In the proof of Proposition 1.3, in the section "From n = 2 to n generic", the matrix M should be defined as $D^s u/|D^s u|$. Otherwise the conclusion $\mu^s(E_{12})$ would not be valid. With the choice above, the conclusion is instead valid, because, by Radon-Nykodim:

$$D^{s}u = M|D^{s}u|$$
.

Thus the measure μ^s defined later is given by $A|D^s u|$ (where A is the 2×2 minor given by the first two columns of M) and the set E_{12} is given by $\{x : \det A(x) \neq 0\}$. Since $|D^s u|(E_{12}) > 0$ and |A(x)| > 0 for every $x \in E_{12}$, we then conclude

$$\mu^{s}(E_{12}) = \int_{E_{12}} |A|d|D^{s}u|.$$

Thanks to Stephan Heule for pointing out the mistake.