


HEALTH IMPACT ASSESSMENT

LAND OFF BLACKMOORFOOT ROAD AND FELKS STILE ROAD, HUDDERSFIELD

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Commissioned by

GERALDEVE

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Foreword

It is now widely recognised that various factors combine in different ways to determine the health and wellbeing status of individuals and population groups. Included among these determinants of health are socio-economic, environmental, biological and lifestyle factors. Health impact assessment (HIA) seeks to make projections, in a systematic way, about the ways (and pathways) in which any human endeavour can affect the health and wellbeing of a given population. The overall aim of such assessments is to promote public health through maximising identified positive impacts and also recommending steps for mitigating possible negative impacts.

This HIA gives indications of the likely health impacts of the new dwellings, extra care units, vehicular access points and other engineering and ancillary works which comprise the proposed Blackmoorfoot Road Development, Crosland Moor, Huddersfield. Recommendations are made towards enhancing identified positive health impacts and also measures to mitigate negative ones.

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(Original Assessment carried out in January 2018 and updated in July 2020, essentially policy chapter and few population statistics).

Cover Photograph: Illustrative images from Black Cat Fireworks compound. Courtesy of Geraldeve

CONTENTS

LIST OF ABBREVIATIONS

BMRD : Blackmoorfoot Road Development
CCG : Clinical Commissioning Group
CHD : Coronary Heart Disease
COPD : Chronic Obstructive Pulmonary Disease
CSR : Corporate Social Responsibility
CVD : Cardiovascular Disease
DOH : Department of Health
GHCCG : Greater Huddersfield Clinical Commissioning Group (CCG) (NHS)
GHEM : Global Health, Environment and Management
JHWB : Joint Health and Wellbeing Board
JSNA : Joint Strategic Needs Assessment
HIA : Health Impact Assessment
HPP : Healthy Public Policy
KC : Kirklees Council
NHS : National Health Service
ODPM : Office of Deputy Prime Minister
SEP : Strategic Economic Plan
SME : Small and Medium Enterprise
WHO : World Health Organisation

Introduction/ Executive Summary

This Health Impact Assessment (HIA) has been commissioned by Gerald Eve LLP, to assess the potential health and wellbeing impacts that may result from the proposed Blackmoorfoot Road development in Crosland Moor, Huddersfield. The overall aim is to identify opportunities for maximising the potential positive health and wellbeing impacts; and minimising any potential negative impacts.

The specific objectives of this impact assessment are to:

1. **Identify health and wellbeing impacts of the Blackmoorfoot Road development**:
   Specifically, to identify and prioritise the potential direct and indirect health impacts on the end users of the various component facilities and services that comprise the Blackmoorfoot Road development; as well as on local people living within the vicinity of the development, during the construction and operational phases of the aspects of the development.
2. **Develop a set of recommendations for optimising the impacts on health and wellbeing:**
   Specifically, to develop a range of mitigation and enhancement measures to minimise any potential negative health impacts and maximise the positive health benefits of the development project. Measures must be feasible, financially viable and deliverable; and able to be incorporated into the on-going design and implementation of the Blackmoorfoot Road development.
3. **Identify possible monitoring and evaluation indicators**:
   Specifically, to identify possible monitoring and evaluation indicators to judge, monitor and evaluate the actual health and wellbeing impacts of the development.

   The HIA draws on previous and current work on developing healthy and sustainable housing and urban regeneration schemes.

Key positive impacts identified from the health impact assessment are as follows:

- Overwhelmingly, the evidence points to the fact that *good housing leads to good health*[1]. For example, people living in damp homes have been known to suffer from persistent respiratory symptoms e.g. sneezing, runny nose, and coughing which reduces general health and wellbeing[2]. There is a well-established link between improved housing design and a reduction in home accidents through better location of appliances and the installation of safety devices such as smoke alarms. These positive health impacts will be experienced by the people who will be resident in the new homes in Crosland Moor. The extent of the impacts will be moderate to significant (depending on the state of health of individual residents).
- The creation of several job opportunities over time, coupled with the attendant economic empowerment, has the potential for major positive health impacts on those offered employment as well as their families. This is essentially because poverty has been shown to have major negative influence on health[3].
- The Blackmoorfoot Road development will contribute to the overall regeneration, improved profile and enhanced well-being of the immediate neighbourhoods and Huddersfield as a whole. This will lead to raised community pride, enhanced social capital and positive mental & psychological health impacts.
- Evidence also points to the fact that exposure to natural spaces such as parks, gardens, greenspaces and open countryside has positive health benefits. The pathways for bringing about these benefits include psychological effects and encouragement of physical activities (walking, cycling) and building social capital[4]. In this regard, the proposed beautiful landscape and green spaces incorporated into the Blackmoorfoot Road development will improve the quality of the outdoor environment with potential for moderate to major positive health impacts. The quality green space/ outdoor environment also have the potential of having major

[1] CIEH (2008). Good Housing Leads to Good Health. Chartered Institute of Environmental Health.
[2] Page, A (2002). Poor housing and poor mental health in the UK: Changing the focus for intervention. Journal of Environmental Health research Vol 1, Issue 1.
[3] Marmot, M.2004 The Status Syndrome: How Social Standing Affects Our Health and Longevity. London Bloomsbury
[4] Health, place and nature: How outdoor environments influence health and well-being: a knowledge base. Sustainable Development Commission

positive mental health impact on residents, visitors and users of the associated amenities and facilities.

- There are plans for leisure and recreational facilities and spaces within the Blackmoorfoot Road development. The play area and other communal facilities will provide recreational, leisure and physical exercise opportunities, all of which can have positive physical and mental health impacts on users. Leisure and recreation afford opportunities for rest, refreshment, learning, and entertainment; all of which can have moderate to major positive impact on physical and mental health and wellbeing
- Due to the expected population increase arising from the Blackmoorfoot Road development, there is the likelihood that more people will also visit, live in, and engage in other productive activities in the areas surrounding the development. This situation has the potential to contribute to the further economic regeneration of these areas (such as setting up SMEs), with possible positive health impacts on the business owners and users
- It is worthy of note that environmental sustainability approaches are planned to be incorporated into the design of the Blackmoorfoot Road development to a large extent. Sustainable approaches to development endeavours have financial, health and corporate social responsibility (CSR) benefits to organisations and individuals.

Key negative health impacts identified from the impact assessment are:

- Construction related injuries, dust & noise pollution are bound to occur during construction phases of the Blackmoorfoot Road development projects. However, this is likely to be minimal. As an example, construction companies can be accredited with the Considerate Contractors Scheme. Construction sites, companies and suppliers voluntarily register with the Scheme and agree to abide by the Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.
- There is the likelihood for adjustment distress for both the occupants of the new homes and the local residents who live close to the new estate, with the possibility of tensions between the new comers and already existing residents. These can

have minor negative health impact. Such tensions can be easily obviated through neighbourhood management endeavours.

- The relocation of the Black Cat Fireworks can result in some job losses, and also bring about some relocation distress to the employees, depending on the location of the new site. These can have minor to moderate negative psychological health impacts. However, job loses arising from any employee's inability to relocate is likely to be bridged with the employment of new workers at the new location, with compensatory positive health impacts.
- The expected increase in number of cars as the development is occupied will lead to traffic related problems such as traffic congestion with resultant increases in air pollution. These can have negative psychological and physical health impacts.
- Given the site's use for the manufacture and storage of fireworks over many years, there are varying degrees of contamination across the site involving elevated levels of heavy metals. These can be passed to the food chain and can have negative health impacts if not properly managed.

Measures for optimising positive health impacts and mitigating negative impacts include the following:

Keeping the facilities functional

Good quality design will ensure that the buildings and other facilities have a longer and more efficient life without substantial redesign and redevelopment; thus minimising cost over the lifetime of the infrastructure. It is important that these facilities are designed to the latest standards in order to be more efficient and robust.

Enabling employment & economic transformation:

In order to ensure that the socio-economic benefits envisaged from employment generation from the Blackmoorfoot Road development impact on the immediate neighbourhoods and Huddersfield in general, it is recommended that wherever feasible, workers, suppliers and service providers should be sourced locally.

Adequate maintenance of greenery and aesthetic environment

In order to derive maximal projected benefits from the green spaces and outdoor environment, efforts should be made to manage the proposed new parks and public open spaces to ensure that they remain attractive and conducive for walking and

physical exercise; they should not be allowed to degenerate to sites for litter and antisocial behaviours.

Health and safety measures

Robust Health and Safety procedures and guidelines should be put in place and adhered to during construction works and operation of services to minimise the risks of harm and injury to workers and visitors to the sites during the construction phase; and users during the operation of the services.

Adequate measures to deal with the possible negative health impacts of land contaminated with some heavy metals, in view of the site's use for fireworks materials.

Sustainability within Blackmoorfoot Road development

In order to maintain the sustainable development prospects within the development, efforts should be made to maintain high environmental performance. Undertakings such as efficient energy and waste management should be encouraged across the various component projects and provider organisations to be involved with construction and service provision to the development.

Air Quality Management Area (AQMA) and measurements may have to be instituted to monitor air quality arising from increased number of cars.

Chapter 1
WHAT IS HEALTH IMPACT ASSESSMENT?

1.1 **Introduction**

The international Gothenburg Consensus defines Health Impact Assessment (HIA) as "*a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population*."[5] HIA is a systematic approach to identifying the differential health and wellbeing impacts, both positive and negative, of plans and projects.

HIA uses a range of structured and evaluated sources of qualitative and quantitative evidence that includes public health, epidemiological, toxicological and medical knowledge; as well as public and other stakeholders' perceptions and experiences. It is particularly concerned with the distribution of effects within a population, as different groups are likely to be affected in different ways. Therefore, HIA looks at how health and social inequalities might be reduced or widened by a proposed plan or project.

The primary aim of HIA is to add value to the decision making process by making available a systematic analysis of the potential impacts as well as recommending options, where appropriate, for enhancing the positive impacts, mitigating the negative ones and reducing health inequalities. This is especially so given the increasing realisation that enabling healthy lifestyles can mean long-term savings in the costs of health treatment.[6]

HIA applies both the biomedical and social definitions of health, and therefore recognises that although illness and disease (mortality and morbidity) are useful ways of understanding and measuring health, they need to be fitted within a broader understanding of health and wellbeing in order to be properly useful. A range of factors are known to influence the health status of individuals and groups within a given population. The factors range from individual genetic make-up to lifestyle and wider socio-economic conditions. In other words, good health is determined by a range of

[5]WHO European Centre for Health Policy; Health impact assessment: main concepts and suggested approach; Gothenburg consensus paper; WHO Regional Office for Europe; 1999.
[6] CABE 2000. Future health: sustainable places for health and well-being. Commission for Architecture and the Built Environment (CABE).

factors and conditions, many of which are linked to the quality, accessibility and sustainability of the physical environment; these factors are collectively referred to as the determinants of health, some of which are illustrated in figure 1.1[7].

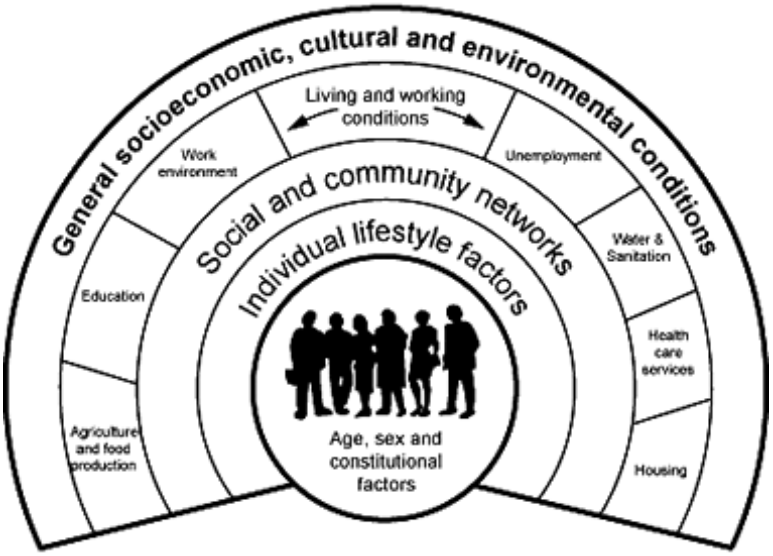


Figure 1.1: Wider determinants of health

Health Impact Assessment consequently use the following broad World Health Organization (WHO) psycho-social definition of health as: "*the extent to which an individual or group is able to realise aspirations and satisfy needs, and to change or cope with the environment. Health is therefore a resource for everyday life, not the objective of living; it is a positive concept, emphasising social and personal resources, as well as physical capacities.*"[8]

The above definition builds on, and is complementary to the longer established World Health Organization definition that "Health is a state of complete physical, social and mental wellbeing and not simply the absence of disease or infirmity"[9].

[7] Dahlgren G and Whitehead M 1991: Policies and Strategies to Promote Social Equity in Health. Stockholm, Institute for Future Studies
[8] WHO 1984: Health Promotion: A Discussion Document on the Concepts and Principles; WHO Regional Office for Europe; Copenhagen
[9] WHO1946: Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June 1946, and entered into force on 7 April 1948.

1.2 **Methodology and Scope**

The methodology used in this assessment and report is based on established good practice guidance on HIA developed by the Department of Health; it also incorporates procedures outlined in the Urban Health Impact Assessment Methodology (UrHIA) and the Health Development Agency guide for Health Impact Assessment [10,11,12]

This HIA therefore takes a holistic approach or 'systems view' of potential health impacts in conceptualising the general links between housing and regeneration programmes and their possible health and wellbeing impacts.

1.3 **General steps in HIA**

1.3.1 *Screening*

This stage assesses the value of carrying out an HIA by examining the importance of a plan or project and the significance of any potential health impacts. The following were some of the considerations that pointed to the added value derivable from undertaking a HIA of the Blackmoorfoot Road development:

- The scale of the development – A fairly large infrastructural development comprising of 700 new dwellings, 70 extra care apartments, 2 vehicular access points, convenience retail unit, approximately 7.8 Ha of public open space and associated engineering, drainage, access and ancillary works
- The population under consideration, and who are likely to be affected by the project – approximately 1817 people (based on average of 2.36 persons per household[13]) as well as the 19318 existing local residents in Crosland Moor ward; and other people living and working in the surrounding Huddersfield.
- The long-term nature of the project – spanning a period of 10-15 years.
- The necessity of addressing established health needs of the population in the surrounding neighbourhoods, and Huddersfield in general; as well as identified issues relating to health inequalities; and

[10] Health Development Agency (2002), Introducing health impact assessment (HIA) informing the decision-making process, England
[11] Dreaves H, Pennington A, Scott-Samuel A (2015): Urban Health Impact Assessment Methodology (UrHIA). Liverpool: IMPACT, University of Liverpool. www.healthimpactassessment.co.uk
[12] Cavanagh S and Chadwick K 2005: Health Needs Assessment. Health Development Agency, London
[13] Office for National Statistics (ONS): http://www.ons.gov.uk/ons/guide-method

- The need to strengthen the Healthy Public Policy (HPP) Initiative being championed by the World Health Organisation (WHO);[14] and considering that the Kirklees Joint Health and Wellbeing Strategy (2014-2020)[15] seeks to promote the health and wellbeing of residents and support efforts to reduce health inequalities by creating enabling economic, physical and social environment which encourages and facilitates healthy lifestyles.

1.3.2 *Scoping*

This stage outlines the modalities for carrying out the HIA by setting the 'terms of reference' for the HIA i.e. the aspects to be considered, geographical scope, population groups that might need particular focus, what will be excluded from the HIA, how the HIA process will be managed and so on.

The scope of this HIA was the proposed new dwellings, extra care apartments, convenience retail unit, vehicular access points, green infrastructure and other ancillary works included in the Blackmoorfoot Road development. Also included are the residential and commercial areas around the development.

1.3.2.1 Study population

The population scope of this HIA was:

- Residents of the new dwellings and extra care unit
- Workers (builders, contractors, administrators etc.) who will be engaged in constructing and managing the residential buildings, access points and facilities when they become operational
- Local residents and visitors to various places of interest in the vicinity of the development.

[14] WHO 1988. Adelaide Recommendations on Healthy Public Policy; Second International Conference on Health Promotion, Adelaide, South Australia, 5-9 April 1988. http://www.who.int/healthpromotion/conferences/previous/adelaide/en/index1.html

[15] Kirklees Council: Kirklees Joint Health and Wellbeing Strategy 2014-2020 - https://www.kirklees.gov.uk/beta/delivering-services/pdf/health-strategy.pdf

The key population sub-groups that this HIA focused on were men, women, older people; people with disabilities, children and young people; people from minority ethnic backgrounds and those on low incomes or unemployed.

1.3.2.2 Determinants of health considered

The key determinants of health and wellbeing considered were:

1. Infectious and non-infectious/ chronic diseases and other health conditions that were of concern to the study population
2. Physical injury
3. Mental health and wellbeing (including nuisance and annoyance effects)
4. Employment and enterprise
5. Transport and connectivity
6. Learning and education
7. Crime and safety
8. Health and social care
9. Social capital and community cohesion
10. Culture and leisure
11. Lifestyle issues
12. Energy and waste

1.3.3 **Baseline assessment and community profile**

This stage uses routine national and local datasets (e.g. national census, local surveys, area profiles, and other demographic, social, economic, environmental & health information) to develop a community profile with a strong focus on health and wellbeing issues, and identification of vulnerable groups. The community profile serves as a baseline from which to assess the potential positive and negative impacts on health and health inequalities.

This HIA utilised already existing health and community profiles available from the national census, Kirklees Council and NHS (Greater Huddersfield and North Kirklees CCGs).

1.3.4 **Stakeholder consultation and involvement**

This stage uses workshops, questionnaires, interviews, surveys and other methods of consultation and involvement to engage key stakeholders, with a local context of the area, in the identification and appraisal of the potential health and wellbeing impacts; in the development of mitigation and enhancement measures; and in developing options for monitoring and evaluating the identified impacts.

Stakeholder involvement in this HIA included specific focused discussions with professionals from relevant public sector organisations. Health related questions were included in the postal questionnaire sent to local residents as part of consultation by the project developers. A community consultation event was also held by the developers on 28 November 2017 at Crosland Hill Methodist Church. 128 people attended and expressed their views on different aspects of the proposed Blackmoorfoot Road development masterplan options. In addition to the local residents, others who attended the consultation event include Kirklees Council officials, two (2) Ward Councillors, and business owners within the area. Relevant feedbacks from these events were incorporated into the HIA.

1.3.5 **Evidence and Analysis**

Being a rapid participatory assessment, evidence was gathered from a variety of sources including published and web-based literature, other HIA reports, as well as consultation with stakeholders in the Blackmoorfoot Road development.

The HIA used matrix tables (appendix 1) to analyse the potential positive and negative health and wellbeing impacts. The identified impacts were then classified using the levels defined in Table 1.1. Actual quantification of health impacts was outside the scope of this assessment; consequently, the health impacts were described in broad generic and descriptive terms.

Significance level	Criteria
Major +++/--- (positive or negative)	Health effects are categorised as major if the effects could lead directly to mortality/death or acute or chronic disease/ illness. The exposure tends to be of high

	intensity and/or long duration and/or over a wide geographical area.
Moderate ++/-- (positive or negative)	Health effects are long term nuisance impacts or may lead to exacerbation of existing illness. The exposure tends to be of moderate intensity and/or over a relatively localised area.
Minor/ Mild +/- (positive or negative)	Health effects are generally nuisance level/ quality of life impacts e.g. noise, odour etc. The exposure tends to be of low intensity and/or short/intermittent duration
Neutral/ No effect ~	No effect or effects within the bounds of normal/ accepted variation

Table 1.1: Classification of impacts[16]

For each potential health impact ten key issues were considered

- Which population groups are likely to be affected and in what way?
- Is the effect reversible or irreversible?
- Does the effect occur over the short, medium or long term?
- Is the effect permanent or temporary?
- Does it increase or decrease with time?
- Is it of local, regional or national importance?
- Is it beneficial, neutral or adverse?
- Are health standards or environmental objectives threatened?
- Are mitigating measures available and is it reasonable to require these?
- Are the effects direct, indirect and or cumulative?

1.4 **Recommendations**

A set of general recommendations were developed for the construction and operational phases of the Blackmoorfoot Road development, with the purpose of enhancing positive health impacts and mitigating possible negative health impacts.

[16] Institute of Occupational Medicine (IOM) 2008: Strategic Consulting Report: 644-002061. London

1.5 **Limitations of this HIA**

The main limitations of this HIA were:

- The use of ward level data as being representative of the existing residents living in and around the proposed development
- The difficulty in considering the positive and negative impacts on new residents and visitors to the area given that we do not know anything about their health, demographic, socio-economic, or cultural characteristics; and
- Lack of detailed consideration of the equipment, activities and processes that will be undertaken during the construction phase.

These limitations have not affected the overall and general accuracy of the findings of the HIA, but have made it more difficult to be precise about the types and extent of impacts under consideration.

1.6 **Follow up**

An analysis was made on the possible monitoring and evaluation indicators that could be used. The essence of project monitoring is to observe the performance of a given project in relation to set standards and modalities, in order to avoid a deviation from the set standards. For this report *Outcome evaluation* is proposed in order to assess the extent to which the anticipated positive effects on health, wellbeing and equity were in fact enhanced, and any negative ones minimised[17]. Outcome evaluation is also useful to find out the factors that have a bearing on the realisation of the HIA predictions.

It is suggested that the monitoring and evaluation will be incorporated into the implementation framework for the development, both by project developers and the Kirklees Council public health and planning departments.

[17] Taylor L and Blair-Stevens C (2002): Introducing health impact assessment (HIA): Informing the decision-making process. Health Development Agency, London

Chapter 2
BACKGROUND AND DESCRIPTION OF PROJECT

2.1 **Background**

The site occupies an area of approximately 29.3ha. which is made up of three distinct sections. The first section comprises the existing Black Cat Fireworks compound which measures approximately 18 ha. This section contains an industrial firework storage and distribution compound, grass and scrub land, with a varied mixture of office buildings, sheds, reinforced storage buildings and shipping containers (making a total of 43 buildings/containers) linked by several access roads and parking/storage bays[18].

The second section, measuring approximately 9 ha, comprises agricultural fields to the west of the fireworks site. This section consists of managed grassland and some in-bye fields used mainly for grazing, hay or silage. The third area of the site is located to the east, situated between the site's existing factory compound and residential dwellings of Crosland Hill to the east. The area measures approximately 2 ha and comprises a mix of managed grassland associated with the fireworks factory and small scale agricultural fields used for grazing. The proposed development is significant in scale involving the construction of 700 dwellings, a 70 bedroom care home, the creation of over 7.8 Ha of public open space and the provision of related infrastructure.

The spatial locations of the development components are shown in figures 2.1 – 2.3

2.2 **Vision for the proposed development**

The aim of the proposed development is to form a sustainable residential extension on Blackmoorfoot Road that will connect with existing residential communities. As well as the new homes and extra care apartments, it will provide local facilities to serve the new community, but which existing communities can benefit from also, including a convenience retail unit/local centre, play area and open spaces. As such, a sustainable housing estate is being created where people can live, learn, work and play.

[18] Crosland Moor, Huddersfield – Analysis & Concept Design. Planit-IE, 2017

2.3 **Indicative delivery of proposed development**

The development will come forward in 3 phases, over an anticipated 10-15 year timeframe. Around 250 dwellings are projected in each phase at a rate of about 50 homes per annum. The timescale will depend on the strength of the local housing market.

2.4 **Proposed facilities and services**

The approx. 20.7-hectare development site will consist of the following components:

- Up to 700 dwellings
- 70 Extra care apartments (in the form of a low-rise block of flats)
- Construction of two primary vehicular access points off Blackmoorfoot Road and Felks Stile Road
- A convenience retail unit/ local centre
- Natural Play area
- Pedestrian connection to surrounding area
- Community park
- Approximately 10.5 Ha of open space within allocation boundary (total open space provision is approx. 22.8 Ha public open space of formal and informal greenspace, including those within green belt).

2.5 **Forecasts and Assumptions**[19]

- There will be demolition of all existing buildings and structures within the Black Cat fireworks compound
- It is estimated that the Blackmoorfoot Road development will provide accommodation for approximately 1817 people when fully completed and occupied (based on average of 2.36 persons per household[20].
- The provision of 2 vehicular access points off Blackmoorfoot Road and Felks Stile Road
- Existing field retained as natural play and games area.
- Amenities including convenience retail unit/ local centre
- Community parkland area to provide recreational resource
- Pedestrian connection to surrounding area
- 7.8 Ha of open space provision within allocation boundary

[19] Project documents and briefs from Geraldeve
[20] Office for National Statistics (ONS): http://www.ons.gov.uk/ons/guide-method

- There will be trees, gardens and landscaping within the development
- Consideration of associated engineering, drainage, access and ancillary works.

Figure 2.1 shows the landscape character of the development site while figure 2.2 is an illustration of the Masterplan concept. Figure 2.3 is an architectural (schematic) diagram of what some of the completed facilities could look like.

Figure 2.1 Crosland Moor, Huddersfield – Landscape Character

Figure 2.2 Crosland Moor, Huddersfield – Masterplan Concept

Figure 2.3 Schematic diagrams of proposed buildings and facilities (courtesy of public consultation documents)

2.6 Huddersfield **Community Profile**[21,22,23]

Huddersfield profile at a glance:
Huddersfield is a large market town in West Yorkshire, England. It is the 11th largest town in the United Kingdom and the mid-year estimates for 2018 puts the population at 142,900 people. Halfway between Leeds and Manchester, it lies 190 miles (310 km) north of London, and 10.3 miles (16.6 km) south of Bradford. It is also the largest urban area in the Metropolitan borough of Kirklees and the administrative centre of the borough. One in 3 (32%) of the Kirklees population live in Huddersfield. Huddersfield locality has seven wards namely Ashbrow, Greenhead, Lindley, Almondbury, Crosland Moor and Netherton, Dalton and Newsome. Although 68% of the population in Huddersfield are White British, only 46% of births are in this ethnic category. Higher birth rates in ethnic minority groups suggest that the profile of this area will change in coming years. People of Pakistani background make up the largest minority ethnic group with 12.7%. Life expectancy for both men and women in Huddersfield is only slightly lower than the England average. Male life expectancy at birth (2010-2014) was 78.6 years compared with 79.3 years in England; female life expectancy in Huddersfield was 82.4 years while England had 83.1 years. Life expectancy for both males and females in Huddersfield has improved over the past decade; it was 76.1 for males in 2003-05 and 79.9 for females. Less than half of the adult population has a healthy weight. In Huddersfield, the proportion of overweight or obese people is similar to the Kirklees average amongst adults aged between 18 and 64 years (52% in Huddersfield vs 54% in Kirklees) and amongst women of childbearing age (45% vs 44%) in 2016. The

[21] ODPM (2007): Indices of multiple deprivation. Office of the Deputy Prime Minister

[22] Kirklees Observatory; Area Committees Overview profile: http://observatory.kirklees.gov.uk/profiles/profile?profileId=115&geoTypeId=66&geoIds=KIRK_AC06

[23] Kirklees Council 2019: Kirklees Factsheet 2019 - https://www.kirklees.gov.uk/beta/information-and-data/pdf/kirklees-factsheets.pdf

proportion of people who are overweight has increased in both Huddersfield and Kirklees overall since 2012. Mortality rates from two main causes for people under 75, namely cancer (146 per 100, 000) and cardiovascular disease (CVD) (94 per 100,000) are worse than the England average (138 per 100,000 for cancer and 75 per 100,000 for CVD).

The overarching aim for Huddersfield's health and wellbeing priorities is for all people to have equal opportunity to live healthy happy lives. Kirklees partner organisations therefore want people in Kirklees to live in cohesive communities, feel safe, be safe and protected from harm. They also want people to experience a high quality, clean, sustainable and green environment and for Kirklees to have sustainable economic growth and provide good employment. This would require health to be placed high on the agendas of decision makers and to promote comprehensive local strategies for health promotion and sustainable development.

2.7 **Crosland Moor and Netherton Local Health Profile**[24,25,26]

People in the south of Huddersfield generally have poorer health than those in the north. The north of Huddersfield includes Ashbrow, Greenhead and Lindley wards; the south of Huddersfield includes Almondbury, Crosland Moor and Netherton, Dalton and Newsome wards. South Huddersfield had more adults with long term conditions and higher rates of dying aged under 75 than Kirklees overall[27].

The Blackmoorfoot Road development is situated within Crosland Moor and Netherton ward. A summary of the local community and health profile for the ward is presented in the sections following.

[24] Public Health England. Local Health, Ward Report 2015, Crosland Moor and Netherton. www.localhealth.org
[25] Office of National Statistics (ONS, 2013). Neighbourhood Statistics. www.neighbourhood.statistics.gov.uk
[26] Kirklees Observatory; Area Committees Overview profile: http://observatory.kirklees.gov.uk/profiles/profile?profileId=115&geoTypeId=66&geoIds=KIRK_AC06
[27] 2010 Joint Strategic Needs Assessment for Kirklees; Kirklees Partnership

2.7.1 *Population and families:*

- The population of Crosland Moor and Netherton is around 19318 people, based on 2015 mid-year estimates. 22.9% of the population is aged under 16 (19% for England) and 15.2% are aged 65 years and above (17.5% for England).
- There is a high Black Minority and Ethnic (BME) population of 41.1% in Crosland Moor and Netherton in comparison to 14.6% for Kirklees and 20.9% for England. Similarly, 6.7% of the population cannot speak English well or at all; the corresponding percentages are 1.7 and 2.7 for Kirklees and England respectively.
- While 41.1% of the population are Christians (53.44% for Kirklees and 59.4% for England), 30.1% are Muslims (14.5% and 5.0% respectively for Kirklees and England). There are of course people of other faiths and non.

2.7.2 *Health and care*

- Life expectancy at birth for males in Crosland Moor and Netherton, in the period 2010-14 was 77.8 years (78.4% for Kirklees and 79.3 for England); and for females it was 82.3 years (82.1 for Kirklees and 83.1 for England).
- In 2011, 7.1% of people in Crosland Moor and Netherton said that they have bad or very bad health**.** This is higher in comparison to the figure for Kirklees (5.8%) and England (5.5%).
- Other Health and Care Indicators are as shown in table 2.2 following:

Health and Care Indicators 2011			
Indicators	Crosland Moor and Netherton	Kirklees	England
Limiting long term illness or disability (%)	19.4	17.7	17.6
Adult Lifestyle Indicators 2006-08			
Obese adults (%)	26.5	27	24.1
Binge drinking adults (%)	13.4	20.6	20
Healthy eating adults (%)	25	24.5	28.7

Table 2.2: Health and Social care indicators for Crosland Moor and Netherton

Chapter 3
POLICIES RELEVANT TO BLACKMOORFOOT ROAD DEVELOPMENT HIA

This section summarises the key policy context in relation to Blackmoorfoot Road development and the connection with the health impact assessment.

3.1 **National Policies**

3.1.1 *National Planning Policy Framework (2018)*[28]

Two of the key objectives of the National Planning Policy framework (NPPF) that are relevant to health and wellbeing in particular are stated below:

- Delivering a wide choice of high quality homes, widen opportunities for home ownership and create sustainable, inclusive and mixed communities.
- Promoting healthy communities. Planning policies and decisions, in turn, should aim to achieve places which promote:
    - opportunities for meetings between members of the community who might not otherwise come into contact with each other, including through mixed-use developments, strong neighbourhood centres and active street frontages which bring together those who work, live and play in the vicinity;
    - safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion; and
    - safe and accessible developments, containing clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas.

[28] https://www.gov.uk/guidance/national-planning-policy-framework/8-promoting-healthy-and-safe-communities

3.1.2 *Laying the Foundations: a housing strategy for England (2011)*[29]

This White Paper sets out the Government's vision for housing in England. The following is relevant in relation to this proposed development:

"Housing is crucial for our social mobility, health and wellbeing – with quality and choice having an impact on social mobility and wellbeing from an early age, and our homes accounting for about half of all household wealth. Social housing should provide support for those who need it, when they need it, and should help vulnerable people to live independently. And opportunities for wealth must be open to all, with housing choices helping rather than hindering people's ability to build assets and find employment". (Item 9, The case for change, p. vii)

3.1.3 *The Public Health (Choosing Health) White Paper*[30]

The Public Health White Paper sets out the key principles for supporting the public to make healthier and more informed choices in regard to their health. It emphasized the need to step up action across government and throughout society to tackle the causes of ill-health and reduce inequalities. There is a holistic approach to health with the aim for everyone to achieve greater health and mental wellbeing by making healthier choices. That means ensuring that those people in disadvantaged areas and groups have the opportunity to live healthier lives.

The Public Health White Paper also stresses the imperatives for a multi-agency (partnership) approach to health care delivery that would involve government and non-governmental organisations working together to provide services and tackle the various factors that contribute in determining the health status of individuals and communities.

The Choosing Health White Paper refers to the need to undertake HIA of both local and national policies and projects, such as the Blackmoorfoot Road development, which has the potential for impacting on the built environment, outdoor environment/ activities, and local social and community facilities and

[29] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7532/2033676.pdf
[30] DOH 2004: Public Health White Paper. TSO, London

services. It is, therefore, important that a HIA be carried out on the Blackmoorfoot Road projects to evaluate their potential impacts on the health of the people who will use it or be connected with it directly or more remotely.

3.2 **Regional Policies**

3.2.1 *Leeds City Region Strategic Economic Plan (SEP) 2016-36*[31]

Vision: *To be a globally recognised economy where good growth delivers high levels of prosperity, jobs and quality of life for everyone.*

The Leeds City Region Local Enterprise Partnership (LEP) has an overall aim of transforming the City Region economy by focusing on four key areas: supporting growing businesses, developing a skilled workforce, increasing energy efficiency and improving the region's infrastructure. It works with organisations across the public and private sectors with the goal of stimulating growth that will create jobs and prosperity for everyone who lives, works and does business in the region.

The LEP covers the following Council areas: Barnsley, Bradford, Calderdale, Craven, Harrogate, Kirklees, Leeds City Council, Selby, Wakefield and York City Council. The Leeds City Region economy is reckoned to be the biggest outside London, worth over £62 Billion. It has 3 million residents, a workforce of 1.9 million, 119,000 businesses, 14 Further Education (FE) colleges and 9 Higher education (HE) institutions. The LEP develops strategies and policies aimed at meeting both the current and future needs of the region's economy including the Leeds City Region Strategic Economic Plan (SEP).

The Strategic Economic Plan (SEP) sets out spatial priorities in order to maximise growth potential and ensure prosperity across the whole City Region and for Kirklees. The identified priorities for Kirklees include regenerating Huddersfield and North Kirklees and providing space for businesses to grow.

[31] Leeds City Region Strategic Economic Plan 2016-2036. Leeds City Region Enterprise Partnership. https://www.lepnetwork.net/media/1119/leeds-city-region-sep.pdf

In Huddersfield, key mixed use developments include HD One, the Waterfront Quarter and St George's Quarter, together with strategic employment growth opportunities through the M62 Enterprise Zone sites at Lindley and Mirfield. Across the district, the council has aligned its strategies for the economy and for health and wellbeing, and is seeking inclusive growth that benefits quality of life and reduces inequalities.

The four inter-connected strategic investment priorities of the SEP and some headline initiatives are as follows:

1. **Growing Business**: - The aim is to drive up productivity, growth and employment through an environment that enables businesses to start-up, innovate, trade and invest. This will be achieved through implementing coordinated and wide-ranging actions aimed at increasing innovation with intention to make Leeds City Region a global digital centre. Specialism areas would include data storage, analytics, digital health and technology skills.

2. **Skilled People, Better Jobs** – The aim of this second priority area is to increase skill levels and employability significantly to meet future job demands and enable people from all communities to secure more and better jobs. This will help to close the gap to national average on higher level skills and progressing the City Region's NEET-free ambition (NEET = Not in Education, Employment or Training). There is the plan to deliver a programme of 'more jobs, better jobs', which will widen employment, skills, apprenticeships and progression opportunities.

3. **Clean Energy and Environmental Resilience** – The aim is for the City Region to become a resilient zero carbon energy economy underpinned by high quality green infrastructure. There will be targeted investments and innovation to make the City Region a leading edge centre for zero carbon energy. Additionally, climate change adaptations will be made, with high quality green infrastructure becoming integral to improving the City Region's economy and its spatial priority areas.

4. **Infrastructure for Growth** – The aim is to build a 21st century physical and digital infrastructure that supports the City Region to grow and compete globally; and to do this in a way that enhances places, transforms connectivity, maximises GVA (Gross Value Added) benefits, minimises carbon impacts, and enables all businesses, people and places to have access to opportunities

   An important aspect of the infrastructure for growth is the development of integrated spatial priority areas which will support employment, quality environments and the building of 10,000 – 13,000 new homes per year.

   One key action area under this priority is the establishment of **Housing Growth spatial priority areas** under which the following activities are planned:

   - Accelerate delivery of new homes in spatial priority areas in balanced and sustainable communities
   - Deliver affordable home ownership options and sufficient supply of affordable rented homes
   - Enhance support for SMEs in construction, including promoting an increase in self build, custom build and modular homes delivery
   - Explore models and options to influence the direct delivery of housing
   - Improve the energy performance of housing **to address** fuel poverty and **health impacts**

Furthermore, the Housing Growth spatial priority areas is intended to be a key focal point which will see intensive effort to align plans for housing growth with investment in transport, environmental, skills and employment infrastructure and opportunities.

Key partners towards actualising the SEP include investors, utility providers, industry and small businesses, LEP/Combined Authority, universities, local authorities, community groups, Innovate UK, Local Nature Partnership (and constituent organisations), as well as scheme specific partners.

3.3 **Local policies on regeneration of Huddersfield:**

3.3.1 *Kirklees Local Plan 2013 – 2031*[32]

The Kirklees Local Plan is the statutory development plan for Kirklees and Planning applications must be determined in accordance with the development plan unless material considerations indicate otherwise. Among other things, the Plan will provide a policy framework to facilitate the delivery of the right development types in the right places. It will also provide certainty over the types of applications that are likely to be approved; increase employment opportunities in accordance with the Kirklees Economic Strategy; promote and enhance health and well-being in accordance with the Kirklees Health and Well-being Strategy; and facilitate required infrastructure to support new development. The Plan covers the period 2013 – 2031.

The Local Plan and other Council strategies have a shared commitment to ensure that Kirklees is a district combining great quality of life and a strong and sustainable economy leading to thriving communities, growing businesses, high prosperity and low inequality and where people enjoy better health throughout their lives.

The Plan identifies key issues facing Kirklees which need to be addressed, including what provision should be made for new jobs and homes - Kirklees has a growing population that is set to increase by 47,800 from 428,100 in 2013 to 475,900 in 2031. Over the same period the number of households is expected to increase by 27,300 from 176,300 to 203,600. There is a recognition of the need and demand for new homes in all parts of Kirklees. If identified housing needs are to be met, houses of all sizes are needed together with an increasing number of bungalows and flats/apartments.

The Kirklees Local Plan also seeks to enhance the opportunities that can be provided to improve quality of life, health and well-being to ensure that environmental quality be sustained and improved.

[32] Kirklees Council 2019: Kirklees Local Plan: www.kirklees.gov.uk/beta/planning-policy/local-plan.aspx

In addition to the above ambitions, the National Planning Guidance[33] (which supports the works of Clinical Commissioning groups (CCGs)) outlines three more key measures which CCGs are expected to focus on and make rapid improvements in; these are:

1. Improving Health – focus on disease prevention and a reduction in the number of handoffs in patient care. There is a need to work with partners to achieve this
2. Reducing Inequalities in Health – ensure that the most vulnerable get better care and services. We need to work in an integrated way to achieve this
3. Parity of Esteem – ensure that there remains a focus on mental as well as physical health to ensure that patients with mental health problems do not suffer inequalities. A joined up approach to mental and physical health is required to achieve this as well as supporting resilience in both individuals and communities.

The 5-step framework within the *commissioning for prevention* guidance outlines some preventative interventions which the CCGs and Kirklees Council will concentrate on through their key work programme areas. These are secondary prevention of COPD as well as better management of COPD in primary care, reducing hypertension, better referral and uptake of lifestyle interventions overall, and referral into weight management support to reduce obesity.

3.3.2 *Kirklees Joint Health and Wellbeing Strategy 2014-2020*[34]:

The Health and Social Care Act 2012 established Health and Wellbeing Boards as a key mechanism for improving joint working between the NHS and local authorities, bringing together key commissioners to encourage integrated working and provide local leadership to improve health and wellbeing outcomes for local communities. The vision of the Kirklees Joint Health and Wellbeing Strategic (JHWS) is that by 2020, "*No matter where they live, people in Kirklees*

[33] Everyone Counts: Planning for Patients and the NHS Outcomes Framework 2014/19. NHS; http://www.england.nhs.uk/wp-content/uploads/2013/12/5yr-strat-plann-guid-wa.pdf

[34] Kirklees Joint Health and Wellbeing Strategy (2014-2020) – Kirklees Council; https://www.kirklees.gov.uk/beta/delivering-services/pdf/health-strategy.pdf

live their lives confidently, in better health for longer and experience less inequality."

As a prologue the Strategy acknowledges that healthy people enjoying a great quality of life; and a strong and growing economy are two things which will be pivotal to making Kirklees a better place in the future. The visions of both the Greater Huddersfield and North Kirklees Clinical Commissioning Groups (CCGs) are aligned to the JHWS. In further drawing the intricate relationship between economy and health, the Kirklees JHWS notes that a successful economy that offers good jobs and incomes makes a huge contribution to prosperity, health and wellbeing; likewise, healthy and confident people are more productive in the workplace.

At the heart of both the Joint Health and wellbeing and Economic strategies is a commitment to achieve a shared aim. The shared aim is for Kirklees to be a District combining great quality of life and a strong and sustainable economy – leading to thriving communities, growing businesses, high prosperity and low inequality, and where people enjoy better health throughout their lives.

For the population of Kirklees the JHWS outlines the following characteristic features of the state of its people in the near future;

1. People in Kirklees are as well as possible for as long as possible, both physically and psychologically;
2. Local people can control and manage life challenges;
3. People have a safe, warm, affordable home in a decent physical environment within a supportive community; and
4. People take up opportunities that have a positive impact on their health and wellbeing, which includes people experiencing integrated health and social care appropriate to their needs.

In order to achieve shared outcomes on economy, health and wellbeing, the JHWS point to economic development being able to support health and wellbeing, and vice versa, through the following, among others:

- Open spaces and green infrastructure that encourage physical activity and support positive emotional wellbeing.
- Good quality housing and high standards of energy efficiency which supports affordable warmth, good health and reduce living costs
- Access to suitable, good quality homes and neighbourhoods providing a secure place for families to thrive and promote good health, wellbeing and independent living.
- Development that creates and respects attractive places, thriving communities and supports health and wellbeing
- Resilient people powering business success
- Improved perceptions of places and communities helping to support enterprise and investment.

The JHWS recognises the need for health and development partners to minimise unintended consequences of changes in service provision; and to identify the potential impacts of any changes, e.g. on other services, increasing inequality. Accordingly, carrying out health impact assessments is one important way to foster the aims and objectives of the Kirklees Joint Health and Wellbeing Strategy.

3.4 **Health Inequalities**

Health Inequality can be defined as “differences in health status or in the distribution of health determinants between different population groups”[35]. An example of health inequality is the differences in mortality rates between people from different social classes[36]. Consequently, tackling health inequalities requires deliberate and concerted efforts from all those within the political, health and socio-economic spheres of society.

13.6% of the population of Huddersfield are in the top-10% most multiply deprived neighbourhood; the proportions for Kirklees and England as a whole are 9.0% and 10.0% respectively. Similarly, 6.3% of the population are in the

[35] Taylor L, Gowman, and Quigley (2003): Addressing inequalities through health impact assessment. Health Development Agency, London
[36] Wilkinson R (1996): Unhealthy Societies: the Affliction of Inequality. Routledge, London

top-10% most health deprived neighbourhood in 2015 (5.6% and 9.8% respectively for Kirklees and England).

Index of Multiple Deprivation (IMD) 2015 score for Crosland Moor and Netherton is 32.7% as against 24% for Kirklees and 21.8% for England. Other indices of deprivation are also higher for Crosland Moor and Netherton than for Kirklees and England as shown below:

Index of deprivation 2015			
	Crosland Moor and Netherton	Kirklees	England
Income deprivation (%)	22.3	15.6	14.6
Child poverty (%)	25.6	19.2	19.9
Older people in deprivation (%)	21	17	16.2

Table 3.1: Indices of Deprivation for Crosland Moor and Netherton

The report by Lord Acheson in 1998[37] attached great importance to addressing the underlying determinants of health, and saw HIA as key to achieving this. The report emphasised the need to evaluate and implement policies and programmes in such a way that they can reduce, rather than worsen health inequalities. The report specifically recommends that policies "*should be formulated in such a way that by favouring the less well off they will, wherever possible, reduce such (health) inequalities"*.

In the same vein, the Strategic Review of Health Inequalities in England post-2010 (The Marmot Review)[38] proposes a more encompassing strategy for reducing health inequalities from 2010, based on policies and interventions that address the social determinants of health inequalities. The Review argues that previous attempts to reduce health inequalities have not been successful

[37] Acheson D (1998): Independent Inquiry Into Inequalities in Health: Report. TSO, London
[38] Marmot et al (2010): Fair Society, Healthy Lives: The Marmot Review. http://www.marmotreview.org/AssetLibrary/pdfs/Reports/FairSocietyHealthyLivesExecSummary.pdf

because there has been a focus on mortality and morbidity to the exclusion of the wider determinants of health.

3.5 **Policy Analysis**

Overall, the proposed Blackmoorfoot Road development in Crosland Moor is strongly aligned with national, regional and local policies in relation to improving local health status, and tackling the wider socio-economic and environmental determinants of population health.

The Blackmoorfoot Road development will form an important part of the wider regeneration and development agenda to the benefit of Crosland Moor; as well as improving the health and general well-being of the residents of the wider Huddersfield area. It demonstrates the credentials to contribute meaningfully to the quest for a more sustainable, inclusive and cohesive Huddersfield where everyone is proud to belong.

Chapter 4

HEALTH IMPACTS OF THE BLACKMOORFOOT ROAD DEVELOPMENT

4.1 **Introduction**

This chapter provides a summary of the key evidence on the health impacts of the Blackmoorfoot Road development. Health impacts are the direct or more remote consequences that interventions, development policies, programmes, and other human activities can have on the health of other individuals or population groups[39]. While these impacts can affect the health of individuals in very direct (immediate) and clearly comprehensible manners, in other instances the health impacts can touch on populations through indirect influences on the wider determinants of health[40].

Furthermore, such impacts may be felt immediately, in the short term, or after a longer period. Since health impacts can be either positive or harmful, it is important that a balanced approach is adopted, so that likely positive and negative health consequences of development activities are properly identified and captured through the HIA process[41].

There are several research reports and evidence bases on housing and urban regeneration schemes and their possible health effects[42,43]. While some of the general findings can apply to some aspects of the Blackmoorfoot Road development, this HIA has been able to relate these and other more specific findings to Crosland Moor and Huddersfield development area.

This health impact assessment focused on the likely positive and negative health impacts of the Blackmoorfoot Road development on the health of the

[39] Scott-Samuel et al (2001): Merseyside Guidelines for health impact assessment. IMPACT, Liverpool
[40] Dahlgren G and Whitehead M (1991): Policies and Strategies to Promote Social Equity in Health. Stockholm, Institute for Future Studies
[41] IMPACT 2004: Introduction to health impact assessment. University of Liverpool
[42] CIEH 2008: Good Housing Leads To Good Health – A toolkit for environmental health practitioners. Chartered Institute of Environmental Health
[43] Health, place and nature – How outdoor environments influence health and well-being: a knowledge base. Sustainable Development Commission.

people who will be occupants of the new homes and extra care apartments, workers during the construction phase of the projects, visitors to the development, as well as local residents in the areas surrounding the development within Crosland Moor where the development is situated.

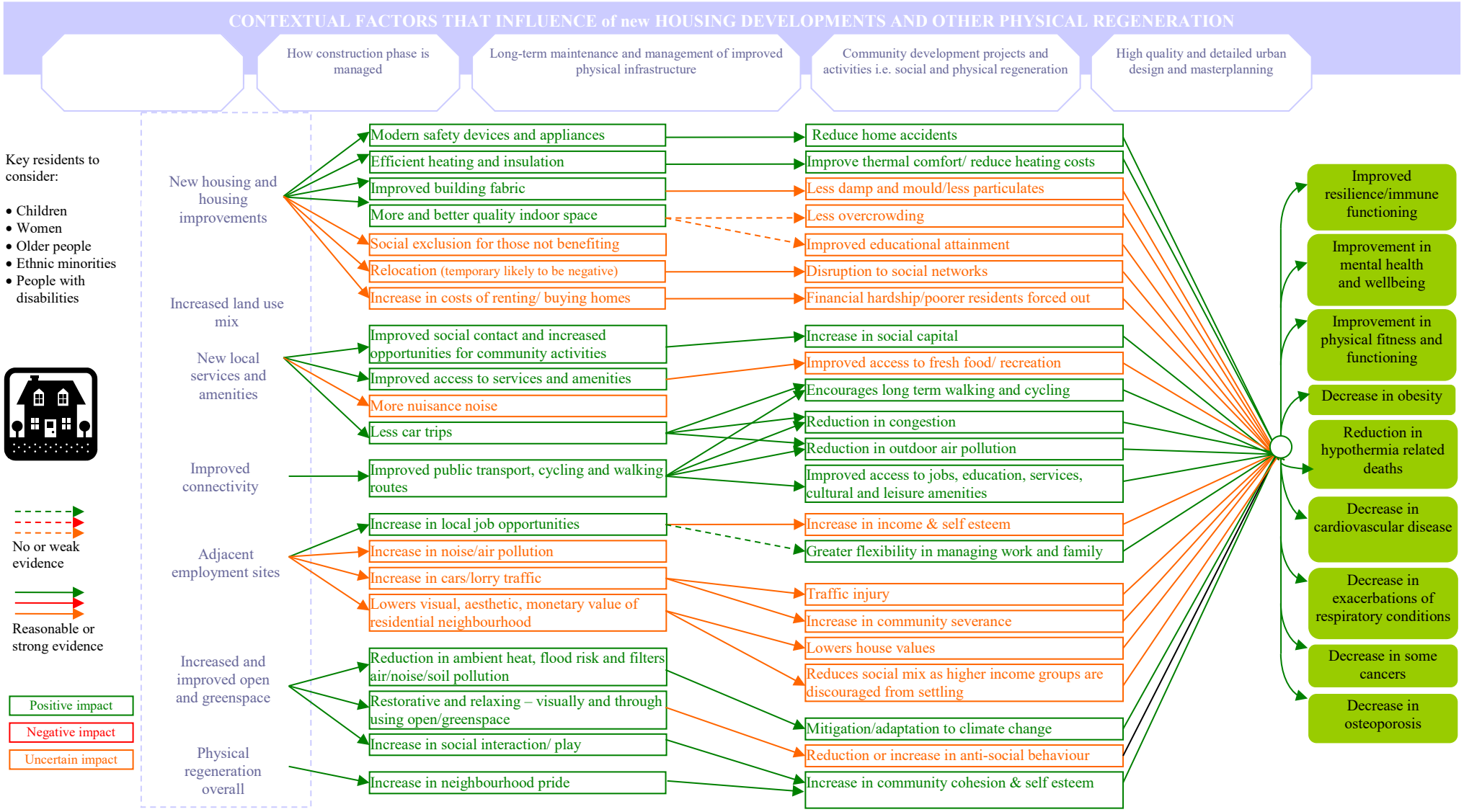
The general health impacts of the Blackmoorfoot Road development are through:

- Access to services and amenities (including games area, convenience retail store and public open spaces)
- New family homes
- Connectivity between the development site and surrounding area, including cycle and footways
- Risk of Injury & nuisance effect (during construction)
- Community partnerships & social capital

Figure 4.1 is an illustration of the possible pathways by which housing developments and other regeneration projects can impact on health and wellbeing.[44]

[44] Vohra S (2014). Health Impact Assessment of Delph Lane North Residential Development. Public Health By Design (PHD), London

Figure 4.1 Causal pathway diagram for the potential health impacts of new housing developments and other physical regeneration (Vohra, 2014)



4.2 **Positive Health Impacts**

4.2.1 *Good housing leads to good health*

Overwhelmingly, the evidence points to the fact that good housing leads to good health.[45] For example, dampness in older housing stock often encourages the growth of mites and moulds which can act as allergens and immuno-suppressors that in turn lead to sneezing, coughing and exacerbation of asthma. People living in damp homes have been known to suffer from persistent respiratory symptoms such as sneezing, runny nose, and coughing which diminish general health and wellbeing.[46] Improvements in physical housing conditions particularly in relation to central heating systems and improved insulation usually improve thermal comfort and reduce heating bills.[47] There is a well-established link between improved housing design and a reduction in home accidents through better location of appliances and the installation of safety devices such as smoke alarms and child safe windows.[48]

These positive health impacts will be experienced by the people who will be occupants of the new build 700 homes and 70 extra care apartments. The extent of the impacts will be moderate to significant (depending on the state of health of individual occupants).

4.2.2 *Outdoor environment, access to quality green space*

Evidence points to the fact that exposure to natural spaces such as parks, gardens, green spaces and open countryside has positive health benefits. The pathways for bringing about these benefits include psychological effects and encouragement of physical activities (walking, cycling) and building social capital[49].

[45] CIEH (2008). Good Housing Leads to Good Health. Chartered Institute of Environmental Health.
[46] Page, A (2002). Journal of Environmental Health Research Volume 1, Issue 1; Poor housing and mental health in the United Kingdom: Changing the focus for Intervention
[47] Thomson H, Petticrew M, Morrison D. (2002). Housing Improvement and Health Gain: A summary and systematic review. MRC Social and Public Health Unit. January
[48] Thomson, Petticrew and Morrison (2002).
[49] Health, place and nature – How outdoor environments influence health and well-being: a knowledge base. Sustainable Development Commission.

Research from across Europe has found that people living in areas with high levels of green belts and walk-friendly greenery are more likely to be physically active and 40% less likely to be overweight or obese than those living in areas with low level of greenery. Furthermore, the location of shops and services, along with travel connections to them, can influence levels of physical activity and social contact[50], which in turn can affect the health of people. In this regard, the proposed development of approximately 7.8 Ha of public open space alongside formal and informal greenspaces across the Blackmoorfoot Road development will provide quality outdoor environment with potential for moderate positive health impacts.

Some of the possible ways in which the physical environment of the development can positively impact on the health of the people of Huddersfield, especially the residents, workers and users of the facilities include the under listed:

a) A cleaner and more welcoming environment and facilities such as the ones within the new development are less likely to serve as breeding ground for germs and disease vectors. The aesthetic beauty and qualities of the buildings (and built environment) can also result in positive mental health impacts.
b) The development is part of the regeneration of the Crosland Moor; the new and modern homes and other associated facilities will contribute to higher sense of civic and community pride among the residents within the immediate neighbourhoods, and the people of Huddersfield in general. Such feeling of pride and satisfaction are known to have positive mental health impacts[51].
c) Facilitating more sustainable and active transport through walking and cycling, via the pedestrian access to the areas surrounding the development. The landscape plan for the Blackmoorfoot Road development

[50] Department of Health 2004. Choosing Health: Making healthy choices easier. London, TSO
[51] Pretty J, Peacock J et al 2007. Green exercise in the UK Countryside: Effects on Health and Physiological Well-being, and Implications for Policy and Planning. *Journal of Environmental Planning and Management*, **50** (2), 211-231

shows areas of retained open spaces and different areas of green infrastructure.

Overall the positive impacts that would arise from the modern physical structures and environment of the Blackmoorfoot Road development are likely to be major in magnitude, especially when considered over the long term span of the project.

With obesity and chronic illnesses being major problems in the UK and Huddersfield[52], every effort must be made to create an environment that encourages people to be physically active. Obesity is associated with cardiovascular disease, diabetes, osteoporosis, certain cancers and premature death[53]. The prevalence of obesity has increased three-fold over the last two decades with the UK having the highest level of obesity in the EU[54].

4.2.2.1 *Positive mental wellbeing impacts*

Evidence increasingly suggests that people with access to quality green space are healthier and have improved mental well-being; being outside can relieve stress, enhance social cohesion, overcome isolation and alleviate physical problems so that fewer days are lost to ill health. It has been shown that even moderate physical activity can help against cognitive decline. Consequently, quality green space should be a goal encompassed in local, regional and national planning processes[55].

In view of the foregoing, it can be projected that the quality green spaces & outdoor environment encompassing the Blackmoorfoot Road development have the potential of having moderate to major positive mental health impact on residents, visitors and users of the facilities located within it. This supports

[52] 2010 Joint Strategic Needs Assessment for Kirklees; Kirklees Partnership
[53] Foresight 2007. Tackling Obesities: Future Choices Project – Obsogenic Environments Evidence Review. London, Department of Innovation, Universities and Skills.
[54] Department of Health 2007. Health Profile for England 2007
[55] CABE 2000. Future health: sustainable places for health and well-being. Commission for Architecture and the Built Environment (CABE).

the joined up approach to create parity of esteem between mental and physical health of residents as proposed in the NHS National Planning Guidance[56].

4.2.3 *Economic empowerment and health*

The creation of job opportunities over time for people who will work during the constructions phase and within the facilities when they become operational, along with the attendant economic empowerment, has the potential for positive health impacts on those offered employment as well as their families. This is essentially because poverty has been shown to have major negative influences on health[57]. There will also be much opportunities for contractors and suppliers of products and services to the facilities which would contribute to boosting the wider economy of Huddersfield and further afield.

When people are economically poor or less well-off they are unable to afford many of the necessities of life and wellbeing such as good housing, healthy food options, leisure and recreation as well as other health products. The creation of employment and economic opportunities and the resultant economic empowerment is envisaged to be able to have moderate positive health impacts. Furthermore, when people are in employment their self-esteem, aspiration and motivation are raised with positive mental health impacts.

Employment also brings people out of social exclusion and isolation, while also distracting from engagement in criminal & anti-social behaviours; all of these can have positive physical and mental health impacts. Such impacts are likely to be enhanced over the mid- to long term operations of the Blackmoorfoot Road development; and the magnitude of the impacts arising from employment generation will be closely related to the number of people employed and the types of jobs they are employed to do.

[56] Everyone Counts: Planning for Patients and the NHS Outcomes Framework 2014/19. NHS; http://www.england.nhs.uk/wp-content/uploads/2013/12/5yr-strat-plann-guid-wa.pdf

[57] Marmot, M.2004 The Status Syndrome: How Social Standing Affects Our Health and Longevity. London Bloomsbury

4.2.4 *Social transformation and health*

The Blackmoorfoot Road development will contribute to the overall regeneration and transformation of the immediate neighbourhoods and Huddersfield as a whole. This will lead to raised community pride and aspiration, enhanced social capital and positive mental/ psychological health impacts.

4.2.5 *The Games and Natural Play Area*

The planned inclusion of multi-use games and play area, and also community parks within the Blackmoorfoot Road development will provide recreational, leisure and physical exercise opportunities, all of which can have positive physical and mental health impacts on users. Nearness of the development to the Golf course (on adjacent side of Felks Stile Road) will also provide additional sports and recreational opportunities, especially for golfers. Increased physical activities is widely accepted as good for health and wellbeing, especially in controlling body weight and the fight against non-communicable diseases such as stroke, cancer and chronic obstructive pulmonary disease (COPD) which are among the biggest killers in Huddersfield and globally[58]. The level of usage and health benefits to be derived from the sports facilities will depend on whether or not people meet any stipulated criteria for participation and whether or not people have to pay to use the facilities.

4.2.6 *Impact of leisure and recreational facilities*

Leisure and recreation afford opportunities for rest, refreshment, learning, and entertainment; all of which can have moderate to major positive impact on physical and mental health and wellbeing[59]. There are a number of leisure and recreational facilities and spaces within the Blackmoorfoot Road development such as the sports and games areas, open spaces, retained local pub, and the proposed local store.

[58] 2010 Joint Strategic Needs Assessment for Kirklees; Kirklees Partnership
[59] Health, place and nature – How outdoor environments influence health and well-being: a knowledge base. Sustainable Development Commission.

4.2.7 *Building social capital and health*

Social capital has been defined as *"the rules, norms, obligations, reciprocity and trust embedded in social relations, social structures and society's institutional arrangements which enable members to achieve their individual and community objectives*[60]*.* It accrues from constructive human social relations and has been identified to be an essential strand in sustainable health and general development,[61] with positive health impacts.

Bringing together the occupants of the new homes (approx. 1817) and the existing residents within the area of the development will enhance social relations and community life. For example, the planned leisure and community facilities, these all have the potential for mild to moderate positive health impacts through building community life and social capital.

Additionally, the games and play area have the potential to enhance community cohesion and partnerships, which have also been shown to have positive health impacts[62]. Such strengthening of community partnerships will also contribute to the achievement of the goals enunciated in the Kirklees Joint Health and Wellbeing Strategy 2014-2020[63] which is to improve the health and wellbeing of the residents and to reduce health inequalities by creating enabling economic, physical and social environment which promotes and supports healthy lifestyles.

4.2.8 *Small and Medium Enterprises (SMEs) and Health*

Being a fairly large scale residential development that will bring about an increase in number of residents, the proposal is projected to enhance patronage of small scale enterprises (SMEs) within the vicinity of development (retail outlets, professional services shops, restaurants, cafes, bars etc) as well as direct and indirect suppliers to other organisations involved with the

[60] Narayan (1997) *Voices of the Poor: Poverty and Social Capital in Tanzania*, World Bank, Washington D.C., USA.
[61] Swan C and Morgan A (2002): Social capital for Health. Insight from qualitative research. Health Development Agency
[62] Swan and Morgan (2002): Social capital for health. Health Development Agency
[63] Kirklees Joint Health and Wellbeing Strategy (2014-2020) – Kirklees Council; https://www.kirklees.gov.uk/beta/delivering-services/pdf/health-strategy.pdf

development. This could also lead to increase in the number of the enterprises. Such SMEs would create further employment and provide essential services to different population groups within and further away from the development.

4.2.9 *Sustainable Development at Blackmoorfoot Road development*

Sustainable development is considered to be an approach to development which "*maintains a strong, healthy and just society, whilst respecting environmental limits, through using sound science responsibly, promoting good governance and achieving a sustainable economy*"[64]. Concern for human health and wellbeing is at the centre of sustainable development. Principle One of the Rio Declaration states that "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature"[65]. Some of the specific activities within this approach include reduction in carbon dioxide (CO_2) emission, energy conservation, recourse to more renewable energy sources, and optimisation (rather than waste) of resources. Sustainable approaches to development endeavours have financial, health and corporate social responsibility (CSR) benefits to organisations and individuals.

It has been indicated that high level sustainability approaches will be incorporated into the design, construction and implementation of the Blackmoorfoot Road buildings in order to make the huge development area a *green community*. It is noteworthy that the project developers have indicated that the scheme will be delivered to the most up to date Building Regulation Standards[66]. The building elements that will be promoted at Blackmoorfoot Road will include, among many others, the use of passive design techniques to control solar gain; use of LED/ Low Energy Light Fittings; and incorporation of sustainable drainage systems, to name but a few

[64] Health, place and nature – How outdoor environments influence health and well-being: a knowledge base. Sustainable Development Commission.
[65] World Summit on Sustainable Development (WSSD), Johannesburg, SA, Aug 26-Sep 4, 2002; WHO. http://www.who.int/wssd/en/ (accessed 9/3/11)
[66] South Heywood Sustainable Urban Extension Report. Russell Homes and IBI Group, August 2017

4.3 **Negative Health Impacts**

4.3.1 *Construction related injuries during construction phase*

The construction phase includes the demolition of existing structures on site; building and installation of the new vehicular access points, houses, and the playing pitches, landscape areas and any other associated works. During the extensive building and construction activities for different projects within the Blackmoorfoot Road development, there is the risk of construction related injuries to construction personnel and pedestrians through the affected areas. Similarly, disruptions, dust & noise pollution may occur.

The various projects within the development will be phased over a period of approximately 10-15 years, with some areas being started, completed and utilised before others can commence, in an interlinked process.

In terms of physical injury outcomes, there is the potential for incidents to occur in and around the proposed development project sites if the site and related traffic are not satisfactorily managed. The presence of construction structures such as scaffoldings, the possibility of load slippage from cranes, lorries and other construction machinery, in addition to increased vehicular traffic is likely to pose an increased risk of physical injury. For residents living along the indicative route for construction traffic outside the development site and those living on the development while construction is on-going this could have a minor to moderate negative health impact.

However, the risks and possible health impacts would be significantly minimised if construction guidelines are adhered to. As an example, construction companies can be accredited with the Considerate Contractors Scheme. Construction sites, companies and suppliers voluntarily register with the Scheme and agree to abide by the Code of Considerate Practice, designed to encourage best practice beyond statutory requirements. This include protecting the environment, respecting the community, securing the safety of people on and off-site, and valuing the workforce. A Construction Management Plan has to be prepared for each development parcel to ensure dust and noise are minimised through mitigation.

4.3.2 *Uncertainty and possible job losses*

At the time of this report, it is still unknown the new location for siting the Black Cat industrial firework storage and distribution compound. The facility employs about 25 regular staff and up to 100 casual workers during its peak activity periods[67]. Depending on where the new site would be, there may be some staff who will not be able to continue working for the company due primarily to the relocation. Such staff may experience some negative financial, and psychological health impacts; the extent of which would depend on how long it takes them to get alternative employment.

The relocation of the fireworks distribution and possible job losses was one of the issues of concern to a number of local residents. It would be the case, however, that other people in the new location of the fireworks will take up any vacant positions that may arise from the relocation. Such people will therefore benefit from the positive impacts due to employment.

4.3.3 *Adjustment distress for local residents and Fireworks employees*

There is the likelihood for adjustment distress for the local residents who live close to the new homes within the Blackmoorfoot Road development. Some of the local residents who attended the consultation event for the new development reckoned that while diversity and integration are desirable aspects of community living, they pointed out that sometimes diversity can make community cohesion more difficult. Due to the planned increase in the population of new residents from the new development, there could also be tensions between the new comers and already existing residents within the surrounding neighbourhoods. This could be exacerbated due to existing conditions of deprivation. These can result in mild negative health impacts upon affected residents especially in the area of mental health.

Similarly, the workers of the Black Cat Fireworks are likely to experience some adjustment distress when they get to a new location, especially if it is far removed and much different from the situation of Crosland Moor.

[67] Personal communication with an official of Black cat fireworks

While these concerns may be founded, it is to be noted that any such tensions are likely to be minimal and can be properly managed through effective community relations management. Staff relocation awareness and settlement programmes will be helpful for employees of the Fireworks company.

4.3.4 *Traffic related impacts*

The Blackmoorfoot Road development would result in a significant increase in vehicular traffic using the highway network around the site and is therefore likely to lead to cumulative impacts on the highway network. There will be increases in HGV traffic during the construction phase of the development; in view of the scale of this proposal, this is likely to take several years. In an incremental way, there would also be an increase in car traffic as the development progresses and residential properties are occupied. Impacts associated with traffic movements will vary during the construction phase and once the development is completed. During the construction phase there will be an increase in HGV activity in the area which has the potential to cause problems with noise and the congestion of local highway networks, all of which can have nuisance and annoyance effects and mild to moderate negative psychological health impacts. However, disruption due to construction is only temporary, limited to the site and is of short -medium term duration.

With regard to traffic movements associated with the development once occupied, it is considered that this will inevitably have an impact on the local highway network. However, this would be offset to some extent due to existing pedestrian connectivity and opportunities to use non-car methods of transport. The site is relatively close to existing shopping facilities and schools and there are several bus services providing quick transport links to Huddersfield which is approximately 3km to the north.

4.3.4.1 *The Risk of Accidents*

Any accidents associated with the Blackmoorfoot Road proposal are likely to occur on site during the construction phase of the development. However, for health and safety purposes, the site would be secure and it is unlikely that members of the general public would be directly affected by any such accidents. It is therefore considered that no significant additional risk of accidents affecting the local population would result.

4.3.5 *Health impacts* of *air pollution*

There is also the likelihood of air pollution as a result of increased traffic and resultant congestion once the residential properties have been occupied.

There is a substantial body of evidence on the adverse health effects of air pollution from motor vehicles, including cardiorespiratory disease, reductions in lung function and exacerbation of existing respiratory illness such as asthma.[68,69] Congestion and low average vehicle speeds generally increases the emission of air pollutants; hence initiatives that reduce congestion and increase average vehicle speeds can reduce local air pollution levels.[70] Other contextual factors such as urban/traffic density, climatic factors, and proximity to the road when walking, are important factors in exposure.

Residents and other stakeholders cited congestion as a key concern that needs to be managed wherever possible. Traffic congestion results in delays in commuters reaching their destinations which can cause annoyance and anxiety with mild to moderate negative psychological health impact; the impact is often directly related to the extent of the delay experienced by commuters.

[68] Douglas M, Thomson H, Jepson R, Hurley F, Higgins M, Muirie J, Gorman D (eds) *Health Impact Assessment of Transport Initiatives: A Guide*, NHS Scotland Edinburgh 2007
[69] World Health Organization. 2005. Health effects of transport related air pollution.
[70] Institute of Public Health in Ireland. 2005. Health impacts of transport: a review.

4.3.6 *Health impacts of Contaminated Land*

The Blackmoorfoot Road development site has been used for over 100 years for the manufacture and storage of fireworks and it is therefore likely that the site is contaminated. The developer has provided the results of a contaminated land report which confirms varying degrees of contamination across the site involving elevated levels of heavy metals, polycyclic aromatic hydrocarbons (PAH), asbestos, naphthalene and total petroleum hydrocarbons (TPH C16 - C21). In this case, it is likely that the degree of contamination across the site will be greater than average due to the site's previous history and robust measures to deal with this contamination would need to be developed to ensure its impacts are minimised and the health of the demolition/construction workers, nearby residents and the occupiers of the development is not put at risk.

Exposure to most heavy metals is mainly through intake of food and drinking water. Long-term exposure to heavy metals such as cadmium and arsenic is mainly related to increased risks of skin cancer and other skin lesions such as hyperkeratosis. Occupational exposure to arsenic and asbestos, primarily by inhalation, is causally associated with lung cancer[71].

Interestingly, previously contaminated sites can be satisfactorily remediated prior to being developed under the requirements of a planning permission.

4.4 **Conclusions on Health Impacts**

The Blackmoorfoot Road development has the potential to bring about several positive health impacts on the people who would be directly and remotely connected with it. The proposal to have several new homes, extra care apartments, sustainable green infrastructure and other amenities is a significant positive step in the regeneration of the immediate neighbourhood and Huddersfield in general.

[71] Jarup L (2003): Hazards of heavy metal contamination. *British Medical Bulletin*, Volume 68, Issue 1, Pages 167–182,https://doi.org/10.1093/bmb/ldg032

Overall the Blackmoorfoot Road development will have major and significant positive and beneficial health impacts on residents, construction workers, visitors and other users of the facilities and services.

However, there are a few contextual factors that are likely to influence the derivation of maximal positive health impacts, some of which have been identified to be able to have negative health impacts on the people living in and using the facilities within the Blackmoorfoot Road development. It will be important to ensure on-going maintenance of facilities, lighting and open and green spaces, to ensure that the positive benefits of the proposed development carry on into the long term.

Chapter 5
RECOMMENDATIONS, MONITORING AND EVALUATION

5.1 **Measures to optimise potential Health Impacts**

The following are recommendations that would be helpful towards enhancing some of the identified positive health impacts and also mitigating some of the negative impacts:

5.1.1 *Detailed design and planning aspects*

Given that moderate to major positive health impacts are envisaged to arise from the new and functional physical infrastructure to be provided by the Blackmoorfoot Road development, it would be good to ensure that the houses meet all or most of the Commission for Architecture and the Built Environment (CABE) Building for Life criteria[72] as much as possible. The buildings on the proposed development should be designed to reduce energy consumption through a good quality external envelope and efficient building services.

5.1.2 In order to derive maximal projected benefits from the green spaces and outdoor environment, efforts should be made to manage and monitor these spaces to ensure that they do not become sites for litter or anti-social behaviour. If the green spaces are not properly managed, they can discourage usage and the projected benefits will not be achieved.

5.1.3 In order to ensure that the socio-economic benefits envisaged from employment generation at the Blackmoorfoot Road development impacts on the immediate neighbourhoods and Huddersfield in general, it is suggested that wherever feasible, workers, service providers and suppliers of work materials should be sourced locally. It would be helpful to ensure recruitment for the construction jobs and other positions starts locally through the local job centres

[72] Design Council (2015): http://www.designcouncil.org.uk/resources/guide/building-life-12-third-edition

before being advertised more widely; and as much as possible, there should be local procurement of building materials and equipment.

5.1.4 It is recommended that several bicycle parking bays should be provided within the Blackmoorfoot Road estate. This will help to maximise the envisaged health and wellbeing benefits of increased cycling and physical exercise, to be derived from the use of the cycle paths linked to the development.

5.1.5 Robust Health and Safety procedures and guidelines should be put in place and adhered to during construction works (Considerate Construction approaches) to minimise the risks of harm and injury to workers and visitors to the site during the construction phase. Adherence to Health and Safety guidelines are also crucial in emergency situations for the evacuation on people with disabilities.

5.1.6 In order to maximise the benefits of the sustainability approaches in the development of the Blackmoorfoot Road project, efforts should be made to maintain high environmental performance within the estate. Undertakings such as proper waste management, recycling, energy efficiency approaches etc should be encouraged among the various organisations that will be involved in providing services for the project. This would have economic, environmental and corporate social responsibility (CSR) benefits for the organisations and ultimately individuals.

5.1.7 In order to enhance integration and quicker settling in for new in coming residents in the Blackmoorfoot Road estate, it would be helpful to create awareness about the value of such integration through special publicity and community engagement activities. Neighbourhood Managers and community representatives (e.g. from residents' associations) would be among key players in this direction.

Close partnership working between the Blackmoorfoot Road facility managers, Kiirklees Council and Greater Huddersfield Clinical Commissioning Group, is likely to be key to enhancing the benefits of the development both for the new

residents moving into the proposed development and the existing local residents and workers in the area.

5.1.8 Transportation and access to and from the Blackmoorfoot Road development would need to be enhanced through a variety of measures. It may be helpful, where feasible, to redirect existing main bus routes in such a way that would enhance access to the development through public transport. This too was of concern to a number of local residents.

With regard to impacts on the Highway network, whilst there is likely to be an impact at certain junctions, these could be minimised through the introduction of appropriate mitigation measures and traffic management systems such as junction improvement schemes and Air Quality Management Areas (AQMA). These will help to control both traffic congestion and air pollution. Generally, over the medium to long term, levels of air pollution are declining as tighter regulations on vehicle and other emissions are put in place locally and nationally.

5.1.9 Robust measures to deal with site contamination would need to be developed to ensure its impacts are minimised and the health of the demolition/construction workers, nearby residents and the occupiers of the development is not put at risk.

5.2 **Monitoring and Evaluation of potential Health Impacts**

This section identifies some useful indicators that could be used to monitor and evaluate the health impacts of the Blackmoorfoot Road development project. Both direct and indirect indicators are considered, along with suggestions about agencies that can take the lead in this process.

Monitoring and Evaluation

S/No	Indicator	Data to be collected	Remarks*	Lead Agency
1	Building design	State of functionality of facilities and appliances within rooms and estate in general. Maintenance and service logs.	Positive health benefits are projected to be directly linked to the good state of the BMRD buildings.	BMRD facility management.
2	Employment and Socio-economic improvement	- Number of Crosland Moor and Huddersfield residents employed in BMRD (and job types) - Number of volunteers and apprentices	Socio-economic improvement is one important determinant of health envisaged to be positively affected by BMRD	BMRD, Kirklees Council (KC), Neighbourhood Managers
4	Cancers (all types)	Trends in cancers and related hospital treatment and admissions	Cancers are a major cause of mortality in Huddersfield and the wards surrounding Blackmoorfoot Road development	NHS Huddersfield (GHCCG), KC
5	Levels of respiratory diseases and coronary heart disease (CHD)	- Trends in respiratory diseases and related hospital treatment and admissions. - Trends in CHD and mortality rates	Respiratory diseases are linked with the high prevalence of obesity in Huddersfield and nationally. CHD are a major cause of mortality in Huddersfield; CHD also linked with the high prevalence of obesity in Huddersfield	GHCCG, KC
6	Mental health status	Number of residents from Crosland Moor/ Huddersfield who are in and out on mental health clinics	The outdoor, built environment and Green Infrastructure in Blackmoorfoot Road development are envisaged to have positive mental health impacts	GHCCG, KC
7	Use of cycle bays	Number of bicycles parked at cycle bays (capacity utilisation)	Helpful in gauging the level of cycling and physical activity among residents of BMRD	BMRD Facility managers
8	Community cohesion	Trends in usage of games and communal areas, especially by local residents and other disadvantaged groups	The games pitches and communal areas can assist in promoting cohesion and social inclusion	BMRD Facility managers

9	Ease of transport to Blackmoorfoot Road development	Number and frequency of buses into the bus stops immediately closest to BMRD	Access to BMRD by public transport will obviate problems that can have some negative health impacts	Transport operators
10	Air quality and pollution	Air Quality measurements of pollutants and particulate matter	Incremental increase in vehicular traffic is expected as the new dwellings are occupied; with resultant congestion and air pollution. These can have negative health impacts if not properly managed.	KC Environmental Heath/ AQMA department
11	Health and safety concerns	Number of incidents/ accidents during construction phase; and outcomes	Risks of accidents associated with construction phase was seen to be able to have negative health impacts	BMRD, Police
12	Environmental Sustainability	Rates of recycling, energy efficiency & performance of buildings and other sustainability indices	It is helpful to keep up Blackmoorfoot Road development as a green community with sustainable development practices.	BMRD facility Managers
13	Complaints by local residents and surrounding businesses regarding nuisance/ annoyance and perceived disturbances from residents of BMRD	-Number, frequency and issues being complained about (e.g. traffic, noise) -Number of satisfactorily resolved complaints	To monitor any negative impacts on local residents within the vicinity of the facility, on account of activities by BMRD residents within and outside the estate (to gauge any areas of tension between residents)	KC Environmental and Neighbourhood services

Appendix 1: Health Impact Assessment (HIA) Matrices

BLACKMOORFOOT ROAD HIA IMPACT MATRIX (1)

Population groups: Workers, visitors, local residents, any vulnerable groups? etc…

Intervention / Priority area of focus	**Determinants of health**	**Possible effects on determinant**	**Likely health impact (+ve/-ve)**	**Population groups affected**	**Period of effect (Short-, Mid-, or Long-term)**	**Occurrence (Certain/ Probable)**	**Suggestions for improvement**
PHYSICAL STRUCTURE, FACILITY LOCATION, PROPOSED SERVICES 630 new homes - 70 care units - 2 vehicular access points - 7.8 Ha public open space and land - Associated engineering, access, drainage and ancillary works	***Social & Economic*** Poverty, employment, social exclusion, benefits, community networks, crime						
	Lifestyle &Behaviours Diet, physical activity, smoking, alcohol, drugs, sexual behaviours, coping skills						
	Access to services Education, health services, transport, Leisure						
	Environment Air, water, housing, pollution, noise, risk of injury, disease vectors						

BLACKMOORFOOT ROAD HIA IMPACT MATRIX (2)

Population groups: Workers, visitors, local residents, any vulnerable groups? etc…

Intervention / Priority area of focus	**Determinants of health**	**Possible effects on determinant**	**Likely health impact (+ve/-ve)**	**Population groups affected**	**Period of effect (Short-, Mid-, or Long-term)**	**Occurrence (Certain/ Probable)**	**Suggestions for improvement**
STRENGTHENING COMMUNITIES AND PARTNERSHIPS Local residents - Facilities for community/ social functions - Employment for local residents - Impact on local businesses	***Social & Economic*** Poverty, employment, social exclusion, benefits, community networks, crime						
	Lifestyle &Behaviours Diet, physical activity, smoking, alcohol, drugs, sexual behaviours, coping skills						
	Access to services Education, health services, transport, Leisure						
	Environment Air, water, housing, pollution, noise, risk of injury, disease vectors						

BLACKMOORFOOT ROAD HIA IMPACT MATRIX (3)

Population groups: Workers, visitors, local residents, any vulnerable groups? etc…

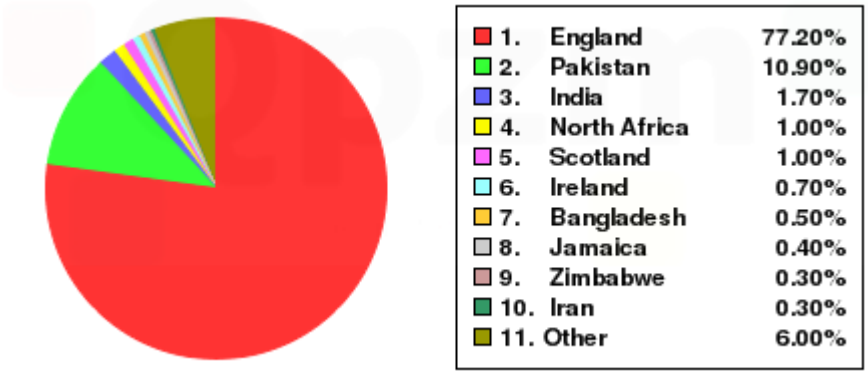
Intervention / Priority area of focus	**Determinants of health**	**Possible effects on determinant**	**Likely health impact (+ve/-ve)**	**Population groups affected**	**Period of effect (Short-, Mid-, or Long-term)**	**Occurrence (Certain/ Probable)**	**Suggestions for improvement**
EQUALITY & DIVERSITY ISSUES + **WHAT ABOUT THE VULNERABLE GROUPS?** - People with disabilities - Influence on deprivation in Crosland Moor - Any hard to reach groups??	***Social & Economic*** Poverty, employment, social exclusion, benefits, community networks, crime						
	Lifestyle &Behaviours Diet, physical activity, smoking, alcohol, drugs, sexual behaviours, coping skills						
	Access to services Education, health services, transport, Leisure						
	Environment Air, water, housing, pollution, noise, risk of injury, disease vectors						

Appendix 2:

CROSLAND MOOR AND NETHERTON WARD PROFILE[73]

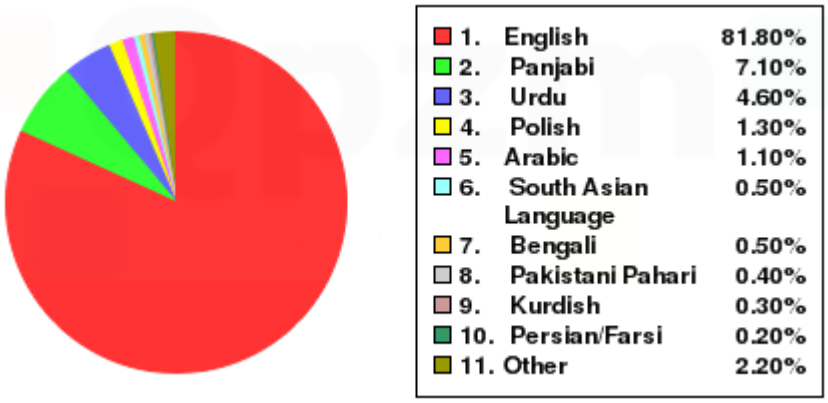
Crosland Moor and Netherton is a ward in Kirklees of Yorkshire and The Humber, England and includes areas of Lockwood, Big Valley, Paddock, Blue Bell Hill, Cowlersley, Crosland Moor, Yew Green, Dryclough, Lane Top, Crosland Moor Bottom, Berry Brow, Newsome, Lower Crosland, Crosland Hill, Armitage Bridge, Hanging Stone, South Crosland, Netherton, Folly Hall, Rashcliffe, Thornton Lodge and Aspley. In the 2011 census the population of Crosland Moor and Netherton was 18,723 and is made up of approximately 50% females and 50% males.

The average age of people in Crosland Moor and Netherton is 37, while the median age is lower at 35. 77.2% of people living in Crosland Moor and Netherton were born in England. Other top answers for country of birth were 10.9% Pakistan, 1.7% India, 1.0% North Africa, 1.0% Scotland, 0.7% Ireland, 0.5% Bangladesh, 0.4% Jamaica, 0.3% Zimbabwe, 0.3% Iran.

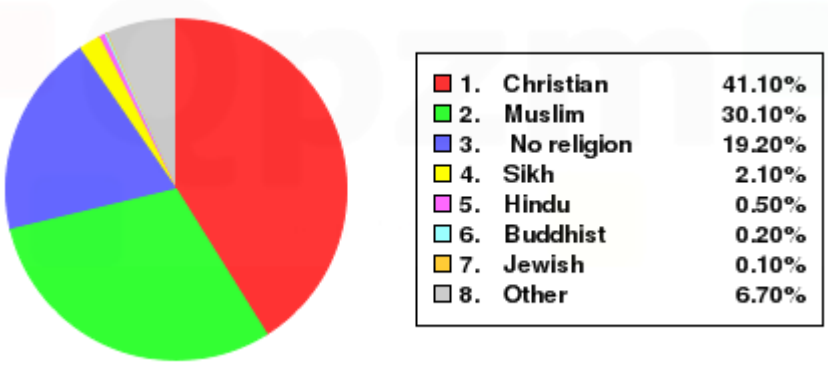


81.8% of people living in Crosland Moor and Netherton speak English. The other top languages spoken are 7.1% Panjabi, 4.6% Urdu, 1.3% Polish, 1.1% Arabic, 0.5% South Asian Language, 0.5% Bengali, 0.4% Pakistani Pahari, 0.3% Kurdish, 0.2% Persian/Farsi.

[73] QPZM LocalStats UK (2012): Crosland Moor and Netherton Demographics (Kirklees, England). Adapted from data from Office of National Statistics. http://crosland-moor-and-netherton.localstats.co.uk/census-demographics/england/yorkshire-and-the-humber/kirklees/crosland-moor-and-netherton



The religious make up of Crosland Moor and Netherton is 41.1% Christian, 30.1% Muslim, 19.2% No religion, 2.1% Sikh, 0.5% Hindu, 0.2% Buddhist, 0.1% Jewish. 1,182 people did not state a religion. 37 people identified as a Jedi Knight and 4 people said they believe in Heavy Metal



46.2% of people are married, 9.0% cohabit with a member of the opposite sex, 0.7% live with a partner of the same sex, 25.7% are single and have never married or been in a registered same sex partnership, 9.3% are separated or divorced. There are 980 widowed people living in Crosland Moor and Netherton.

The top occupations listed by people in Crosland Moor and Netherton are Professional 15.0%, Elementary 12.7%, Skilled trades 12.3%, Process, plant and machine operatives 11.9%, Associate professional and technical 10.4%, Elementary administration and service 10.2%, Administrative and secretarial 10.1%, Caring, leisure and other service 9.4%, Sales and customer service 9.2%, Managers, directors and senior officials 8.9%.

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