Whereas Section 156(2) and (5) of the Constitution provides that a municipality may make and administer By-laws for the effective administration of the matters which it has the right to administer, and to exercise any power concerning a matter reasonably necessary for, or incidental to, the effective performance of its functions;

And whereas Part B of Schedule 4 to the Constitution lists municipal planning as a local government matter to the extent set out in Section 155(6)(a) and (7);

And whereas the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) provides a framework for spatial planning and land use management;

And whereas the National Building Regulations and Building Standards Act, 1977 (Act 103 of 1977) and the regulations under this Act are implemented and applied by the Ekurhuleni Metropolitan Municipality’s Planning Department;

And whereas the National Environmental Management Act, 1998 (Act 107 of 1998) gives effect to the constitutional right aimed at protecting the environment by providing environmental management principles that apply throughout the Republic to the actions of all organs of state that may significantly affect the environment;
AND WHEREAS the Ekurhuleni Metropolitan Municipality wishes to give effect to the following and to provide for the following matters and those incidental thereto:

- an integrated, standardised approach to spatial planning and land use management by the Ekurhuleni Metropolitan Municipality on dolomite land;
- the establishment of an integrated Dolomite Risk Management System to reduce the likelihood of sinkholes and subsidences occurring;
- establishing a tolerable hazard rating on dolomite land in the Municipality and
- to empower officials in the Ekurhuleni Metropolitan Municipality to effectively assert law enforcement to ensure safe, sustainable development on dolomite land.

BE IT THEREFORE ENACTED by the Council of the Ekurhuleni Metropolitan Municipality, as follows:

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1. Definitions

In this By-Law any word or expression to which a meaning has been assigned in Legislation, shall bear the same meaning, unless the context indicates otherwise —

“Competent Person (dolomite)” refers to a practitioner of engineering geology or geotechnical engineering who is registered in any category of registration provided for the relevant national legislation.

“developer” shall mean a development proponent which shall include any public entity, including organs of state at national, provincial or local level of government, individual, company, body corporate, partnership, closed corporation or any other association of persons.

“development” shall mean the building, erection, construction or establishment of any permanent or temporary, formal or informal structure or structures for residential occupation, storage, business, manufacturing, agriculture, recreation, burials, worshipping, medical care, entertainment, education, or for whatever purpose, including infrastructure, roads, bridges, subsurface or surface pipelines, subsurface or surface telecommunications infrastructure, storm water systems, electrical generation and reticulation networks, railway infrastructure and networks, water care works, water retaining structures, water attenuation structures, and related infrastructure.

“dolomite land” refers to land underlain by dolomite bedrock or residuum typically at depths of no more than:

Comment [C2]: We suggest the inclusion of a definition of EMM and the Council.
a) 60m in areas where no dewatering has taken place and the local authority that has jurisdiction, is monitoring and has control over the ground water levels in the areas under consideration; or

b) 100m in areas where dewatering has taken place or where the local authority has no jurisdiction or control over ground water levels

“Dolomite risk management notice” is a written dolomite risk management related instruction issued to any land owner, developer or servitude holder in terms of the provisions of this by-law.

“Dolomite Clearance Certificate” means official certificate issued by the head of the Dolomite Risk Management Section confirming the development is appropriate in relation to the hazard class or classes of the site, outlining the classes and related precautionary measures and providing approval for the project to proceed from a dolomite stability perspective.

“Dolomite Risk Management Strategy (DRMS)” refers to the process of utilizing scientific, planning, engineering and social processes, procedures and measures to manage an environmental hazard, and encompasses policies, and procedures set in place to reduce the likelihood of sinkhole and subsidences occurring on dolomite land.

“Sinkhole” refers to a feature that occurs suddenly and manifests as a hole in the ground.

“site development plan” means the proposed development layout required in terms of a town planning scheme.

“spatial development framework” means the spatial development framework referred to in Section 26(e) of the Local Government: Municipal Systems Act 2000;

“subsidence” refers to a shallow, enclosed depression in the ground.

“tolerable hazard rating” is where the number of sinkhole and subsidence events experienced is less than and including 0.1 events per hectare per 20 years (preferably tending to 0 per hectare), that is, exceeding a Return Period of 200 years and intolerable where the number of events experienced exceeds 0.1 events per hectare per 20 years (Return Period less than 200 years).

“town planning scheme” means a town planning scheme, zoning scheme or similar instrument statutorily regulating land use.

2. Applications

(1) This by-law applies to those areas of Ekurhuleni Metropolitan Municipality that are underlain by dolomite land as reflected in the Municipality’s Integrated Development Plan referred to in Section 25 of the Local Government Municipal Systems Act, Act 32 of 2000 and prevail over any other by-law which regulates or otherwise deals with spatial development, township establishment and dolomite risk management.

(2) The City Manager of the Ekurhuleni Metropolitan Municipality or his nominee shall be responsible and accountable for the enforcement of this by-law in the Ekurhuleni Metropolitan Municipality area of jurisdiction.
Part 1: Directives

3. Directive principles

(1) That Spatial planning, land use management and land development must be sustainable and safe in those areas of the Ekurhuleni Metropolitan Municipality defined as dolomite land.

(2) That dolomite risk management is applied to dolomite land in the Ekurhuleni Metropolitan Municipality to achieve a tolerable hazard rating.

Part 2: Spatial planning

4. Spatial planning framework

(1) The spatial development framework that must be included into all municipal integrated development plans on dolomite land in the Ekurhuleni Metropolitan Municipality in terms of Section 26(e) of the Local Government, Municipal Systems Act 2000 (Act 32 of 2000) must be consistent with and must give effect to the principles contained in the Dolomite Risk Management Strategy of the Ekurhuleni Metropolitan Municipality.

(2) All land development applications submitted in terms of any of the land control legislation, shall be consistent with and give effect to the principles contained in the Dolomite Risk Management Strategy of the Ekurhuleni Metropolitan Municipality.

Part 3: Requirements

5. Dolomite risk management

(1) The Ekurhuleni Metropolitan Municipality shall establish and maintain a Dolomite Risk Management Section within the Municipality to mitigate the risks associated with development on dolomite land.

(2) The Dolomite Risk Management Section shall appoint a permanent dolomite risk manager.

(3) The Dolomite Risk Management Section shall develop and administer the Dolomite Risk Management Strategy on dolomite land in the Ekurhuleni Metropolitan Municipality.

6. Dolomite risk management standards and specifications

(1) The Dolomite Risk Management Section shall from time to time recommend to Council amendments to the Dolomite Risk Management Policy on review/determination of standards and specifications that are deemed appropriate with regard to:

a. the placing of restrictions on land use and development densities;
b. the establishing of the requirements for the management of surface drainage;

c. the establishing of requirements for the management and monitoring of ground water levels;

d. the establishment of requirements for improving the effectiveness of the design and construction of buildings, structures and services to mitigate risk;

e. the establishing of requirements for the maintenance of water bearing structures and services and measures to mitigate risk;

f. the identification of all the dolomite related hazards that are to be managed for the life time of a development and

g. establishing suitable risk management controls, processes, procedures and measures to manage the identified hazards and risks.

In addition, the requirements of any relevant Act, Regulation or Regulatory Authority shall apply.

7. Elements of the dolomite risk management system

(1) The Dolomite Risk Management Section shall establish and maintain a dolomite risk management database, containing such information that is relevant to the day to day management of the dolomite risk, including the following:

a. Topocadastral information;

b. Geological data showing distribution of dolomite within the Ekurhuleni Metropolitan Municipality;

c. Relevant geophysical survey data;

b. Geohydrological data including groundwater compartments and original ground water levels, ground water monitoring boreholes and measured levels;

e. Sinkhole and subsidence data;

f. Inherent hazard zonation of the dolomite land on a regional, strategic level;

g. Monitoring areas.

h. Upgrading of infrastructure according to standards selected by the Ekurhuleni Metropolitan Municipality from time to time and the requirements of any relevant Act, Regulation or Regulatory Authority.

8. Requirements for bodies corporate and Non-Profit Companies Section 21 companies

Comment [C3]: Note that with the advent of the new Companies Act there are no longer s21 companies but rather NPCs as defined in section 1 of that Act. This needs to be altered throughout this by-law.
9. Emergency reaction to sinkhole and subsidence formation

(1) The Ekurhuleni Metropolitan Municipality shall identify, notify and train persons to respond to emergency situations as a result of dolomite hazards.

(2) A developer, owner of private property, head of a Section 21 Company or Bodies Corporate, as is relevant, shall, in the event of severe cracking, sinkhole or subsidence formation, report such an occurrence and remedial measures to be taken to the Dolomite Risk Management Section of the Ekurhuleni Metropolitan Municipality within 24 hours of the event occurring.

(3) A Competent Person (dolomite) shall be appointed to investigate the occurrence of any sinkhole or subsidence.

(4) The detailed investigation and rehabilitation shall take place within 30 days of the event occurring unless the Competent Person (dolomite) permits an extension of time.

(5) The Competent Person (dolomite) shall recommend the method, by which the sinkhole or subsidence shall be rehabilitated, ensure that the rehabilitation intent is satisfied and monitor the rehabilitated sinkhole or subsidence for a period of time.

(6) The Competent Person (dolomite) shall submit a Completion Report to the Ekurhuleni Metropolitan Municipality within 21 days of completion of the rehabilitation of a sinkhole or subsidence. This report shall document the nature of the event, its cause and remedial measures and rehabilitation undertaken.

(7) The rehabilitation of sinkholes and subsidences shall be in accordance with standards selected by the Dolomite Risk Management Section of the EMM from time-to-time.

(8) If an event occurs on private property, caused by a leaking, private service and is deemed to potentially compromise the safety of third parties, the Dolomite Risk Management Section may recommend that the Disaster Management Department of the Ekurhuleni Metropolitan Municipality take appropriate action in terms of the Disaster Management Act (Act 57 of 2002) to preclude a disaster occurring.

(9) The Dolomite Risk Management Section of the Ekurhuleni Metropolitan Municipality shall have the authority to serve notice on developers, land owners, heads of Section 21 Companies, Bodies Corporate, servitude holders or utilities, as is relevant, that a potentially hazardous situation shall be remedied at their own expense within a reasonable period of time determined by safety considerations.

10. Dolomite Risk Management Strategy for proposed developments
(1) A Competent Person (dolomite) shall compile and submit a provisional Dolomite Risk Management Strategy for a proposed development to the Dolomite Risk Management Section of the Ekurhuleni Metropolitan Municipality. Such a strategy shall address at least the following as is relevant:

a. Hazard zonation and permissible land uses in accordance with current practice;

b. Any restrictions to be placed on developments for reasons of dolomite risk management;

c. Hazard zonation in relation to the provision of infrastructure;

d. All precautionary measures required to support development for designated and potential future land uses;

e. Storm water management requirements taking account of:
   i. Topography;
   ii. Location of storm water pipes and canals;
   iii. Points of discharge onto adjoining properties;
   iv. Areas of anticipated poor drainage;
   v. Points of discharge into local storm water systems;
   vi. Design specifications;
   vii. Priority maintenance areas;
   viii. Linkages to and integration with regional storm water management systems.

f. The delineation of areas of restricted movement;

g. Identification of monitoring designations in relation to the hazard zonation;

h. Ground water level monitoring requirements;

11. Hazard assessment of sites

(1) All sites proposed for development on dolomite land in the Ekurhuleni Metropolitan Municipality shall be hazard zoned according to current practice and in accordance with standards, guidelines and specifications acceptable to the Dolomite Risk Management Section of the Ekurhuleni Metropolitan Municipality.

(2) Planning of all sites located on dolomite land in the Ekurhuleni Metropolitan Municipality shall be appropriate in relation to the hazard zonation and in accordance with the standards and specifications in terms of approved Dolomite Risk Management Policy and the requirements of any relevant Act, Regulation or Regulatory Authority.

(3) Dolomite stability reports for developments in the Ekurhuleni Metropolitan Municipality shall be submitted to the Dolomite Risk Management Section for comment, approval and record purposes.

12. Dolomite Clearance Certificate
(1) The head of the Dolomite Risk Management Section or a delegated manager shall be responsible for the issuing of a Dolomite Clearance Certificate in accordance with the provisions of the approved Dolomite Risk Management Policy and the requirements of any relevant Act, Regulation or Regulatory Authority.

(2) A Dolomite Clearance Certificate shall be issued to a perspective developer within 14 days from the date of receipt of the risk mitigation measures as determined by a Competent Person (dolomite) on behalf of the developer, as related to the dolomite hazard classification applicable to the land on which the intended development is to take place.

(3) In addition, if the Inherent Hazard Classification of the development reflects a high susceptibility of sinkhole and/or subsidence formation with respect to ground water level drawdown, the certificate shall state that ground water level monitoring wells near or on the proposed development have been checked to ensure that ground water level drawdown is, and has, not occurred and will not be permitted.

13. Groundwater level monitoring

(1) The Dolomite Risk Management Section of the Ekurhuleni Metropolitan Municipality shall establish and maintain a groundwater level monitoring and control system in the dolomite aquifers within its area of jurisdiction.

(2) A network of groundwater level monitoring boreholes shall be established to ensure adequate coverage of the dolomite aquifers in the Ekurhuleni Metropolitan Municipality.

(3) The Competent Person (dolomite) undertaking the hazard assessment of a site on behalf of a developer shall indicate the need for groundwater level monitoring on a site.

(4) Where necessary the developer of a site shall be required to drill and install a groundwater level monitoring borehole, or boreholes, in accordance with the specifications of the Dolomite Risk Management Section of the Ekurhuleni Metropolitan Municipality. The developer shall take measurements at intervals specified by the Competent Person (Dolomite) and ratified by the Ekurhuleni Metropolitan Municipality. The developer shall take such measurements until the development is transferred to the Ekurhuleni Metropolitan Municipality or to the Section 21 Company, Body Corporate or similar body.

(5) Section 21 Companies or Bodies Corporate shall be required to continue monitoring ground water levels in boreholes installed by the developer as described in Paragraph 4 above, at intervals approved by the Ekurhuleni Metropolitan Municipality.

(6) The Dolomite Risk Management Section shall at regular, appropriate scientifically determined intervals measure the groundwater levels.

(7) Groundwater monitoring boreholes shall be maintained in an operational condition.

(8) The groundwater compartments and original groundwater levels shall be determined for each ground water compartment in the Ekurhuleni Metropolitan
Municipality. Groundwater levels are to be monitored and controlled to ensure that these identified levels are maintained.

(9) If ground water level draw down is identified within the Municipal Boundary the source of abstraction shall be determined. The party or parties abstracting shall be informed and instructed to reduce abstraction or terminate abstraction as is appropriate.

(10) No boreholes for the abstraction of ground water are permitted on dolomite land in Ekurhuleni Metropolitan Municipality without the written consent of the Dolomite Risk Management Section.

(11) Existing boreholes for the abstraction of ground water on dolomite land in Ekurhuleni Metropolitan Municipality shall be registered with the Dolomite Risk Management Section within 12 (twelve) months of promulgation of these by-laws.

14. Infrastructure design, maintenance and repair

(1) The design, maintenance and repair of infrastructure and services on dolomite land shall be in accordance with the requirements and standards as set out in the approved Dolomite Risk Management Policy.

15. Signing of Site Development Plan

(1) The Competent Person (dolomite) appointed by the developer of a site located on dolomite land shall confirm in writing that the layout of the development is in accordance with the findings contained in the dolomite stability report and the hazard zonation of the site.

16. Evacuation of unsafe hazardous areas

(1) The Ekurhuleni Metropolitan Municipality shall, as required, evacuate areas deemed to be unsafe in the event of the pending occurrence or occurrence of a sinkhole or subsidence.

(2) The Ekurhuleni Metropolitan Municipality is authorized to enter private property to investigate potentially hazardous conditions that are considered to be life threatening beyond the boundaries of the property.

(3) The Ekurhuleni Metropolitan Municipality is authorized to terminate water bearing services on private property for a necessary period of time to preclude the occurrence of a pending sinkhole or subsidence which may endanger the public.

(4) Where an event occurs on private land and is deemed as a serious threat to the safety of third parties, the Dolomite Risk Management Section shall notify the Disaster Management Department of the Ekurhuleni Metropolitan Municipality to have an identified area declared unsafe and institute immediate appropriate remedial actions or measures.
17. Review of dolomite Risk Management Strategy

(1) The Ekurhuleni Metropolitan Municipality shall ensure that a review of the Dolomite Risk Management Strategy is carried out every 5 (five) years by an independent Competent Person (dolomite).

(2) The Ekurhuleni Metropolitan Municipality shall retain records of the reviews undertaken.

18. Alienation and leasing of property and granting of servitudes on Ekurhuleni Metropolitan Municipality land

The Ekurhuleni Metropolitan Municipality shall establish and maintain dolomite risk management policies with respect to the alienation or leasing of its properties situated on dolomite land and the granting of servitudes on such land.

Part 4: Prohibitions

19. Non-compliance

(1) No site development plan shall be approved without a Dolomite Clearance Certificate.

(2) No developer may attempt to submit or to obtain approval of a Site Development Plan or building plan without a Dolomite Clearance Certificate.

(3) No municipal policy or by-law relating to development on dolomite land in the Ekurhuleni Metropolitan Municipality may supersede or purport to supersede the requirements of this by-law.

Part 5: Transgression

20. Termination of development

(1) The Head of the Dolomite Risk Management Section may at any point in time issue to and serve on, any developer not complying with the requirements of this by-law, a cessation notice requiring immediate cessation of the development process or construction, until full compliance is achieved with the requirements of this by-law.

(2) The Head of the Dolomite Risk Management Section, depending on the hazard class or classes of the land on which non-compliant development has commenced or taken place, may proceed with legal steps through the Department Corporate Legal Services to obtain a court order for the demolition of all improvements on such land at the cost of the developer.

21. Penalties
(1) Any land owner, developer or servitude holder failing to comply with the
requirements of a dolomite risk management notice issued by the Dolomite Risk
Management Section of the Ekurhuleni Metropolitan Municipality shall be guilty
of an offence and liable on conviction, except where otherwise expressly stated,
to:

a. A fine not exceeding R 10 000.00 or in default of payment to imprisonment
for a period not exceeding six months or to both such fine and
imprisonment;

b. In case of successive or continuous breaches of this By-law it is provided
that any expense incurred by the Municipality in consequence of such
stipulation in this By-law or in the execution of any work directed by this By-
law to be executed and not executed shall be paid by the person
committing such breach or failing to execute such work. The municipality
may institute a claim in the appropriate court for the amount of such cost
and/or damages.

(2) Any developer/land owner/servitude holder not complying with the terms and
conditions of this By-law shall be guilty of an offence and legal action shall be
taken against such developer/land owner/servitude holder for the appropriate
legal remedy.

22. Short title and commencement

This By-law is the Dolomite Risk Management By-laws, and takes effect on date of
promulgation.