Junior Cycle Geography
Classroom Based Assessment 1

NCCA
An Chomhairle Náisiúnta Curaclaim agus Measúnachta
National Council for Curriculum and Assessment

TASK

CBA 1 ***Geography in the News*** - Students carried out a structured inquiry in relation to managing surface processes on the River Lee

FORMAT

Report

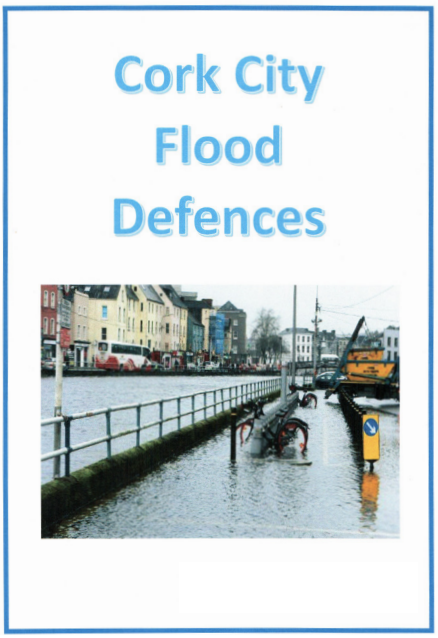
TITLE

An analysis of proposed flood defence measures on the River Lee

TEACHING AND LEARNING

For CBA1 Geography in the News, students selected a geographical event of significance as reported in the media. The students researched and drew conclusions on the implications of the geographical event through a real-life example.

SAMPLE 3: EVIDENCE OF WORK



CLICK to view full report

Cork City Flood Defences

Teacher annotations based on Features of Quality

- Well organised to a clear purpose

Introduction

There is a long history of flooding in Cork City and the Lee Valley, both from long periods of sustained rainfall and from tidal surges. It has caused major damage to commercial and residential buildings in the past.

In 2006 the Lower Lee Flood Relief Scheme (LLFRS) was commissioned by the Office of Public Works(OPW). It hopes to offer protection to Cork City against future flooding. The OPW has a good track record at providing effective flood defences.

The Lower Lee Flood Relief Scheme will run from the Inniscarra Dam to the City Centre.

The need for flood defences have been well documented however the floods of 2009, 2015 and 2016 have devastated homes and businesses and caused over €150 million in damage.

[redacted]

City Hall,
Co. Cork.

Dear sir/madam,

I am writing to you today because I want to make the argument on behalf of the `Save the Lee` scheme.

The reason I have chosen this side is because of the tidal barrier. It is the better option for the following reasons :

1. It will not affect the historic look of the city
2. It will minimise the impact of Climate Change on flooding
3. It will have little impact on Cork City businesses

The only problems I can foresee are :

1. It is very expensive to build and maintain
2. It will take a long time to build
3. Erosion might cause it to collapse

Thank you for reading this letter. I hope you can take action on the points I have made.

Yours sincerely,

Office of Public Works
Flood Defence Scheme

The Office of Public Works (OPW) is an Irish Government agency whose main role is the implementation of Government policy. They advise the Minister for Public Expenditure and Reform and the Minister of State on issues about property and flood risk management.

The Office of Public Works has responsibility for leading the implementation of the national flood risk policy. This policy was approved in 2006 and involves the development of a planned programme of prioritised feasible works.

The OPW is working in association with the Cork City Council, the Cork County Council and the E.S.B

The OPW want to build new flood defence walls from Ballincollig to the west of the city. They will also raise the height of the walls in Cork Harbour.

They are doing this to minimise flooding an rebuild the look of the city.

The OPW believe this is the better option because it is the cheaper and quicker solution.

The OPW Proposal

The OPW will be building this 'Walls Scheme' from the east side of Ballincollig to the western city suburbs of Cork. The scheme will be 15 km long.

Other measures they will be taking are;

1. The use of gauges and sensors to forecast flooding
2. Adaptation to the Inniscarra Dam to deal with extreme flood events
3. Proposing flood plain upstream to take the dam discharge
4. A structure on the south channel of the Lee River to reduce the flow in the south channel and direct water down the north channel
5. Flood defences along the river, eg railings, ground level changes and walls
6. Repair to historic walls and develop 1 km of walkway along the river

This ambitious project is estimated to cost approximately €200 million and will be provided by Government funding. This is the highest investment in flood defences in the history or the State.

The early part of the scheme commenced in 2018 and there have been no indications so far that it will now work. Some Engineers have questioned the affect that this scheme will have downstream in Blackrock and Mahon area and will the scheme make these areas susceptible to flooding in the future.

Teacher annotations based on Features of Quality

- Demonstrates good understanding

OPW Flood Defence Impacts

The proposal of the OPW will have impacts visually, habitually, economically and environmentally. It may also have an impact on cultural heritage and tourism.

A. Environmental Impacts

An independent report outlined that the impact on plants and animals in many cases will be temporary and new landscaped areas will strengthen biodiversity.

B. Construction Impacts

There will be disruption of traffic during construction however this disruption will be carefully managed to minimise the impact on businesses and commuters.

C. Visual Impacts

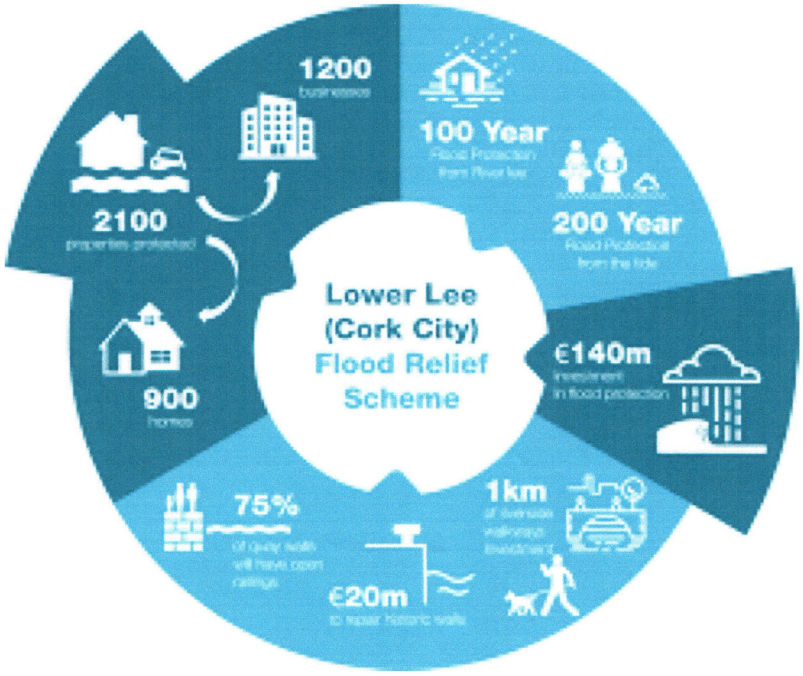
The design of the walls will be a balance between what they will look like and what they are deigned to do. In the city centre the walls will be knee height with a light railing on top. In other areas on the north channel the walls will be over waist height but views of the river will be maintained.

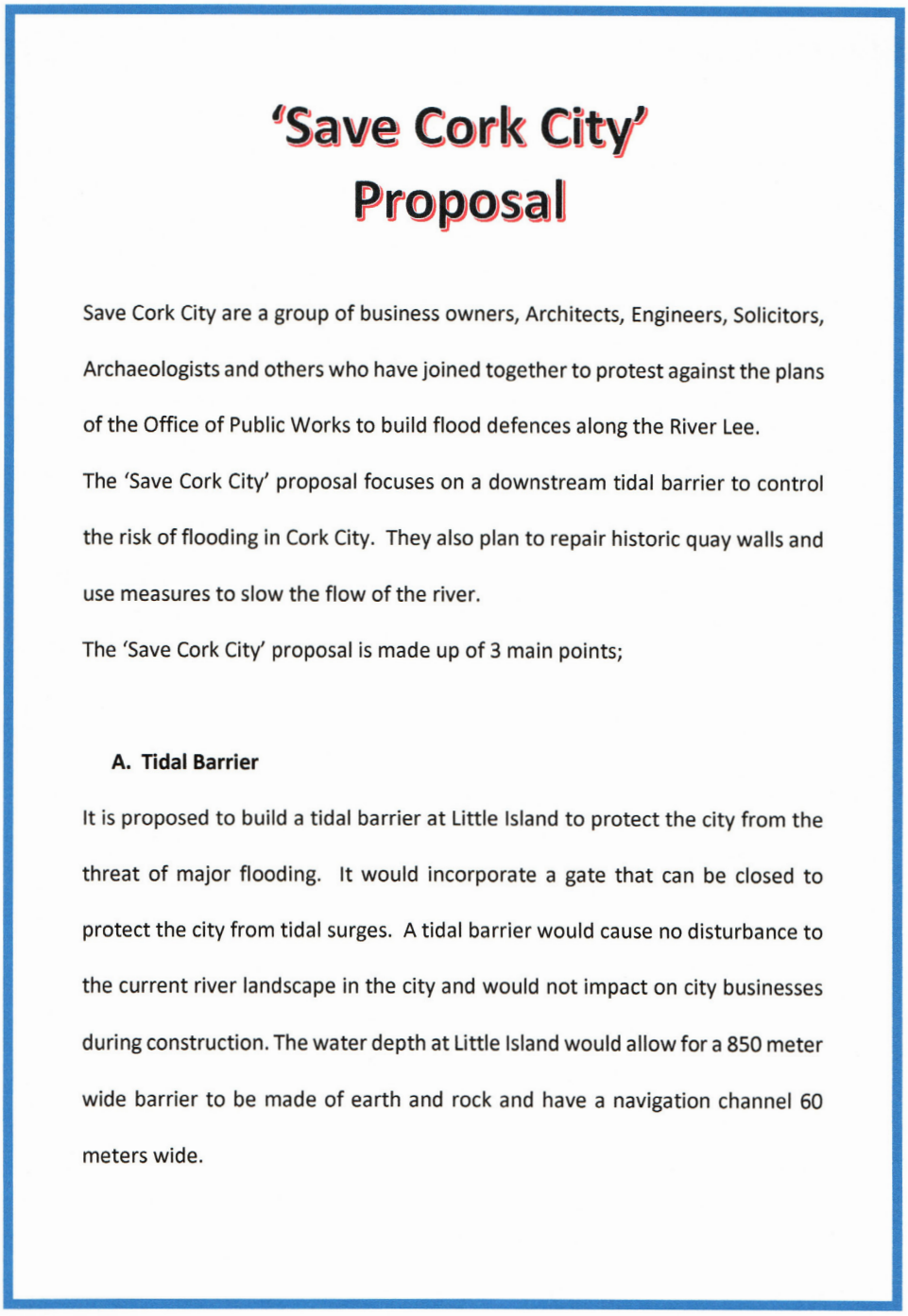
Teacher annotations based on Features of Quality

- Shows awareness of processes, patterns and systems.

D. Tourism and Local Economy Impacts

The city will be able to develop in terms of businesses and investment potential and the risk of flooding has been removed. There will also be improved public areas, parklands and riverside walks. The city walls will be stabilised and the short-term negative impact during repair will be offset by the long-term benefit to tourism.





'Save Cork City' Proposal

Save Cork City are a group of business owners, Architects, Engineers, Solicitors, Archaeologists and others who have joined together to protest against the plans of the Office of Public Works to build flood defences along the River Lee.

The 'Save Cork City' proposal focuses on a downstream tidal barrier to control the risk of flooding in Cork City. They also plan to repair historic quay walls and use measures to slow the flow of the river.

The 'Save Cork City' proposal is made up of 3 main points;

A. Tidal Barrier

It is proposed to build a tidal barrier at Little Island to protect the city from the threat of major flooding. It would incorporate a gate that can be closed to protect the city from tidal surges. A tidal barrier would cause no disturbance to the current river landscape in the city and would not impact on city businesses during construction. The water depth at Little Island would allow for a 850 meter wide barrier to be made of earth and rock and have a navigation channel 60 meters wide.

Teacher annotations based on Features of Quality

- Shows good awareness of chosen events patterns, processes and systems

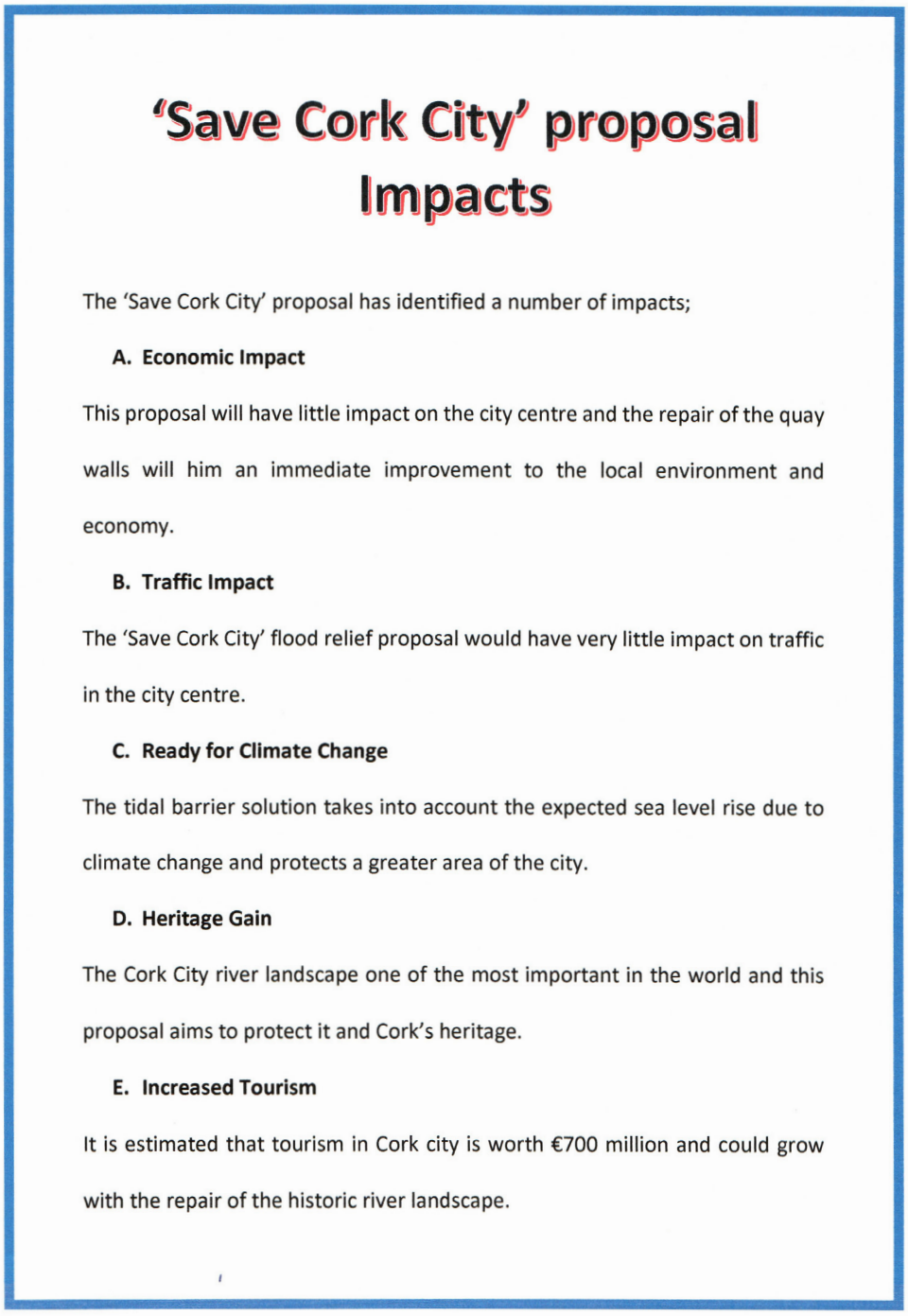
B. Repair of Quay Walls

The 'Save Cork City' proposal also includes the repair of quay walls and walkways, giving particular attention to historic places. They wish to improve public areas along the river and develop greater access to the river.

C. Slowing the River

Managing the entire River Lee catchment would involve tree planting, restoring wetlands, diverting water, building embankments and investigating current land drainage methods by landowners. These measures would aim to slow the flow of water into the city centre and would avoid automatic fast water flow through the city during periods of long and heavy rainfall.

The majority of costs would be invested in the tidal barrier, which is estimated at €135 million to construct., which includes yearly costs to maintain the barrier for the next 50 years. A further investment of about €55 million would be used to repair the quay walls and to develop the measures to slow the flow of the river into the city.



'Save Cork City' proposal Impacts

The 'Save Cork City' proposal has identified a number of impacts;

A. Economic Impact

This proposal will have little impact on the city centre and the repair of the quay walls will him an immediate improvement to the local environment and economy.

B. Traffic Impact

The 'Save Cork City' flood relief proposal would have very little impact on traffic in the city centre.

C. Ready for Climate Change

The tidal barrier solution takes into account the expected sea level rise due to climate change and protects a greater area of the city.

D. Heritage Gain

The Cork City river landscape one of the most important in the world and this proposal aims to protect it and Cork's heritage.

E. Increased Tourism

It is estimated that tourism in Cork city is worth €700 million and could grow with the repair of the historic river landscape.

Teacher annotations based on Features of Quality

- Engaging with some key geographical questions

F. Insurance Cover

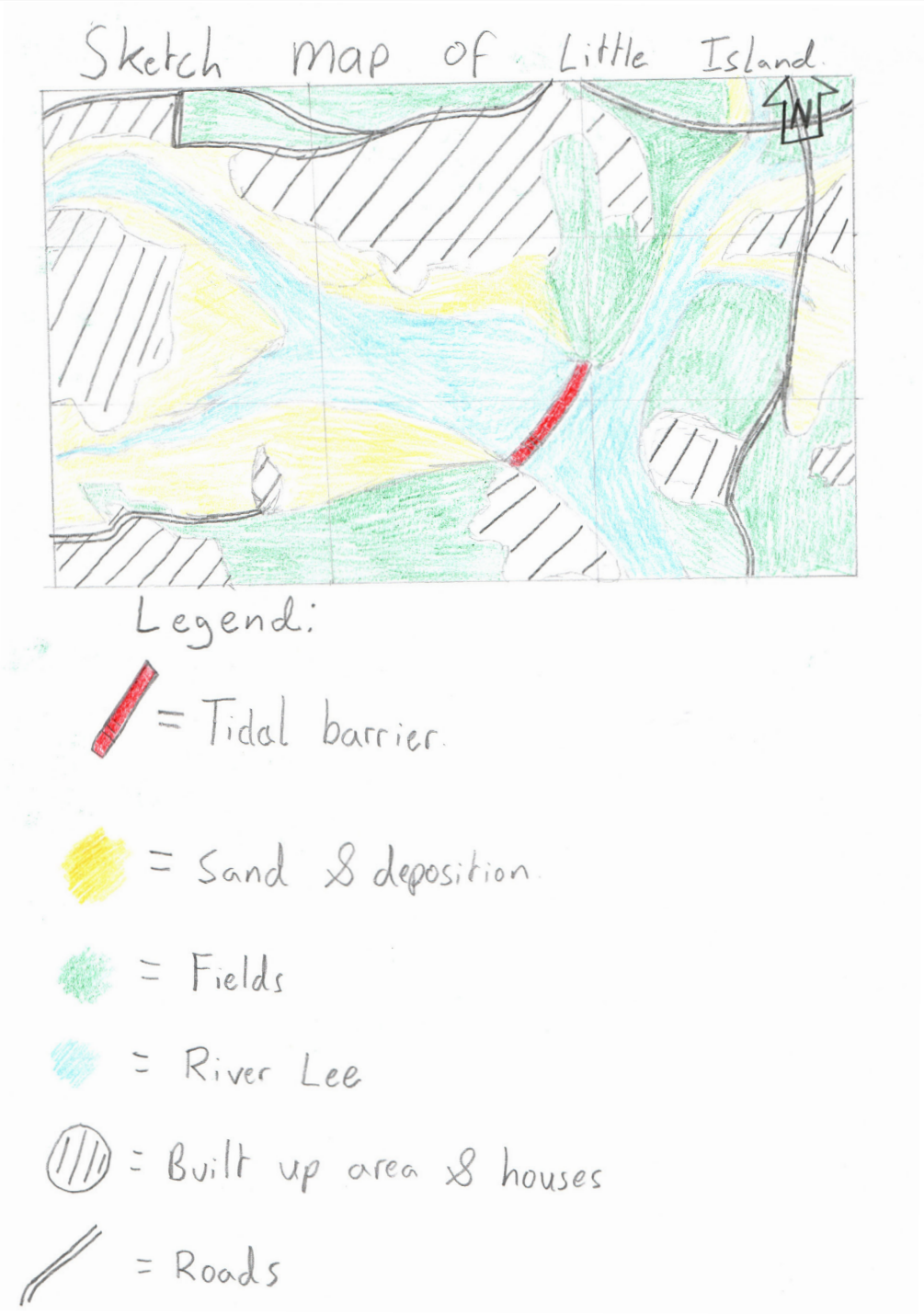
One of the biggest impacts the flooding has had is on the cost and availability of insurance for businesses and residents. This propose would allow for insurance to be reinstated in previously flood prone areas.

G. Docklands and Tivoli Protection

This 'Save Cork City' proposal would protect large areas of Cork and the tidal barrier would allow for development of the docklands, which would improve business and tourism potential.

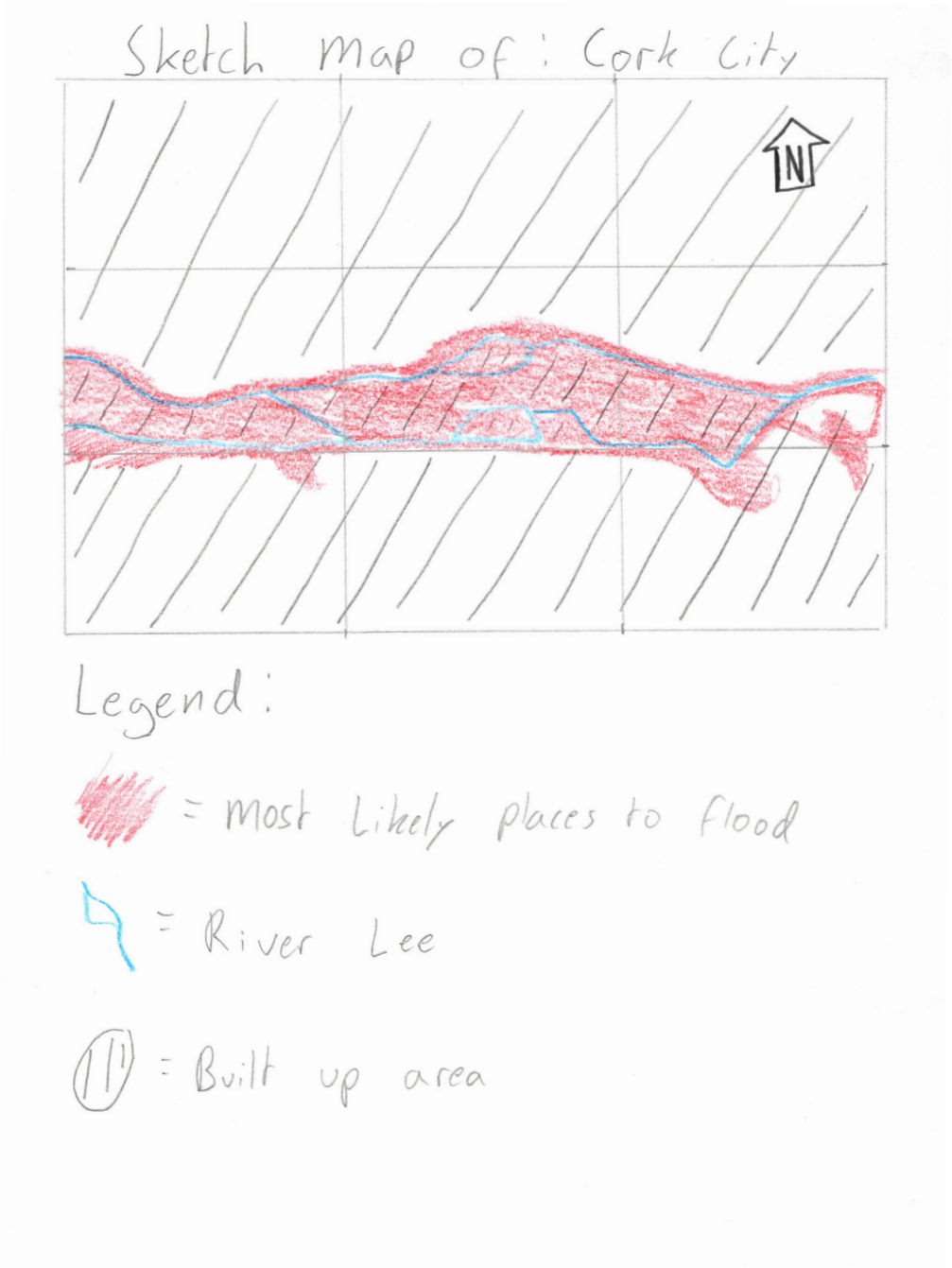
Teacher annotations based on Features of Quality

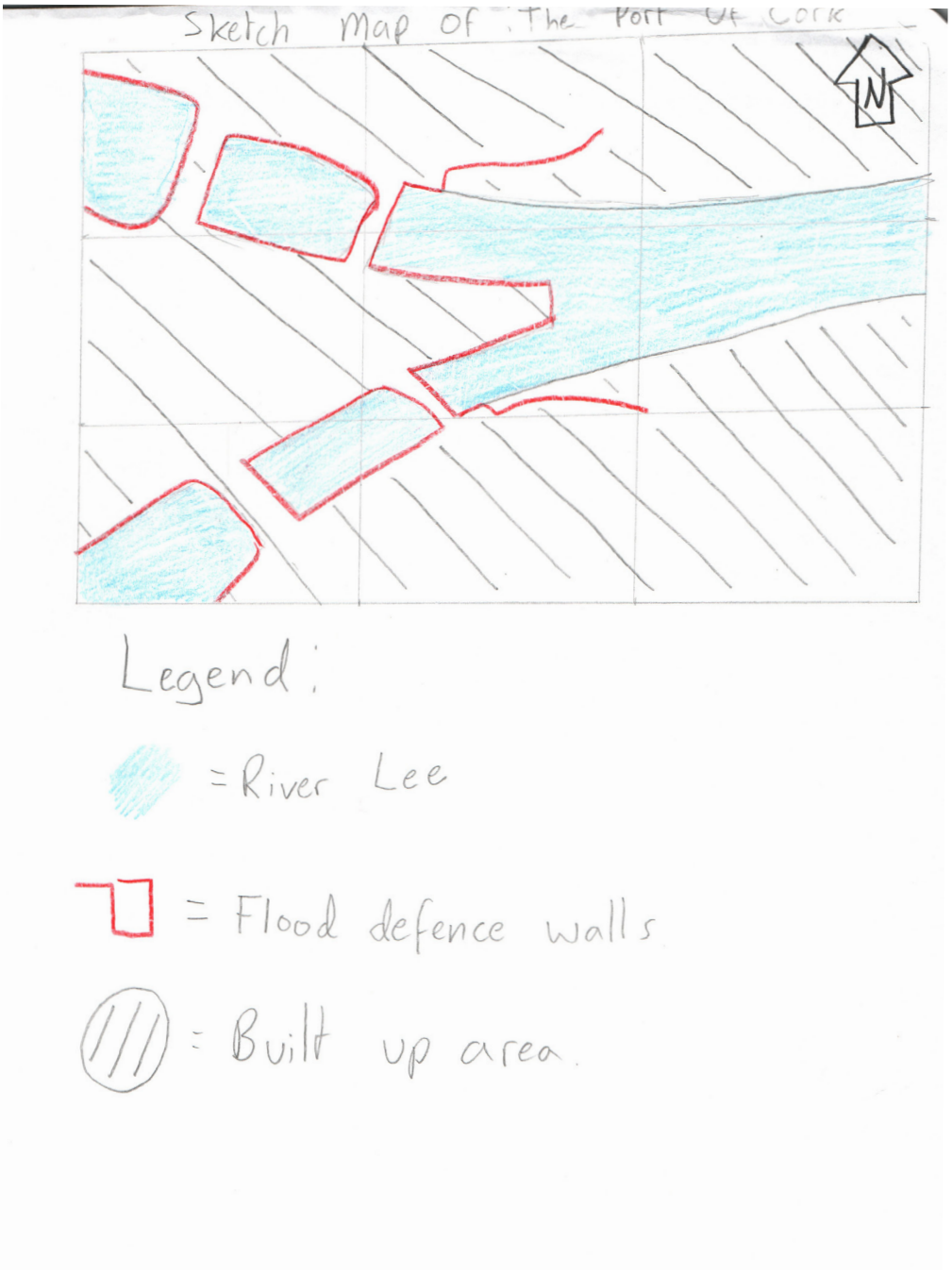
- Awareness of geographical questions



Teacher annotations based on Features of Quality

- Shows good understanding


Sketch map of: Cork City
N
Legend:
= Most Likely places to flood
= River Lee
= Built up area


Sketch Map of The Port of Cork
N
Legend:
= River Lee
= Flood defence walls
= Built up area

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LEVEL OF ACHIEVEMENT

Best fit on balance judgement =  In line with expectations

The annotations capture observations by the student's teacher, using the features of quality, with a view to establishing the level of achievement this work reflects. The annotations and judgments were confirmed by a Quality Assurance group, consisting of practising teachers and representatives of the Inspectorate, the State Exams Commission and the Junior Cycle for Teachers support service.