

# **Method Statement for the construction of the new Bexhill High School BSF OSP in Gunter's Lane Bexhill.**

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# Project Methodology

## 1.0 Access to Site and School.

Please refer to the enclosed layout drawing for details of these proposals

It is Kier's intention to use the existing entrance into the year 7 site for access onto the construction site. Construction vehicles will also exit the site from this point. Additional access via the Bexhill College access road is anticipated to be used during the initial bulk excavation at the start of the project. School traffic will be segregated from construction vehicle and a gateman will control access onto the site with delivery times coordinated to avoid potential conflicts.

A painted ply hoarding panels will be erected on the west boundary of the existing year 7 building to form the site compound. A painted ply hoarding will be erected along the public foot path from Turkey Road to Glenleigh Park Road after advance warning notices have been posted to inform the public that the foot path is to be contained. The perimeter of the playing fields E, F, C & B will be enclosed utilising the new permanent fencing. The boundary with the College playing field will also be fenced Site access gates will be erected at the entrance to the site from Gunter's lane.

Special attention will be paid to the segregation of staff, visitors and students along the shared access from Gunter's Lane. Pedestrians will access the existing year 7 building through the pedestrian access to the east of the school car park entrance. Vehicles to the year 7 building will access through the existing car park entrance and will turn right into the existing one way system adjacent to the Year 7 building. The displaced parking that has been taken over for the site compound will be relocated by changing the existing lay by to the east side into car parking spaces. School vehicles will exit the year 7 building from the existing exit on the east of the building towards Turkey Lane. When the school is not operational bollards/barriers will be erected to stop site traffic using the year 7 car park.

Service deliveries to the year 7 building will continue to use the existing service area. Any access will be controlled in close liaison with the school. The access will be managed by a gateman throughout the day or when the site is operational.

Site operatives will enter the site from Gunter's Lane and drive through the site compound gates into the operative's car park. Signage will be erected to direct users of the year 7 building, the year 7 delivery vehicles and the site operatives/ deliveries to the correct areas.

Notices are to be fixed to the fencing panels to restrict unauthorised access to the site and will direct site personnel and school personnel to the respective entrances.



## **2.0 Tree Protection**

Within the perimeter line of the site boundary there are a number of trees/shrubs and hedge rows that will be retained. Tree protection will be erected to stop any traffic causing damage. Tree protection will be maintained throughout the construction period.

Following appropriate ecological surveys undertaken at the appropriate time of year Kier will remove any necessary trees during the enabling part of the contract.

It is expected that the majority of the existing trees in the existing car park will be removed to make way for the new car park construction.

## **3.0 Access Roads**

We propose to use the proposed Southern Water access road adjacent to the College playing fields during initial bulk excavation and until we have constructed the service road to the new building. After this time we will only use the access shared with the school traffic from Gunter's Lane.

There will be many occasions when major items of plant and/or materials are required i.e. mobile cranes, Ready Mix Concrete trucks, PC floor units, structural steel etc all of which will have to be brought to the work areas. Detailed method statements will be required for these operations and, of course, we will share that information with all relevant parties in a collaborative way. The construction traffic will be at its busiest during the construction of the sub structure, frame and envelope. During the sub structure phase we would expect the vehicle movements a day to include, muck away trucks, and concrete Lorries. During the construction phase of the frame we would expect articulated lorry delivery of structural steel every other day. During this phase we would also expect to use large Cranes for the installation of large steel members and pre cast concrete planks. The arrival of these vehicles will be marshalled onto site in order to reduce interruption of the School's normal activities.

Traffic signs and finger boards will direct delivery vehicles to the site from the surrounding approach roads at appropriate locations.

## **4.0 Welfare and Site Offices.**

The welfare facilities and offices are to be located adjacent to the site entrance on a temporary hard standing formed from the car park construction. This will provide a firm access under foot around the compound and to the main building during the construction phase.

The legs of the temporary accommodation units are to be positioned on timber sleepers or similar to provide a base to support the cabins and to prevent damage to the formation levels.



The main storage/unloading area will be sited to the west of the site compound and under the reach of the tower cranes. This will be levelled and covered with hardcore fill and rolled flat.

Welfare facilities are expected to be serviced from the existing year 7 building. We propose to connect to the existing foul sewer and water supply. Electricity is also expected to be provided from the existing building

If necessary generators will be established to supply the site temporary electrical services and the tower cranes and other major item of plant on site until the permanent supplies are available. Any proposed generator will be acoustically baffled.

We envisage that this compound will remain within this location for the majority of the project but will have to be relocated for the completion of the car park.

All sitecabins including a meeting room will be set up fully serviced and fitted out to a high standard and security alarms can be fitted in all of the units if required. Steel freight containers will provide additional separate secure storage facilities and they will be set up adjacent to the working area.

## **5.0 Materials Handling**

We have carefully considered various options for the handling of materials around the site and are resolved that the best option will be to use tower cranes.

The pick up area for the tower cranes has been shown on the site plan and will enable the materials to be transported around the site to suit daily activity.– i.e. bricks, blocks and mortar and pipe work for the foul and surface drainage. The tower crane can lift materials from either delivery vehicles or from the main storage area in the compound and adjacent to the building.

We will need to assess the exact size and number of tower cranes that will be required but our initial assessment shows three cranes each with a working radius of 50m located in such a position to avoid oversailing of adjacent properties. We will revise our proposals as construction methods are confirmed.

Excavations are to be carried out using 360 degree mechanical excavators loading excavated material into either on site articulated dump trucks or 8 wheeler lorries or similar and depositing to the specified locations on site. It is anticipated that off site removal of spoil is minimal. Wheel washing facilities for vehicles will be used and carried out in the confines of the site before the vehicles leave the site for the public highway.

Mobile concrete pumps will be considered for placing in-situ concrete to general areas when pour sizes make this an economic solution.

All plant used on site will be subject to the latest noise and environmental legislation.



## **6.0 Security**

The existing security measures in place around the existing Year 7 Building will remain.

As main contractor we will be responsible for the security on the construction site and around the new building. As main contractor we will liaise with the school on security issues.

Ply and Heras fencing panels together with the installation of the new perimeter fencing will surround the boundary of the site and sports pitches. This will segregate the construction area and also secure the construction site.

Metal gates will be provided at the access points and fastened with security padlocks. The site entrance will be a controlled access point. Further access to working areas will require site induction where personal protective equipment is issued.

Alarms can be installed in the accommodation units within the compound, including the steel freight containers.

An emergency 24 hour call out procedure will be organised to respond to any situations that may arise.

Security warning notices will be displayed on and around the site boundary in a prominent position. Consultation with neighbours and talks to them will explain the risks to intruders and how they should encourage their children to keep off building sites.

The site nameboard will be positioned adjacent to the main site entrance.

All operatives will be issued with personal protective equipment as appropriate for this project including security name tags to display the company name.

A gate man will be employed at the site entrance to control & direct vehicle on and off site.

## **7.0 Site Induction**

Our Health and Safety procedures require that before any operatives start on site they must attend an induction session/ tool box talk, where the site rules together with the safety and environmental issues on the site are discussed.

The induction will include the explanation of the various safety procedures on site, emergency escape routes, the emergency evacuation procedure in case of a fire and the site waste management plan.

Other topics covered will be identifying the welfare facilities, explaining the main areas of risk on the project where the possibility of injury is more likely to occur, discussing



PPE, and running through the standards of good housekeeping which are required on site. This will include the specific issues raised within the health and safety plan.

Operatives will also be informed of any specific daily or otherwise specific tasks or restrictions that will affect day to day operations.

All operatives will have their method statement explained to them by their site supervisor

## **8.0 Good Neighbour Policy**

It is the policy of the main contractor that all site register with the Considerate Contractors System and follow their recommendation. All our managers have received training into the requirements of the scheme and the site will be audited accordingly by the CCS Assessor.

Good relations with neighbours and the immediate community to a building site is a vital ingredient to the successful progress of a project. This aspect and issues identified in the Kier Group's Environmental policy, have a set procedure in both pre-start and on site activities.

We are aware of the areas of the adjacent existing residential areas in both Gunter's Lane and Turkey Road together with the surrounding residential roads that are likely to be affected by the proposed development and have considered ways of successfully overcoming any concern that residents may have.

We have attended the three public consultations and are aware of the public's comments on the project. The public foot path will be a key issue in the successful cohabitation of the construction works and the public. We expect there to be some option to the actual containment of the foot path but we propose to discuss its containment with the users before the fencing is erected. We will need to maintain school access to the playing fields which will be done by padlocked

## **9.0 Construction sequence**

1. The project is schedule to commence in late 2008 and be completed by late 2010.
2. The first operation will be to split the access route onto site and to the existing year 7 building. A gate man will be employed for the duration of the project to control this shared access point.
3. The site will be secured as previously described.
4. Works will then commence with the construction of the service roads, car park and associated drainage and service ducts to enable the installation of the site and welfare accommodation together with site parking.



5. Any archaeological investigations will take place during this period of the programme.
6. 360 degree mechanical excavators will reduce the site levels in preparation for the foundation installation.
7. 360 degree mechanical excavators will load excavated material into on site articulated dump trucks and deposit the spoil to temporary stock piles ready of use as back fill under the building or to make up levels to pitch C. Muck away Lorries will dispose of any excavated materials that are surplus to requirements via the proposed Southern Water access road adjacent to the College playing fields.
8. 360 degree mechanical excavators will carry out the excavations to form the pad foundations and tie beams, closely followed by the additional in-situ concrete works to form the sub-structures. Foundations will either be pumped or placed using direct fill technique, either using the forklift or direct from the ready-mix truck. Timing of these works will be during the start of the winter term when traffic management measure will be of prime importance so that the normal running of the school is not disrupted. Maintaining road cleanliness will also be important.
9. Upon completion of the foundations the tower cranes will provide the lifting facility to place the materials for the insitu concrete frame.
10. A specialist steel supplier will handle and position the structural steelwork to the Science & Technology Block. He will make the necessary preparations, including producing detailed method statements for approval before erection sequence commences.
11. Precast floor units are to be incorporated within the structural frame as the erection of the structure progresses. This will involve the use of large Craneage.
12. When sufficient area is available the installation of the cladding will commence. Scaffolding will be erected to give access to the external elevations of the building. Loading platforms attached to the scaffolding will assist with landing and distribution of materials.
13. A detailed programme and method statement for the mechanical and electrical services, including testing and commissioning, will be provided by the services sub-contractor when full details are known and after appointment.
14. Fire points will be located in the external compound, and at strategic points internally within the working area as necessary. Escape routes are to be set up and indicated. Protocols will need to be developed so that both the School and Kier are aware of the raising of the fire alarm in either site. Our site gatemen will be of key importance if an emergency service are required to attend either site and will be trained for these situations.

## **10.0 Working Hours and interface with Students.**

Our programme is based on a five day week with the site open between 7.30am to 6 pm. If Saturday working was required would expect to work from 7.30am to 1pm.

During the school term time we would timetable our deliveries to stop between the 8.30am to 9.15am and 2.45pm 3.15pm when the students are either entering the school at the start of the day or leaving site.

## **11.0 Environmental Policy**

Kier policy is to promote improvement of the environment by minimising the consumption of natural resources and materials, maximising recycling and the use of renewable resources whilst limiting pollution and environmental disturbance in the course of our construction operations.

To achieve this we will:-

- Control and minimise the use of natural resources by conserving energy and ensuring efficient running and maintenance of equipment and machines.
- Seek methods of working that minimise materials usage, limit waste and favour the use of renewable, recyclable or recycled sources.
- Encourage the recycling or reprocessing of materials on site for use elsewhere.
- Organise our operations to minimise environmental disturbance, including noise, and limit pollution to earth and atmosphere by control and treatment of discharges where appropriate.
- Satisfy, and improve upon if possible, the requirements of industry Codes of Practice, Government Guidelines and appropriate Regulations. In the absence of these, set our own environmental standards on sites and workplaces.
- Recognise that, although in many instances designs, specifications and working methods are outside our control, we should seek to influence them where possible.
- Inform our subcontractors and suppliers of the policy and encourage them to develop and maintain standards that comply.
- Involve employees throughout the company in the policy and foster environmental awareness and concern at all levels.
- Carry out regular reviews of the policy and monitor its implementation to ensure that it reflects best practices and continues to achieve its objectives.



## 12.0 Waste Management

The passing of even more complex legislation; the need to conserve natural resources; a requirement to reduce the amount of waste going to landfill; the opportunity to reduce costs mean that the development of the new Bexhill High School must be planned carefully for how we intend to manage waste generated by the project.

To help with this task, a Site Waste Management Plan (SWMP) will develop. The Site Waste Management Plan will comply with relevant standards. The data produced by the SWMP will be used to comply with Building Research Establishment Environmental Assessment Method, the requirements for the Considerate Contractors Scheme and the Waste and Resources Action Programme (WRAP) principles.

The responsibility for developing & implementing the plan rests with the Construction Project Manager.

The Plan will be regularly reviewed & this forms part of the monthly review of the Construction Phase Safety, Health & Environmental Plan carried out by the Construction Project Manager.

### Pre-Planning

The first stage in producing the plan is to identify the types & approximate quantities of waste the redevelopment of Bexhill High School is likely to produce. The next stage is to decide if any of the waste streams can be reduced reused or recycled.

Type	Waste Minimisation decision taken	Intended results
Trees	Recycle	Re-use of material in other wood products.
Spoil from excavations	Re use	Backfill under ground floor slab. The make up levels to sports pitches.
Envelope	Reduction in site waste	External walls will include section of dry wall construction which will be made of site.
Heart space roof	Re cycled.	The ETFE roof material can be recycled
Dry wall construction	Recycle	Waste from ???
Top Soil	Re use	If space is available store on site for reuse. If removed from site re use on approved site.

General Building Waste	Reuse and recycling	Segregate waste & dispose of in skips by specialist sub-contractor.
Plaster Board	Recycle	Recycling of plaster board by manufacturer.
Food waste	Waste	Remove from site by licensed carrier.
Paper	Recycle	Segregated selection and recycling.
Timber	Recycle	Segregation of waste.

### **Storage Areas & Vehicle Movements**

Consideration will be given to how the waste is to be stored at the site prior to its disposal off site. Vehicle movements will be coordinated with the school timetable to avoid conflict between pedestrians & vehicles. All suppliers & contractors will be advised of the peak times, 08.30 to 09.15 & 14.45 to 15.15. This should also help traffic movement in Gunter's Lane.

### **Construction phase**

The administration of the Site Waste Management Plan is the responsibility of the Construction Project Manager. All documentation will be held in section 20 of the Construction Health, Safety & Environmental Plan in the Site office.

As part of the procurement we will talk to suppliers about the packing of their materials and will seek to reduce packaging where possible. This will enable us to drive down the production of waste and to ensure as much of the material that we do produce goes to recycling.

The site will be registered with the Environment Agency as a producer of waste

Duty of Care waste transfer notes will be completed for each waste stream.

The following types of waste segregation will be applied on this project;

- General construction waste
- Timber
- Metal
- Cardboard & Packaging
- Plasterboard
- Hardcore
- Food waste
- Hazardous materials. Mastic tubes.



The following information will be recorded for each movement offsite of waste;

- Waste type
- Active code
- Site collection point
- Waste collector including waste carriers licence number
- Final destination
- Location of Transfer Notes

### **Post construction**

All record information is transferred to our Crawley office & archived.  
Record drawings of materials reused on site will form part of the Operating & Maintenance Manual submission

## **13.0 Noise on Site**

Kier are aware that the site is located within the confines of a residential area and that construction noise could be an issue if not address for both the residents and the site operatives.

### **Legislation**

The levels of noise produced on site are controlled by the following legislation and British Standard:-

The Public Health Act 1961	
The Health & Safety at Work Act 1974	
Noise at Work Regulations 2005	
Control of Pollution Act 1974	
Environmental Protection Act 1990	
Construction (Design & Management) Regulations 2007	
The Reporting of Injuries, diseases & Dangerous Occurrences regulations 1995	
BS 4142	Method for rating industrial noise affecting mixed residential & industrial areas
BS 5228	Noise control on construction and open sites
BS EN 61672	Specification for sound meters
BS EN 61252	Specification for personal sound exposure meter
BS EN 352	Hearing protectors: safety requirements & testing



## **The Noise at Work Regulation 2005 and action levels**

The Noise at Work Regulation 1989 was replaced by The Noise at Work Regulation 2005 which came into force in April 2006 based on an EU directive. The new regulation has set new requirements for set noise exposure levels which are known as action levels.

The risk of any noise to be eliminated at source or by a reduction to a minimum possible level

An appropriate health surveillance programme where a risk assessment indicates the possible risk to health

A weekly averaging of noise exposure but only in justified circumstances

A maximum limit on personal noise exposure of 87 dB(A) and 140 Pascal, taking account of any hearing protection

Where personal exposure to noise exceeds 85 dB(A) and 137 Pascal, not taking into account any hearing protection, there must be:

The mandatory use of hearing protection

A right to hearing checks by a doctor

The delimiting, marking & restriction of access to such areas

A programme of measures designated to reduce the exposure of noise:

Where personal exposure to noise exceeds 80 dB(A) and 135 Pascal, not taking into account any hearing protection, there must be:

An availability of hearing protection on request,

The provision of information & training on the dangers of noise,

The availability of audiometric testing where there may be, or is, a risk to health,

A derogation of power when the use of hearing protection causes a risk to health & safety,

## **Process to determine the noise hazard**

In order to implement any control measures on works activities there are a number of steps that have to be carried out.

### **Identify:**

List all the works activities/ Task where there is likely to be a noise Hazard  
A risk assessment will be carried to assess the risk. Normally noise is likely to be at hazardous levels wherever people have to shout or have difficulty in being heard clearly by someone about 2m away.

### **Determine the Hazards:**

Activities which can be consider to cause a noise hazard include cartridge tools pneumatic breakers, drills, compressed air tools, woodworking machines, compressors & generators, welding & burning equipment, hammers, mobile plant.

Who might be harmed due to the exposed to the noise hazard?

The risk assessment will light the groups that will be affected by the noise but others who are subject to intermit ant exposes should also be included. This could include the general public, delivery drivers and visitors to site.

### **Measuring the Risk:**

Once the likely noise has been identified, a reading of the noise should be taken and this will determine the control measure and the risk to the employee and their save exposure limit. The noise read should be carried out by a competent person who will obtain reliable information about the work pattern and the source of the noise. The noise reading will be taken by a certificated sound level meter. The readings will be taken during the normal working day when noise activities are taking place.

### **To determine the noise exposure:**

Readings will be taken over the course of a day to give a representative period of noise hazard. From this data the daily exposure is calculated from the values obtained and the time spent in each place or at each task measured. This will determine the daily personal exposure (Lep,d) for an operative.

### **Exposure to noise**

The effect on maximum working times due to exposure without protection is shown

Average noise levels dB(A)	Maximum exposure in one working day if 90dBa (Lep,d) is not exceeded
80	8 hours
83	4 hours
86	2 hours
89	1 hour
92	3.0 minutes
95	15 minutes
98	7.5 minutes
101	3.75 minutes

### Control Measures.

To increase the permitted working time there are a number of Hierarchy Controls which can be implemented for noise control. These include:-.

Safe place	Eliminate	Through design, choice of plant.
	Reduce risk at source	Plant selection through lower noise output machinery, and alternative processes.
	Control of exposure	Distance between the operative and the source of the noise. Enclosures of the machinery. Install screens & barriers
Safe People	Ear protection zones	Avoid impact operations. Damping of the noise at source. Isolation through anti vibration mounting of plant. Silencers to plant and mufflers. Activate noise controls through electronic-controlled noise reduction methods

	Safe systems of work	Control of the work operation through management of the process.
	Job design & Rotation	Ensure that machine is turned off when not being used. All operatives are trained to use all the machinery and can be rotated the work process.
	Maintenance	Machine to be kept in good order to reduce noise.
	Supervision	Supervisors must be competent in the supervision of the operatives there are managing Operatives must be made aware of the necessity to maintenance of plant, to position plant in such away as to avoid creating a noise hazard
	Training	Supervisors must be trained in the works they are supervising. Operative must be trained in any new operation they are required to carry out.
	Information & Instruction	All employees must be made aware of the control measure and the safe system of works. Operative must be trained in the correct method of working to stop noise hazards.
	Health Surveillance	To give warning, to give warning of possible ill health, a means of checking control measures. A trigger for putting further measures in place to reduce noise.

Safe PPE	Personal Protective Equipment	Last resort
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**Measures that have already been included in the site set up include,**

Ply hoarding screen erected along the public foot path.

Ply Hoard erected between the year 7 buildings and the site compound

Site storage is away from the residential areas.

Access road onto site is positioned away from the year 7 building.

Concrete pumps to be positioned away from residential areas.

The Southern Water College haul road will only be used for the bulk excavation during the early period of the works.

All plant will be silenced.

Access doors on compressor will be keep shut.

Pneumatic concrete breakers will have mufflers fitted

Pneumatic concrete breakers will be dampened bit to stop 'ringing'

Power saw blades will be kept sharp.



## Managing noise risks

