# Building Act

# Protection Work Notice

## Technical Assessment Checklist

### 24 February 2015

With your Protection Work Notice (Form 3), you must provide all of the following additional technical information to VicRoads for assessment.

1. Geotechnical information:

* all relevant geotechnical site investigation results and laboratory testing results
* the geotechnical model used for design of retention systems
* where the materials encountered by the geotechnical investigation are predominantly sedimentary rock, the bedding dip and dip direction and joint sets must be identified and included in the geotechnical model
* an explanation of the source of the design value for each material parameter adopted for the geotechnical model e.g. laboratory testing results, published information (including reference), etc
* an explanation of the source of the design groundwater level/s adopted for the geotechnical model, including the reduced level dewatering is intended to lower the water table to and the expected recharge duration after cessation of dewatering
* the loads and load combinations used for design of retention systems
* an explanation of the determination of the design geotechnical strength of retention systems, and
* an explanation of the expected horizontal and vertical displacement at the ground surface within the zone of influence of dewatering and excavation or above the ground anchors, whichever is greater.

1. Construction drawings:

* the pile type/s, loads, materials and their properties, numbers, locations and lengths above and below the excavation
* if the piles are not contiguous, the type/s, materials and their properties and locations of all infills e.g. shotcrete, and any walers
* the ground anchor type/s, loads, materials and their properties, numbers, locations, lengths (free and bonded) and orientations
* the ground anchor testing types, methods, frequencies and test loads
* the details of connections between piles, ground anchors and any walers
* staging of pile construction, excavation and ground anchor installation, and
* the location, type and size of all dewatering wells, sumps, pumps and discharge points.

1. A proof engineering certificate of items 1 and 2 by an independent engineer who is a Registered Building Practitioner in the category of engineer, class of civil engineer. A proof engineering certificate template is provided at the end of this checklist.
2. Utility information:

* a plan showing all utilities located within the zone of influence of dewatering and excavation or above the ground anchors, whichever is greater, including type and owner, and
* evidence that all utility owners have been contacted and asked to nominate a maximum permissible ground deflection and maximum permissible ground vibration within the vicinity of their assets; it is noted that a response from utility owners may not be forthcoming.

1. Instrumentation and monitoring plan:

* what e.g. survey monitoring, inclinometers, piezometers, etc
* where e.g. survey points on capping beam at 5 m intervals, etc
* when baseline and subsequent monitoring will be undertaken e.g. baseline undertaken before any excavation commences, subsequent monitoring undertaken twice weekly for two years, etc
* thresholds e.g. maximum horizontal displacement of 20 mm measured from survey monitoring, etc
* alarm procedure: e.g. green alarm = monitoring results are within 80% of threshold, continue construction with increased monitoring frequency; amber alarm = monitoring results are with 95% of threshold, notify VicRoads, VicRoads may impose conditions on further construction; red alarm = monitoring results have exceeded threshold, cease construction and notify VicRoads, construction not to recommence without VicRoads approval, etc
* who is responsible for installing instrumentation, monitoring instrumentation, setting thresholds, determining if a threshold has been reached and enacting alarm procedures, and
* the expected delay between a threshold being reached and the alarm procedure being enacted.

1. A dilapidation survey report that satisfies the requirements of s94 of the *Building Act 1993*. The dilapidation survey report must cover all road assets (pavement, kerb, footway, signs, trees, signal and light poles, etc) within the zone of influence of dewatering and excavation or above the ground anchors, whichever is greater. The dilapidation survey report must include all of the following:

* a plan showing all road assets
* labelled overview photos taken at maximum 20 m intervals, and
* labelled photos of all existing defects.

OR

* continuous video footage at maximum 10 m wide passes, and
* a plan of the path followed during video footage collection.

You may prepare the dilapidation survey report without VicRoads’ involvement; however, VicRoads reserves the right to undertake a joint dilapidation survey if the dilapidation survey report provided for review is considered unsatisfactory.

1. A copy of a contract of insurance that satisfies the requirements of s93 of the *Building Act 1993*. You may arrange the amount of insurance without VicRoads’ involvement; however, VicRoads reserves the right to require an increase of the amount if the amount arranged by you is considered unsatisfactory.

#### PROOF ENGINEERING CERTIFICATE OF COMPLIANCE

**I .......................................................................................................................... certify that I have:**

(1) undertaken an independent engineering review in relation to the design represented by the drawings and specifications provided as listed in the attached schedule

(2) carried out a detailed check of individual structural elements and the structure as a whole including the specified material properties

(3) reviewed the geotechnical information in accordance with AS 1726, the appropriate foundation investigation, the recommended design values, material properties and possible failure mechanisms

(4) reviewed the groundwater design parameters including design groundwater level/s as well as evaluation of dewatering procedures, and

(5) reviewed the proposed construction procedure and the aspects of temporary works critical for structural integrity and safety.

**In performing the function of Proof Engineer I have used due skill, care and diligence and from my review and in my opinion as a professional engineer I consider that:**

A. all relevant design actions and design criteria are covered by the design and that these actions and criteria and overall concept meet the requirements of the relevant Australian Standards: *(list AS numbers e.g. AS 4678, etc)*

B. the strength, stability, serviceability and other limit state requirements as defined in the relevant Australia Standards are met; and

C. the construction drawings and specifications accurately describe the following matters critical to the structural integrity:

(a) the detailing and dimensions

(b) the required material properties, and

(c) the construction procedure and temporary works.

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| --- | --- | --- |
| **Signed** |  |  |
| **Name** *(please print)* |  |  |
| **Registration number** |  |  |
| **On behalf of** |  | **(Company)** |
| **Date** |  |  |

#### SCHEDULE to PROOF ENGINEERING CERTIFICATE OF COMPLIANCE

*(list all drawings and specifications provided)*