REGIONAL DETENTION FACILITY. THE THIRD PIPE SYSTEM USES CURB-INLETS TO COLLECT A MAJORITY OF THE RUNOFF WITHIN THE SITE, AND OUTFALLS TO A RIP-RAP DITCH ON THE NORTH-EAST SIDE OF THE PROPOSED-SITE DIRECTLY

THE GRADING PORTION OF THE PROJECT WILL CONSIST OF ROUGH GRADING FOR A CONSTRUCTION LAY DOWN AREA, HAUL ROADS, BUILDING PADS, FINE GRADING, AND EXTENSIVE EROSION AND SEDIMENT CONTROL MEASURES. ALL APPLICABLE EROSION AND SEDIMENT CONTROL MEASURES AND CLEARING WILL TAKE PLACE. THE SITE IS APPROXIMATELY 1/4 OF A MILE WEST OF THE CRUMPACKER DRIVE AND CLOVERDALE ROAD INTERSECTION AND IS DIRECTLY ADJACENT TO AND EAST OF THE BONSACK ELEMENTARY SCHOOL. THE SITE IS SITUATED NORTH AND DIRECTLY ADJACENT TO ROUTE 781. TOTAL AREA TO BE DISTURBED FOR CONSTRUCTION IS APPROXIMATELY 19 ACRES OF THE 19.17 AC SITE WHICH INCLUDES THE OFFSITE WORK FOR THE STORM SEWER EXTENSION AND THE IMPROVEMENTS IN ROUTE 811.

THE PROPOSED SITE IS CURRENTLY HEAVILY WOODED WITH THICK UNDERBRUSH. THERE ARE CURRENTLY TWO RIP RAP LINED DITCHES ONSITE LOCATED ON THE NORTH PROPERTY BOUNDARY AND APPROXIMATELY 290 FEET SOUTH ON THE NORTH EAST PROPERTY LINE.

TO THE NORTH AND SOUTH OF THE SITE IS AN ESTABLISHED SINGLE FAMILY RESIDENTIAL SUBDIVISION. TO THE WEST IS A SCHOOL. TO THE EAST IS AN ESTABLISHED MULTI-FAMILY RESIDENTIAL SUBDIVISION. THE SITE IS BOUND BY ROUTE 781 TO THE SOUTH.

NO SOILS DATA AT THIS TIME. A GEOTECHNICAL INVESTIGATION IS SCHEDULED.

BY EXISTING REGIONAL STORM WATER BASIN. A COMPLETE ANALYSIS OF THE ENTIRE WATERSHED AT THE POINT OF ANALYSIS FROM THE RELEASE OF THE REGIONAL STORM BASIN WAS SUPPLIED TO ROANOKE COUNTY AS A SEPARATE SUBMISSION. THE POND WAS SHOWN TO BE ADEQUATE TO HANDLE THE ADDED RUNOFF FROM THE PROPOSED PROJECT.

THE OUTFALL FROM THE SITE WILL BE INTO EXISTING STORM SYSTEM AND INTO RIPRAP LINES DITCHES. THE REGIONAL DETENTION BASIN WILL DETAIN FOR THIS SITE.

ADEQUATE CHANNEL CALCULATIONS ARE SHOWN FOR THE DISCHARGE OF THE RUNOFF INTO THE EXISTING VDOT DRAINAGE CULVERT. THE CALCULATIONS SHOW THE STORM PIPE TO BE ADEQUATE. THERE IS A DECREASE IN THE RUNOFF DIRECTED TOWARDS THE VDOT DITCHES AND STORM SYSTEM FROM THE PRE-DEVELOPED CONDITION OF THE SITE TO THE POST-DEVELOPED CONDITION OF THE SITE DUE TO THE GRADING AND PROPOSED STORM SYSTEM ONSITE.

EROSION AND SEDIMENT CONTROL:

3.02 CONSTRUCTION ENTRANCE (CE) - ONE CONSTRUCTION ENTRANCE IS PROPOSED AND SHALL BE INSTALLED PRIOR TO ANY WORK BEGINNING ONSITE. A WASH RACK WILL BE UTILIZED ON THIS CONSTRUCTION ENTRANCE FOR ALL EXITING TRAFFIC WHEN NECESSARY

3 05 SILT FENCE (SF) - A TEMPORARY SEDIMENT BARRIER CONSTRUCTED OF POSTS, FILTER FABRIC WITH WIRE SUPPORT FENCE. PLACED ACROSS OR AT THE TOE OF A SLOPE OR IN A MINOR DRAINAGE WAY TO INTERCEPT AND DETAIN SEDIMENT AND DECREASE FLOW VELOCITIES FROM DRAINAGE AREAS OF LIMITED SIZE, SILT FENCE IS TO BE INSTALLED ALONG THE DOWNHILL SIDE OF ANY DISTURBED AREA.

3.09 TEMPORARY DIVERSION DIKE (DD) - TEMPORARY DIVERSION DIKES ARE UTILIZED THROUGHOUT THE PROJECT TO DIRECT SEDIMENT-LADEN WATER TO THE TEMPORARY SEDIMENT TRAP & BASIN.

1.07 INLET PROTECTION (IP) - STORM DRAIN INLET PROTECTION SHALL BE PLACED AT THE INLET OF ALL STORM CULVERTS AND DROP INLETS TO FILTER SEDIMENT-LADEN RUNOFF. CULVERT INLET PROTECTION SHALL BE PLACED AS SHOWN ON THE PLANS AND ACCORDING TO THE DETAIL INCLUDED IN THE PLANS.

3.14 TEMPORARY SEDIMENT BASIN (SB) - TWO SEDIMENT BASINS WILL BE UTILIZED ONSITE (REFER TO ATTACHED CALCULATIONS). THE BASINS ARE TO REMAIN DURING CONSTRUCTION AND MUST NOT BE REMOVED UNTIL FINAL STABILIZATION OF THE SITE HAS BEEN ACHIEVED.

3 18 OUTLET PROTECTION (OP) - OUTLET PROTECTION WILL BE PLACED BELOW STORM DRAIN OUTLET TO REDUCE EROSION AND UNDER-CUTTING FROM SCOURING AT OUTLETS AND TO REDUCE FLOW VELOCITIES. OUTLET PROTECTION WILL BE CONCRETE DITCHES AND CONCRETE ENERGY

3 31 TEMPORARY SEEDING (TS) - THE CONTRACTOR IS TO IMPLEMENT TEMPORARY SEEDING IF DISTURBED LAND IS LEFT EXPOSED FOR OVER 14 DAYS AND CONSTRUCTION IS NOT COMPLETE IN THIS AREA.

3 32 PERMANENT SEEDING (PS) - ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER BY PLANTING SEED ON ROUGH-GRADED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A YEAR OR MORE OR WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED ON FINE-GRADED AREAS.

3.35 MULCHING (MU) - APPLICATION OF PLANT RESIDUES OR OTHER SUITABLE MATERIALS TO DISTURBED SURFACES TO PREVENT EROSION AND REDUCE OVERLAND FLOW VELOCITIES. FOSTERS PLANT GROWTH BY INCREASING AVAILABLE MOISTURE AND PROVIDING INSULATION AGAINST EXTREME HEAT OR COLD.

VEGETATIVE MEASURES:

TEMPORARY SEEDING/PERMANENT STABILIZATION

SEEDING MEASURES SHALL BE TAKEN ON DISTURBED SOIL AT CUT/FILL SLOPES, SIDES OF SEDIMENT BASINS, DITCH LINES, OR AREAS OUTSIDE OF ON-GOING CONSTRUCTION PRACTICES WITHIN SEVEN (7) DAYS OF COMPLETED GRADING. ALL AREAS DISTURBED BY CONSTRUCTION WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINAL GRADING

UNLESS OTHERWISE INDICATED, ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

EROSION AND SEDIMENT CONTROL WILL BE DISCUSSED BETWEEN THE GRADING CONTRACTOR AND THE OWNER PRIOR TO ANY EXCAVATION SO THAT LIMITS OF CONSTRUCTION AND EROSION CONTROL METHODS ARE CLEARLY UNDERSTOOD BY BOTH PARTIES.

CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE

THERE IS TO BE NO TRACKING OF MUD OR DIRT BY CONSTRUCTION EQUIPMENT ONTO ANY PAVED DRIVES OR ROADS.

SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.

SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING. AREAS, WHICH ARE NOT TO BE DISTURBED, WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.

AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED. PERMANENT STABILIZATION:

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING, MULCH (STRAW OR FIBER) WILL BE USED ON RELATIVELY FLAT AREAS. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER AND LIME WILL BE APPLIED PRIOR TO

THE GRADING CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES. THESE SHALL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL; ANY DEFICIENCIES SHALL BE REPAIRED IMMEDIATELY IN ACCORDANCE WITH THE LATEST EDITION OF THE VESCH OR AS DEEMED NECESSARY BY THE LOCAL APPROVING AUTHORITY.

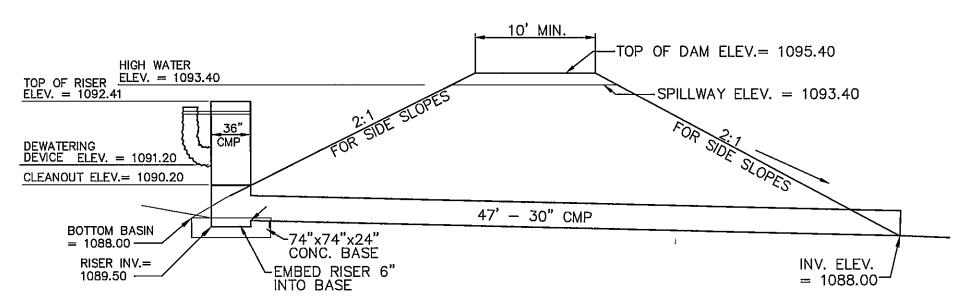
- INSTALL CONSTRUCTION ENTRANCE. INSTALL SEDIMENT BASIN, SEDIMENT TRAPS, TEMPORARY DIVERSION DIKES, AND SILT FENCE AND IMMEDIATELY SEED THE AREAS AS SHOWN
- ON THE PLANS. APPLY SURFACE ROUGHENING TO THE SLOPES OF THE TRAP.
- BEGIN CLEARING AND GRADING OF SITE.
- TEMPORARY AND PERMANENT SEEDING AND MULCHING TO BE PLACED ON ALL DISTURBED AREAS CONTRACTOR TO RESTORE ALL AREAS BACK TO EXISTING CONDITIONS AFTER COMPLETION OF THE
- PROJECT. ALL DISTURBED AREA, HAUL ROADS, CONSTRUCTION ROADS, LAY DOWN AREA, ETC. SHALL BE RESTORED. 6. ALL TEMPORARY EROSION CONTROL DEVICES SHALL BE REMOVED, <u>AFTER FINAL STABILIZATION OF SITE HAS BEEN ACHIEVED.</u>

EROSION AND SEDIMENT CONTROL DEVICES:

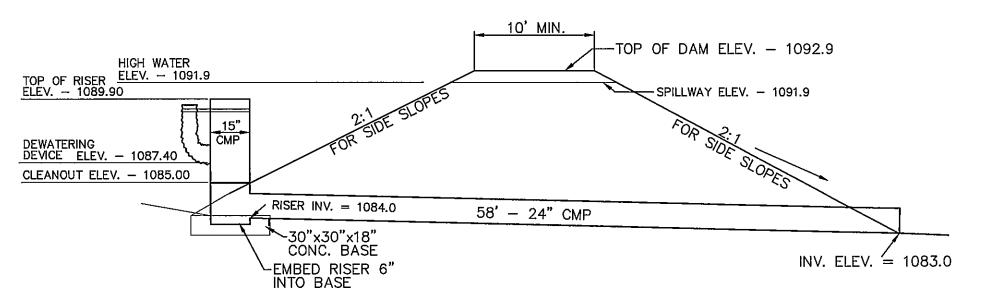
PERIMETER EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY. AS CONSTRUCTION PROCEEDS, ALL ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS SOON AS POSSIBLE. EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLAN ARE A MINIMUM AND THE PROJECT CONDITION MAY DICTATE ADDITIONAL CONTROL. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PER THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

EROSION AND SEDIMENT CONTROL MAINTENANCE:

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES FOR THE DURATION OF THE PROJECT. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL TO INSURE THAT ALL DEVICES ARE IN PLACE AND FUNCTIONING AS REQUIRED. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED PER THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. IN GENERAL, IF THE SILT BUILT UP BEHIND A BARRIER BECOMES AS DEEP AS 9 INCHES, THE SILT IS TO BE REMOVED AND THE BARRIER REPAIRED OR REPLACED. AFTER COMPLETION OF THE PROJECT, AND PERMANENT SEEDING HAS BEEN ESTABLISHED, EROSION CONTROL DEVICES AND ANY SILT BUILT UP SHALL BE REMOVED. DISTURBED AREAS DUE TO THIS CLEANUP OPERATION SHALL BE REPAIRED, RESEEDED AND REMULCHED.



TEMPORARY SEDIMENT BASIN #1 WITH CMP RISER W/ BAFFLES



TEMPORARY SEDIMENT BASIN #2 WITH CMP RISER W/ BAFFLES N.T.S.

TABLE 6-1 GENERAL EROSION AND SEDIMENT CONTROL NOTES

- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE MRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625—02—00 EROSION AND SEDIMENT CONTROL
- ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF SITE

BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND

SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND

- SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN
- ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES
 PERIODICALLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT.
 ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS
 OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

SEEDING SPECIFICATIONS:

TEMPORARY SEEDING-WINTER - 40 LBS. ANNUAL RYE/40 LBS. CEREALE RYE (PER ACRE) SUMMER - 40 LBS. ANNUAL RYE/40 LBS. FOXTAIL MILLET (PER ACRE) FERTILIZER - 1500 LBS. 10-20-10/ACRE

LIME - 2 TONS/ACRE SEASONAL SPECIFICATION - PER ACRE

2/1 TO 5/15 100 LBS. TALL FESCUE

5/16 TO 7/31 120 LBS. TALL FESCUE 10 LBS. FOXTAIL MILLET

2 LBS. RED CLOVER 100 LBS. TALL FESCUE

15 LBS. ANNUAL RYE 2 LBS. RED CLOVER

FERTILIZER - ALL SEASONS - 1500 LBS. 10-20-10/ACRE

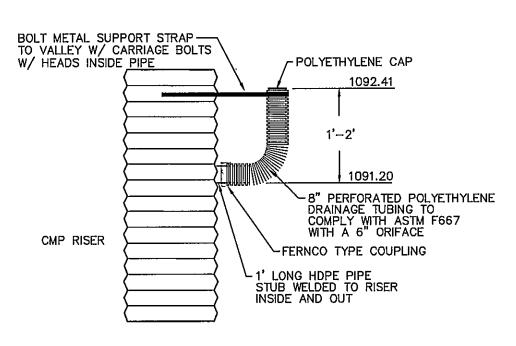
LIME — ALL SEASONS — 2 TONS/ACRE * A MULCH COVER IS REQUIRED ON EVERY SEEDING

* STRAW AT 80 BALES PER ACRE OR AN APPROVED MANUFACTURED

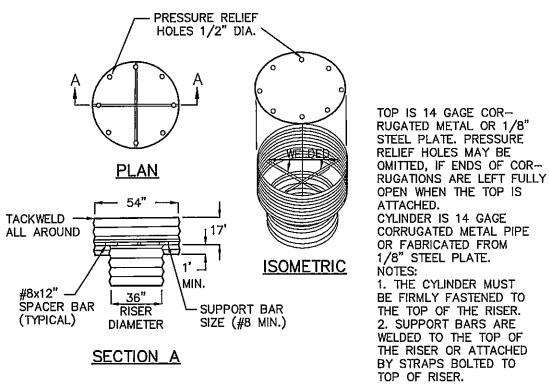
VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS MINIMUM_STANDARD_#1

MULCH/STABILIZATION MATERIAL

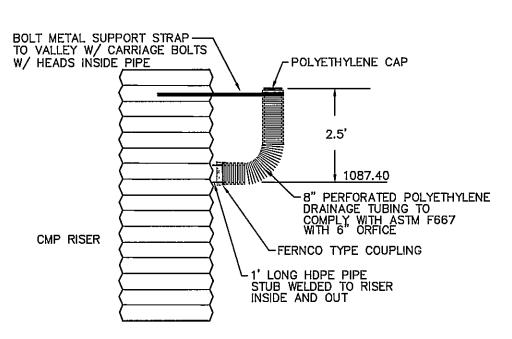
PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL Grade but will remain dormant (undisturbed) for longer than 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.



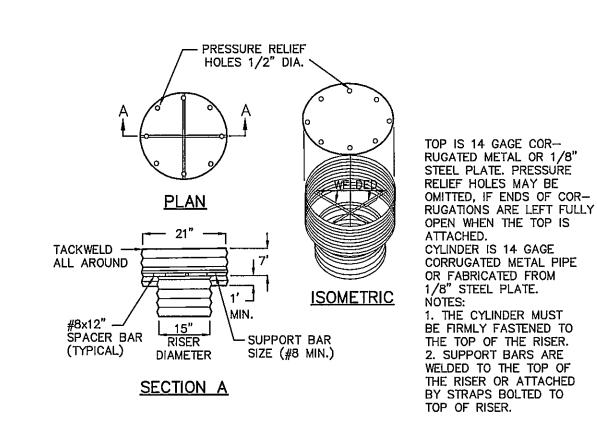
DE-WATERING DEVICE #1 FOR USE WITH CMP RISER



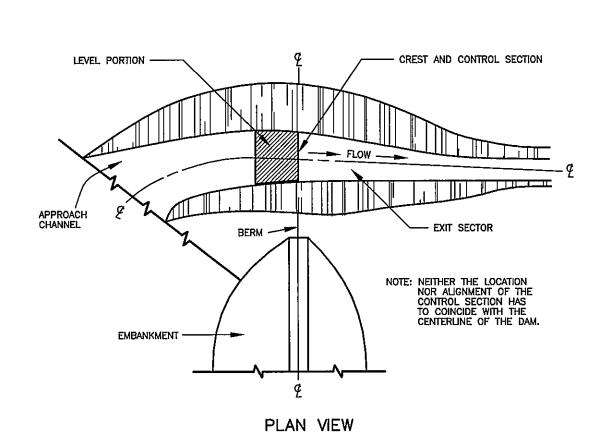
ANTI - VORTEX DEVICE DESIGN #1

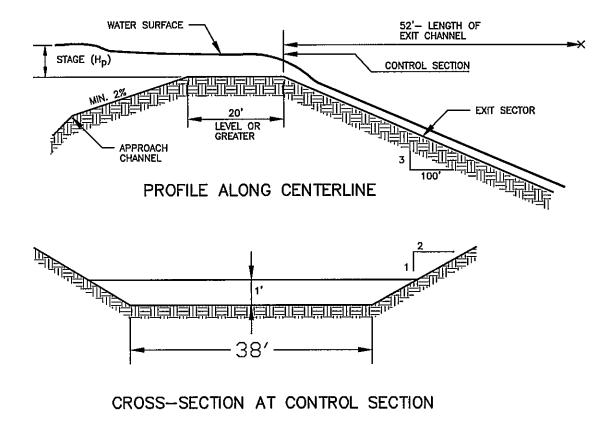


DE-WATERING DEVICE #2 FOR USE WITH CMP RISER N.T.S

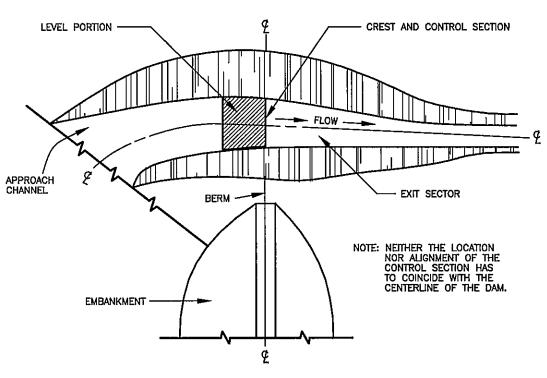


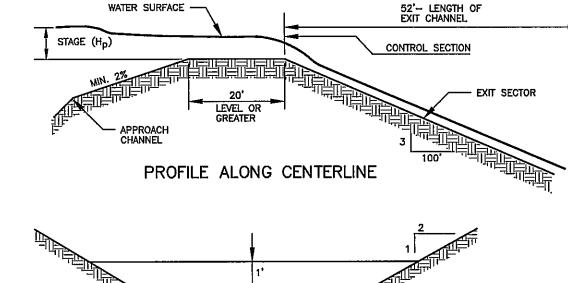
ANTI - VORTEX DEVICE DESIGN #2





EXCAVATED EARTH SPILLWAY FOR SEDIMENT BASIN #1

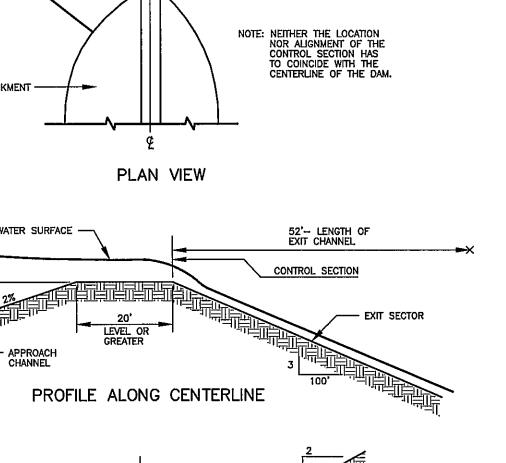




CROSS-SECTION AT CONTROL SECTION

EXCAVATED EARTH SPILLWAY FOR SEDIMENT BASIN #2

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FILE NO.

DATE:

PROJECT NO. 20040345

DRAWN BY: DLC

CHECKED BY: MDM

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SHEET NO. 29 OF 33

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