Fiche analytique – Mémoire de Master MUSE

A rendre au secrétariat lors de l'inscription à la soutenance du mémoire

* champs obligatoires

AUTEUR*	NOM : Kunz	PRENOM : Victoria	
TITRE MEMOIRE*	From a humble beginning to the Onebuilding: sustainable buildings and the renovation of the Ecole de Physique		
NUMERO MEMOIRE	438		
DATE SOUTENANCE	25 mai 2021	Salle: Zoom	Heure: 15h
THEMATIQUE* (AFFILIATION)	Rénovation / construction durable		
VOLEE MUSE*	2018		
TITRE ACADEMIQUE* (par ex.: licencié en biologie)	Bachelor en relations internationales		
DIRECTION* / EVALUATION	Directeur de mémoire* Bastiaan Ibelings	Co-directeur de mémoire* Fleury de Oliveira	Nom(s) du ou des juré(s)* - Sebastien Castelltort - Pierre Hollmüller
STAGE (éventuel)	Organisme d'accueil	Maître de stage	
Projet de l'ISE (éventuel) auquel le mémoire est rattaché			
Bourse (éventuelle) reçue par l'étudiant			
COLLATION*	Nb de pages*152	Nb de figures*19	Nb de tableaux*9
TERRAIN D'ETUDE OU D'APPLICATION			
MOTS-CLES* (entre 5 et 10)	Green building, sustainable building, sustainable construction, One Building, energy, biodiversity, materials, water management, health, social, biomimicry, bioclimatic, Ecole de Physique		
RESUME* (max 1500 car)	Throughout our research, we aim to find the best solutions in order to create and elaborate a building that is completely sustainable, in its conception, architecture, and functionality. The University of Geneva is starting the renovation process of several academic buildings. We intend to propose a revolutionary pilot project for one of these buildings, the Ecole de Physique. We will propose theoretical bases that could be used in a practical renovation project. In our study, we went through the 5 main categories that define the Onebuilding : (i) energy, (ii) biodiversity, (iii) water, (iv) material usage and recycling, and (v) health and social aspects. After having analyzed precisely what these broad categories could bring as concepts, we tried to apply them to a concrete case in Geneva: l'Ecole de Physique. Remembering that the building we have chosen to observe is on a geographical and political area limited to the Canton of Geneva, we wish to understand how these elements are articulated around the buildings of the University of Geneva and more specifically on the buildings that are subject to protection laws. Is it		

	possible to make these specific buildings more sustainable by integrating some of Onebuilding's criteria? The answer we have deduced from this is yes! It is indeed also possible to make protected buildings more sustainable. Many elements of the Onebuilding – that serves as a theoretical "reference" - can indeed be integrated in the Ecole de Physique, and they can bring a real added ecological value. Through the case studies we have conducted, we have identified a reduction of space heating demand for the Ecole de Physique building of more than 50% and it is possible to power almost 100% of the building with renewable energy. Furthermore, other elements can theoretically be installed such as a green roof that has a positive impact on the biodiversity level and may help cooling the urban environment and a system of rainwater harvesting which could greatly limit the consumption of water. Furthermore, among other elements, we also analyzed the possibilities of integrating a recycling system of the materials to be replaced and a more sustainable selection of the new materials. This work shows that all that remains to be done is the will to achieve sustainable building at the University of Geneva, to set the transition process in motion! We do not lack imagination or solutions, now we need the motivation to match it.
SUMMARY* (en anglais)	=
REMARQUES	