

SOIL EROSION & SEDIMENTATION CONTROL NOTES:

- All earth disturbances, including clearing and grubbing as well as cuts and fills shall be done in accordance with this soil erosion and sedimentation control (E&S) plan. A copy of this plan, technical specifications, and the project drawings must be available at the project site at all times.
- At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
- All earth disturbance activities shall proceed in accordance with the sequence provided on the plan drawings.
- Areas to be filled are to be cleared, grubbed, and stripped of topsoil to remove trees, vegetation, roots and other objectionable material.
- Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping may not commence in any stage or phase of the project until the E&S BMPs specified by the BMP sequence for that stage or phase have been installed and are functioning as described in this E&S plan.
- At no time shall construction vehicles be allowed to enter areas outside the limit of disturbance boundaries shown on the drawings. These areas must be clearly marked and fenced off before clearing and grubbing operations begin.
- Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the Contractor shall implement appropriate best management practices to minimize the potential for erosion and sediment pollution and notify the PGC.
- All building materials and wastes shall be removed from the site and recycled or disposed of in accordance with the Department's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1, and 287.1 et. seq. No building materials or wastes or unused building materials shall be burned, buried, dumped, or discharged at the site.
- The Contractor shall provide and fully implement E&S BMPs and controls for all off-site waste and borrow areas.
- The contractor is responsible for ensuring that any material brought on PGC State Game Lands is clean fill. Form FP-001 must be retained by the property owner for any fill material affected by a spill or release of a regulated substance but qualifying as clean fill due to analytical testing.
- Until the site is stabilized, all erosion and sediment BMPs shall be maintained properly. Maintenance shall include inspections of all erosion and sediment BMPs after each runoff event and on a weekly basis. All preventative and remedial maintenance work must be performed immediately. If the E&S BMPs fail to perform as expected, replacement BMPs, or modifications of those installed will be required.
- A log showing dates that E&S BMPs were inspected as well as any deficiencies found and the date they were corrected shall be maintained on the site and be made available to regulatory agency officials at the time of inspection.
- Sediment tracked onto any public roadway shall be returned to the construction site by the end of each work day and disposed in the manner described in this plan. In no case shall the sediment be washed, shoveled, or swept into any roadside ditch, storm sewer, or surface water.
- All sediment removed from BMPs shall be disposed of in the manner described on the plan drawings. All sediment collected from BMPs shall be returned to upland areas and stabilized.
- All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems.
- All earthen fills shall be placed in compacted layers not to exceed 9 inches in thickness.
- Fill materials for embankments shall be free of frozen particles, brush, roots, woody vegetation, organic material, sod, or other foreign or objectionable materials that would interfere with or prevent construction of satisfactory fills. Frozen materials or soft, mucky, or highly compressible materials shall not be incorporated into fills. Fill shall not be placed on saturated or frozen surfaces.
- All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.
- Immediately after earth disturbance activities cease in any area of the project, the Contractor shall stabilize all disturbed areas. During non-germinating months, mulch or protective blanketing shall be applied as described in the plan. Areas not at finished grade, which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.
- Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion. Cut and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
- E&S BMPs shall remain functional as such until all areas tributary to them are permanently stabilized or until they are replaced by another approved BMP.
- Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the Contractor shall contact the PGC for an inspection prior to removal/conversion of the E&S BMPs.
- After final site stabilization has been achieved, temporary erosion and sediment BMPs must be removed. Areas disturbed during removal of the BMPs shall be stabilized immediately. In order to ensure rapid revegetation of disturbed areas, such removal/conversions are to be done only during the germinating season.

TEMPORARY STABILIZATION MEASURES:

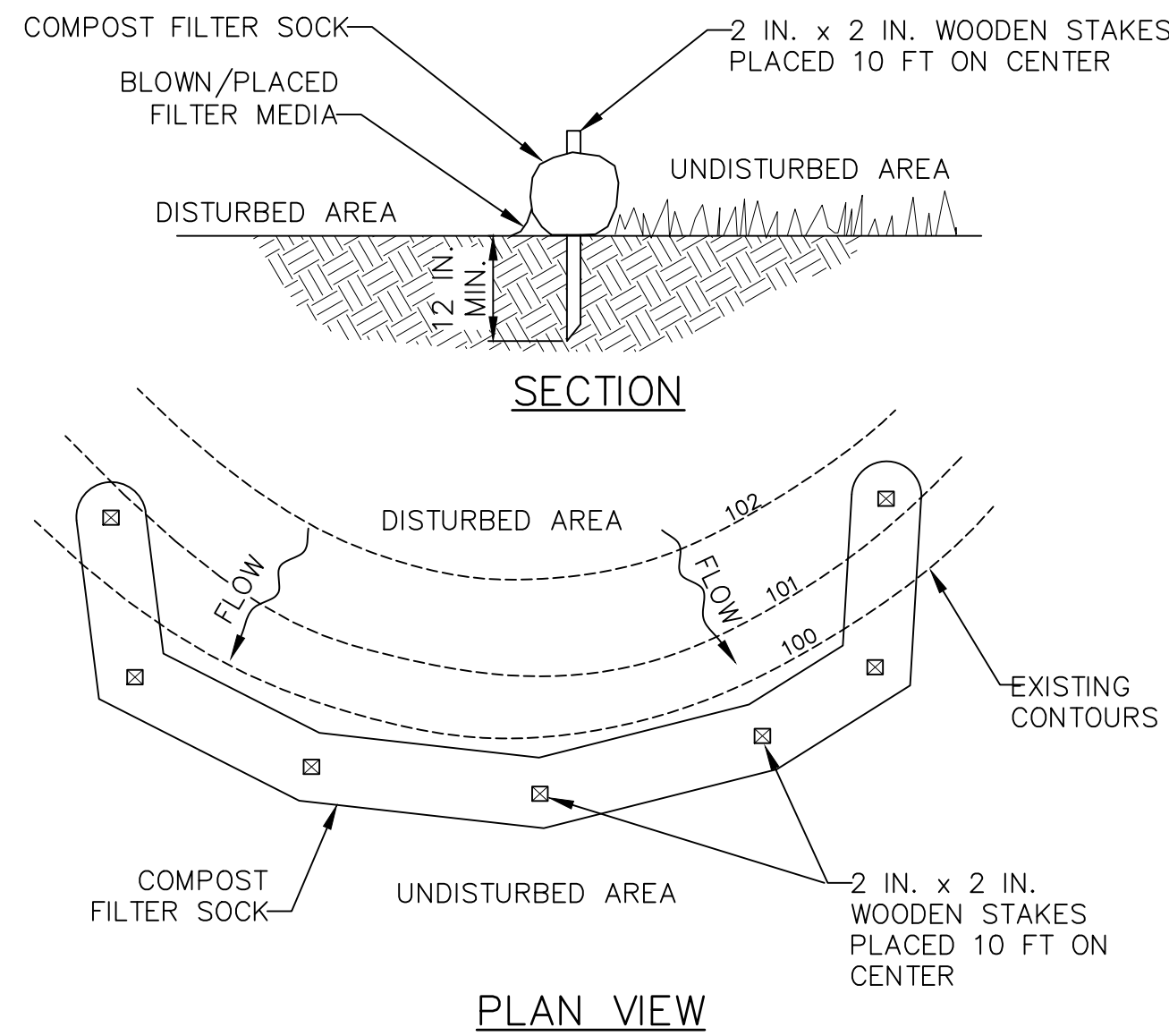
- All disturbed areas shall be temporarily stabilized with mulch within 4 days of ceasing earth disturbance activities at the location.
- Rough graded areas that will not be final graded and permanently seeded within 4 days from the time of original exposure / disturbance shall be temporarily seeded with Annual Ryegrass (10 lbs. / 1,000 square yards) and mulch (1,200 lbs. / 1,000 square yards).

PERMANENT STABILIZATION MEASURES:

- Permanent seeded and soil supplements shall be provided on disturbed and final graded area during the germinating season as soon as practical but not more than 15 days after disturbance.
- Establish finished grading for seeding and apply seed as specified.
- Time of Seeding: Spring (March 15 - May 15); Fall (August 15 - October 1) If permanent seeding is not practical due to the time of year, provide temporary stabilization measures with the necessary follow-up action / work and permanent stabilization completed at the appropriate time of year.
- Apply mulch as specified.

SEQUENCE OF CONSTRUCTION:

- Stage equipment on SGL #86 in coordination with PGC staff. Install signs / barricades as required to protect and limit access to work areas.
- Provide and maintain E&S BMPs at project sites to control soil erosion and sedimentation in accordance with the drawings and specifications and the PA DEP Erosion and Sediment Pollution Control Program Manual.
- Construct Rock Construction Entrances and / or clean wheels of construction vehicles as required to avoid tracking sediment onto public roadways.
- Perform clearing / grubbing operations as required to improve hunter access parking areas. Follow sequence and scope of work outlined on Sheet No. 2. of the Drawings.
- Immediately upon completion of construction, permanently restore and stabilize all disturbed areas.
- Remove E&S BMPs when permanent stabilization is achieved.
- Conduct final site clean-up and demobilize equipment.



NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

**STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK**

NOT TO SCALE

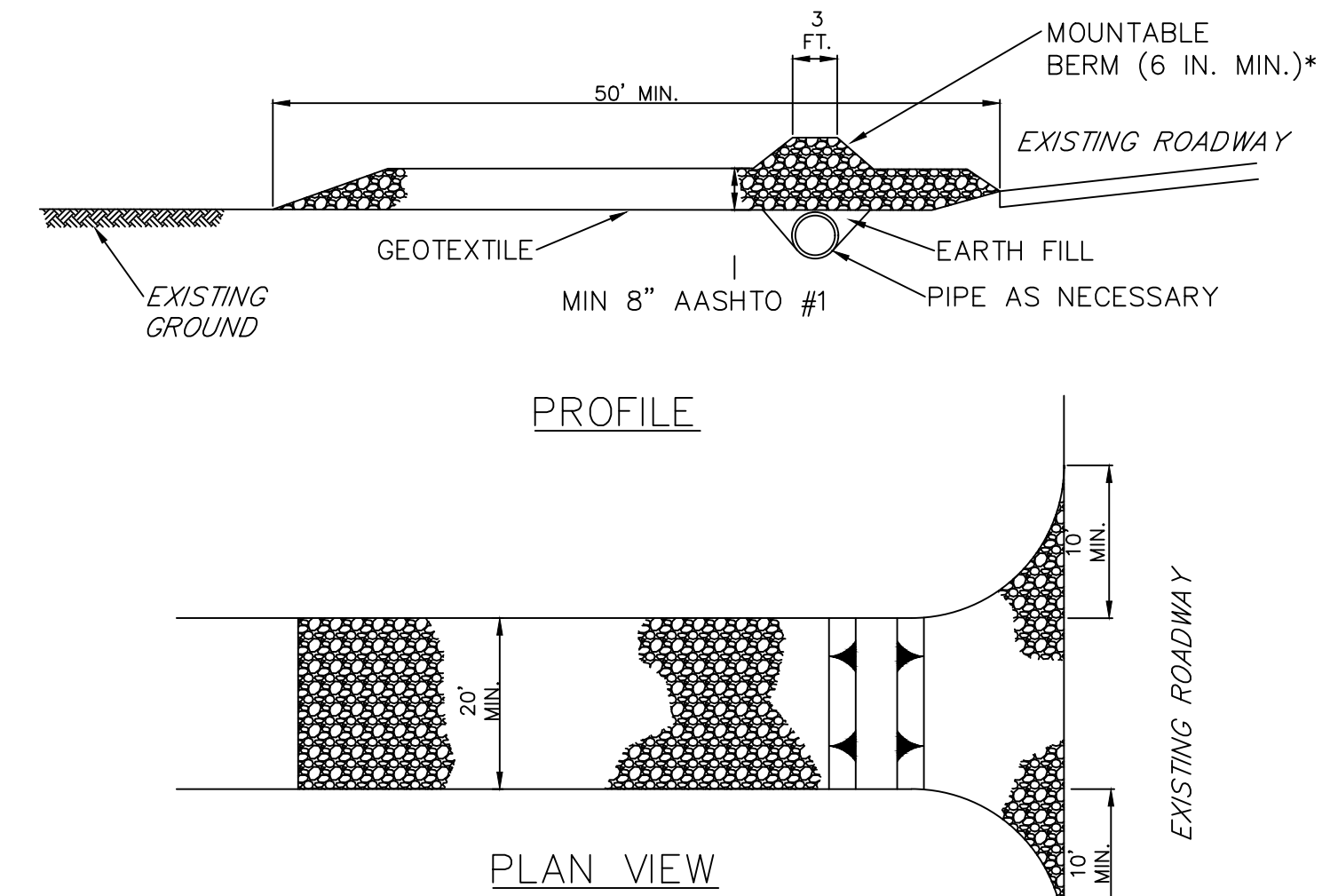
**TABLE 4.1
Compost Sock Fabric Minimum Specifications**

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years
Two-ply systems					
Inner Containment Netting	HDPE biaxial net Continuously wound Fusion-welded junctures 3/4" X 3/4" Max. aperture size				
	Composite Polypropylene Fabric (Woven layer and non-woven fleece mechanically fused via needle punch) 3/16" Max. aperture size				
Outer Filtration Mesh	3/16" Max. aperture size				
Sock fabrics composed of burlap may be used on projects lasting 6 months or less.					

The physical parameters of the compost should comply with the standards in Table 4.2. The standards contained in the PennDOT Publication 408 are an acceptable alternative.

**TABLE 4.2
Compost Standards**

Organic Matter Content	80% - 100% (dry weight basis)
Organic Portion	Fibrous and elongated
pH	5.5 - 8.0
Moisture Content	35% - 55%
Particle Size	98% pass through 1" screen
Soluble Salt Concentration	5.0 dS/m (mmhos/cm) Maximum



* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK, WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

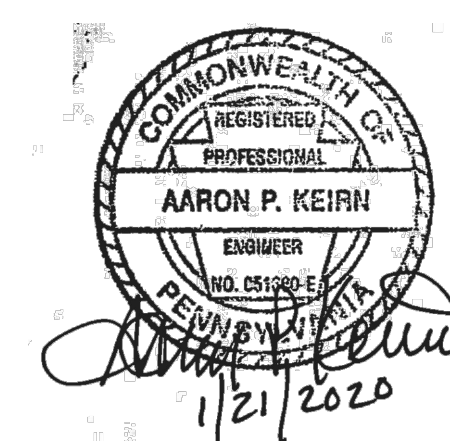
**STANDARD CONSTRUCTION DETAIL #3-1
ROCK CONSTRUCTION ENTRANCE**

NOT TO SCALE

**TABLE A
Seeding Requirements**

Formula and Species	% By Weight	Minimum %		Max % Weed Seed	Seeding Rate lb/1000 yd ²
		Purity	Germination		
Formula B Mix					42.0 Total
• Perennial Ryegrass mixture (Lolium perenne). A combination of improved certified varieties with No one variety exceeding 50% of the total Ryegrass component.	20	97	90	0.10	8.5
• Creeping Red Fescue or Chewings Fescue (Festuca rubra or ssp commutata) (Improved and Certified)	30	97	85	0.10	12.5
• Kentucky Bluegrass mixture (Poa pratensis). A combination of improved certified varieties with no one variety exceeding 50% of the total Bluegrass component.	50	97	80	0.15	21.0
Formula D Conservation Mix					50.0 Total
• Tall Fescue (Festuca arundinacea var. Kentucky 31)	60	96	85	0.10	30.0
• Creeping Red Fescue or Chewings Fescue (Festuca rubra or ssp commutata) (Improved and Certified)	30	97	85	0.10	15.0
• Annual Ryegrass (Lolium multiflorum)	10	95	90	0.10	5.0
Formula E					10.0 Total
• Annual Ryegrass (Lolium multiflorum)	100	95	90	0.10	10.0

SEEDING REQUIREMENTS (Ref. PADOT 408, Section 804) - Use Formula B grass seed on flat areas. Use Formula D grass seed mix on the backstop slopes, side berm slopes, and borrow site. Use Formula E for temporary seeding to control erosion during construction. Seed mixes shall conform to Section 804.2(b) of Pub. 408.



PENNSYLVANIA GAME COMMISSION

STATE GAME LANDS #86 DEERFIELD and BROKENSTRAW TWP WARREN CO.

HUNTER ACCESS PARKING IMPROVEMENTS

SOIL EROSION AND SEDIMENTATION CONTROLS

REVISIONS

▲		PROJECT NO.	PGC-086-19-01
▲		DRAWN BY:	A. KEIRN
▲		DATE:	1/21/2020
▲		SHEET NO.	3 OF 3