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

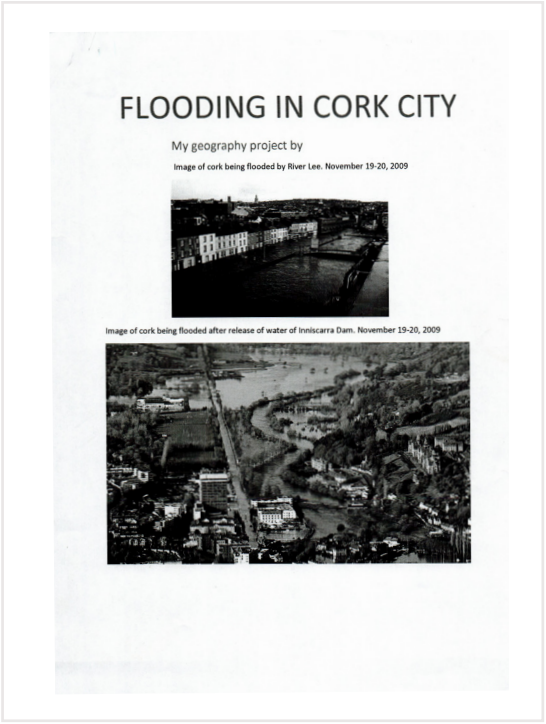
TITLE

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


FLOODING IN CORK CITY

My geography project by

Image of cork being flooded by River Lee. November 19-20, 2009

Image of cork being flooded after release of water of Inniscarra Dam. November 19-20, 2009

CLICK to view full report

FLOODING IN CORK CITY

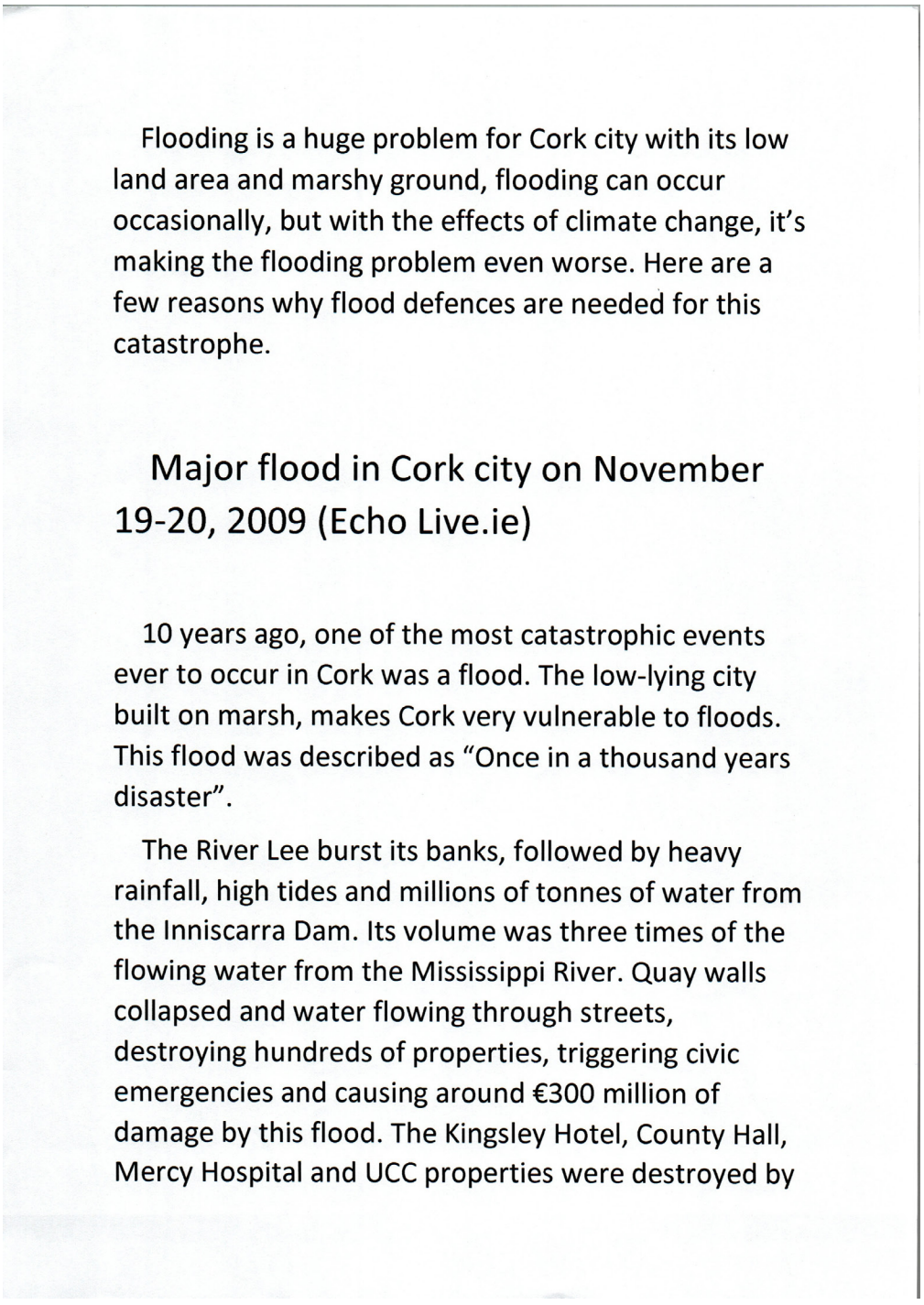
My geography project by

Image of cork being flooded by River Lee. November 19-20, 2009

Image of cork being flooded after release of water of Inniscarra Dam. November 19-20, 2009

Teacher annotations based on Features of Quality

- The response is detailed and well-organised to a very clear purpose.



Flooding is a huge problem for Cork city with its low land area and marshy ground, flooding can occur occasionally, but with the effects of climate change, it's making the flooding problem even worse. Here are a few reasons why flood defences are needed for this catastrophe.

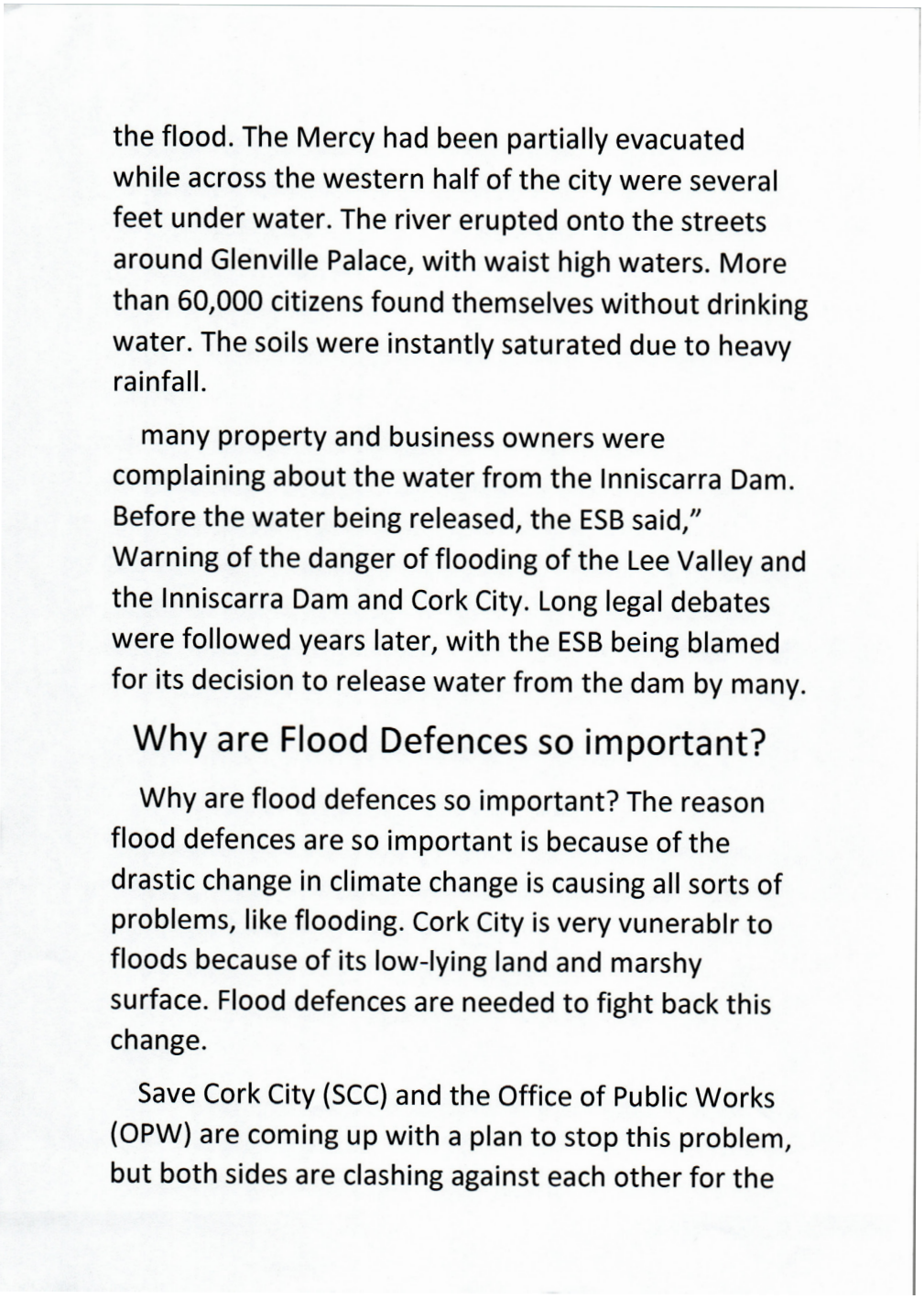
Major flood in Cork city on November 19-20, 2009 (Echo Live.ie)

10 years ago, one of the most catastrophic events ever to occur in Cork was a flood. The low-lying city built on marsh, makes Cork very vulnerable to floods. This flood was described as "Once in a thousand years disaster".

The River Lee burst its banks, followed by heavy rainfall, high tides and millions of tonnes of water from the Inniscarra Dam. Its volume was three times of the flowing water from the Mississippi River. Quay walls collapsed and water flowing through streets, destroying hundreds of properties, triggering civic emergencies and causing around €300 million of damage by this flood. The Kingsley Hotel, County Hall, Mercy Hospital and UCC properties were destroyed by

Teacher annotations based on Features of Quality

- Engages with key geographical questions



the flood. The Mercy had been partially evacuated while across the western half of the city were several feet under water. The river erupted onto the streets around Glenville Palace, with waist high waters. More than 60,000 citizens found themselves without drinking water. The soils were instantly saturated due to heavy rainfall.

many property and business owners were complaining about the water from the Inniscarra Dam. Before the water being released, the ESB said," Warning of the danger of flooding of the Lee Valley and the Inniscarra Dam and Cork City. Long legal debates were followed years later, with the ESB being blamed for its decision to release water from the dam by many.

Why are Flood Defences so important?

Why are flood defences so important? The reason flood defences are so important is because of the drastic change in climate change is causing all sorts of problems, like flooding. Cork City is very vunerablr to floods because of its low-lying land and marshy surface. Flood defences are needed to fight back this change.

Save Cork City (SCC) and the Office of Public Works (OPW) are coming up with a plan to stop this problem, but both sides are clashing against each other for the

Teacher annotations based on Features of Quality

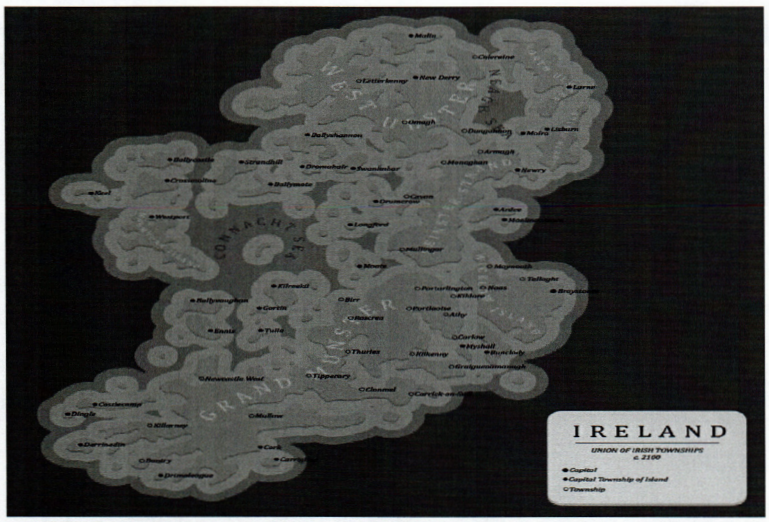
- Shows good awareness of the processes.

defence that should be placed. SCC are working on a tidal barrier, while the OPW are working on flood walls. With both sides clashing against each other, its delaying the process of building a flood defence. We will talk more about the OPW and SCC later.

If we don't come down to a decision soon, in 2050, most of Ireland will be under water. The weather doesn't make the problem any better. With all the rain we get, it will only hasten the process of the floods and floods will occur more often.

Cork City needs a way to stop this flood problem or else the future for Ireland is doomed. This is why I think flood defences are so important.

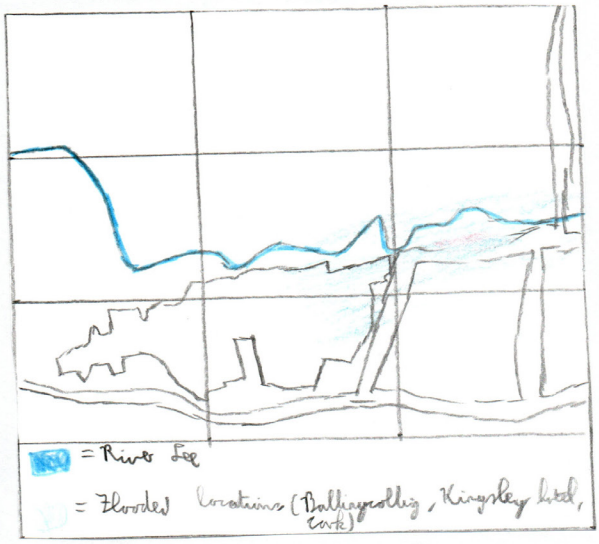
image of Ireland in 2050

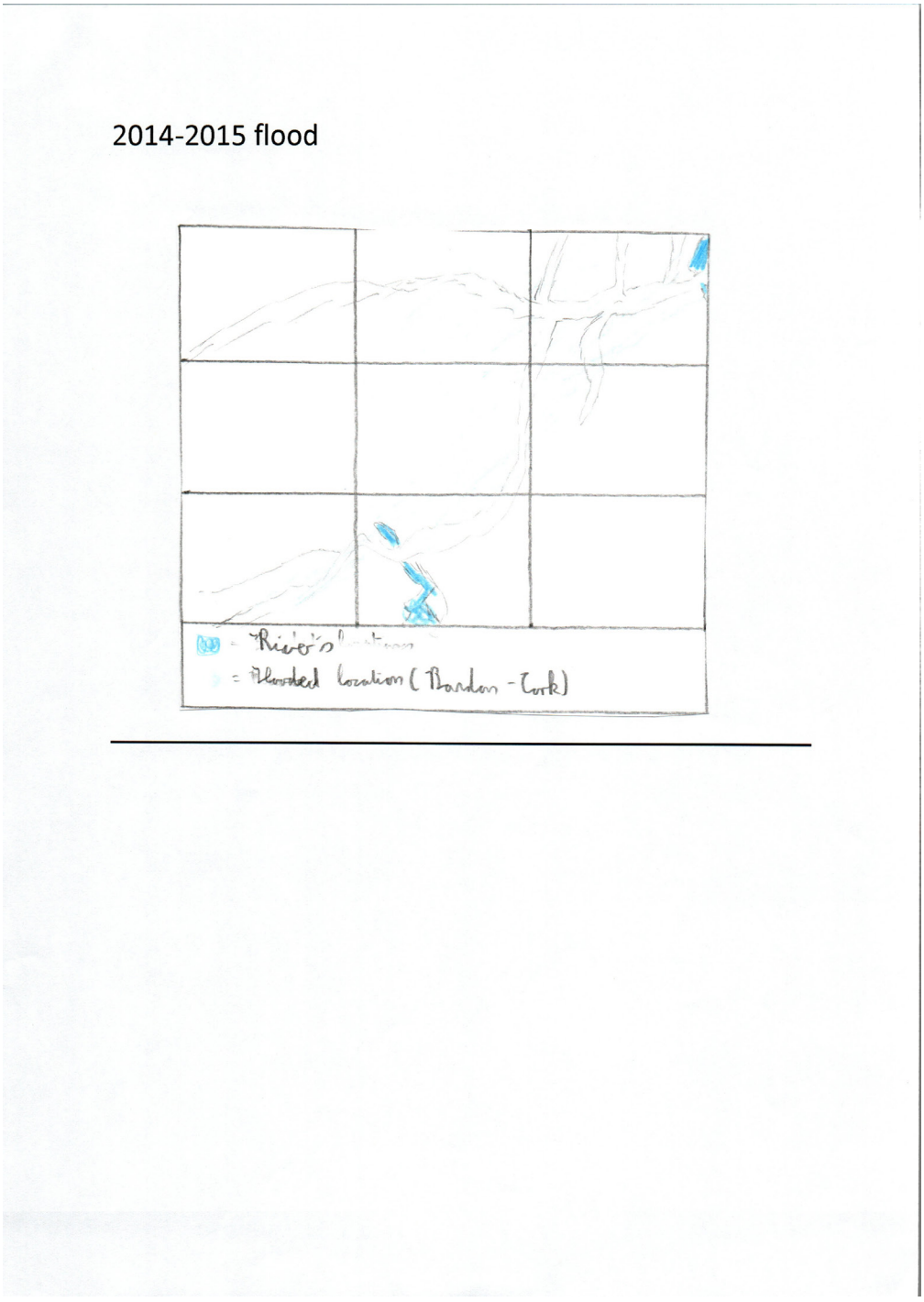


Teacher annotations based on Features of Quality

- Engages with key geographical questions, including consideration of geographical significance and sustainability, and draws relevant conclusions.

2009 flood

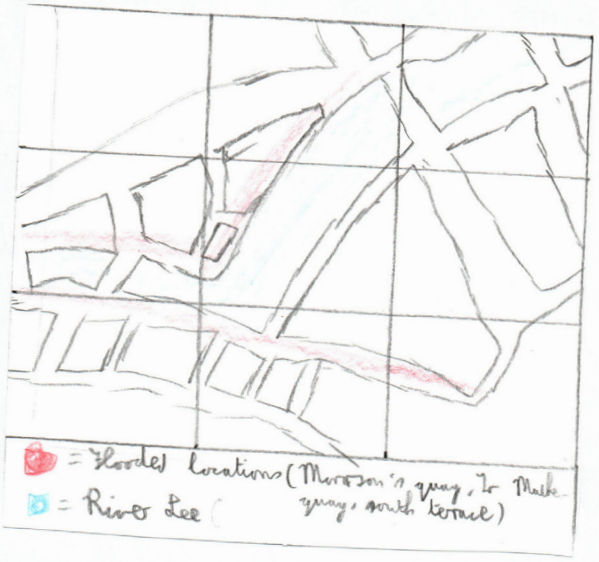




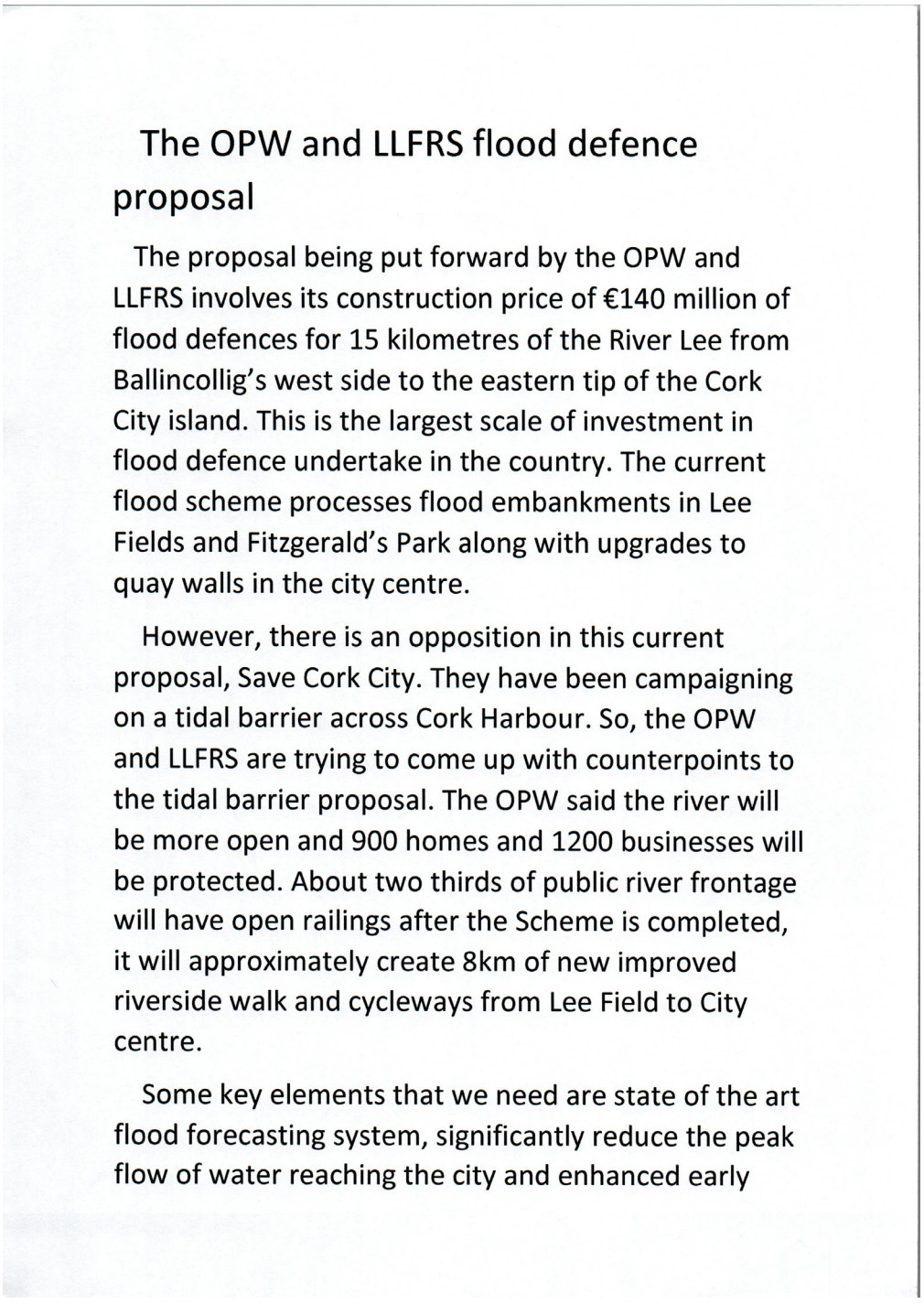
Teacher annotations based on Features of Quality

- Demonstrates a very good awareness of the processes, patterns and systems

2019 flood



This is my geography project on flooding.



The OPW and LLFRS flood defence proposal

The proposal being put forward by the OPW and LLFRS involves its construction price of €140 million of flood defences for 15 kilometres of the River Lee from Ballincollig's west side to the eastern tip of the Cork City island. This is the largest scale of investment in flood defence undertake in the country. The current flood scheme processes flood embankments in Lee Fields and Fitzgerald's Park along with upgrades to quay walls in the city centre.

However, there is an opposition in this current proposal, Save Cork City. They have been campaigning on a tidal barrier across Cork Harbour. So, the OPW and LLFRS are trying to come up with counterpoints to the tidal barrier proposal. The OPW said the river will be more open and 900 homes and 1200 businesses will be protected. About two thirds of public river frontage will have open railings after the Scheme is completed, it will approximately create 8km of new improved riverside walk and cycleways from Lee Field to City centre.

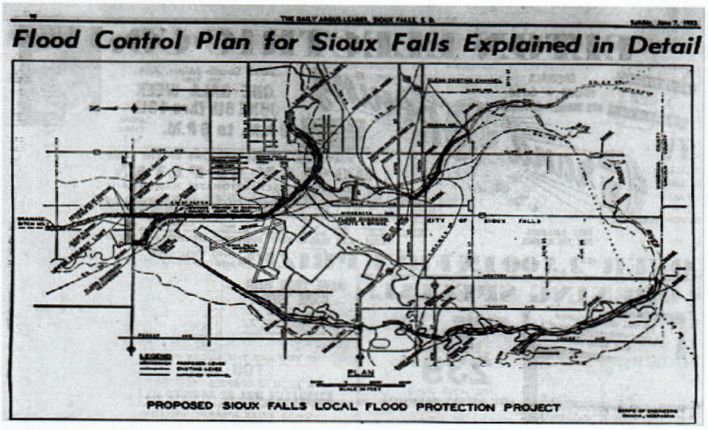
Some key elements that we need are state of the art flood forecasting system, significantly reduce the peak flow of water reaching the city and enhanced early

Teacher annotations based on Features of Quality

- effectively engages with key geographical questions, including consideration of geographical significance and sustainability

flood warning. The flood forecasting system can be used for searching the weather to see if there is chance of flood to then warn the public, significantly reduce the peak flow of water reaching the city by the flood walls of course and some water pump to take the water away from the city and early flood warning system by a technologic device to show the flow, speed and rising tide of the water to alert the people checking on the water to then alert people of an incoming flood.

The OPW sketch plan for flood defence for Cork City



Save Cork City Proposal

Save Cork City, the opposition of the OPW, are planning a flood defence of their own, a tidal barrier. Their proposal is to control the flooding by using their

Teacher annotations based on Features of Quality

- Demonstrates a very good awareness of systems

tidal barrier that is supported by quay walls and upstream catchment management measures.

They propose that the tidal barrier should be positioned at Little Island, to protect the city from major floods. A gate would be placed in the barrier that can be closed to protect the city. This chosen location will require water storage and development protection of the city and docklands. The tidal barrier causes no changes to the river status.

Their proposal also includes repair all quay walls and walkways. They propose to reveal the diversity of the landscape through conservation, restoration and retained design intervention.

Management of the River Lee includes tree planting, wetland restoration, water diversion, attenuation, reinstatement of ditches and land drainage with cooperation with the landowners who have a vital role in addition to optimal dam management. Below the dam, the repair of weirs, planting trees and diversion can be considered. It aims that the flow of the river into the city centre will be reduced and environment of the city improved. With the problems of river catchment management, high intensity rainfall should not automatically lead to fast water flow in the city.

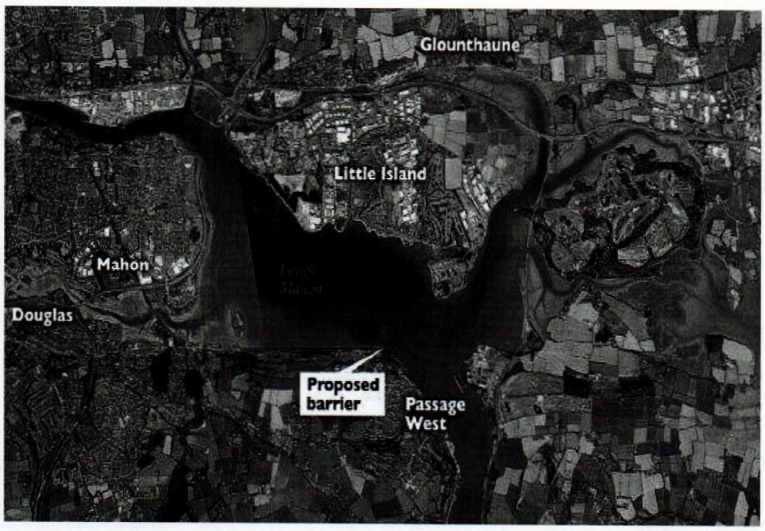
Teacher annotations based on Features of Quality

- Effectively engages with key geographical questions

The SCC believe the proposals of the flood walls may ruin Cork City's character and potential of it being a long-lived historic city would be lost forever. They believe that now is the time to act and treat the historic landscape and in particular, the quayside landscape, before it is to late. They believe that the city should reveal its historic self, improve amenity and provide betterment of its environment, opening up potential development, making Cork City more attractive to live and invent.

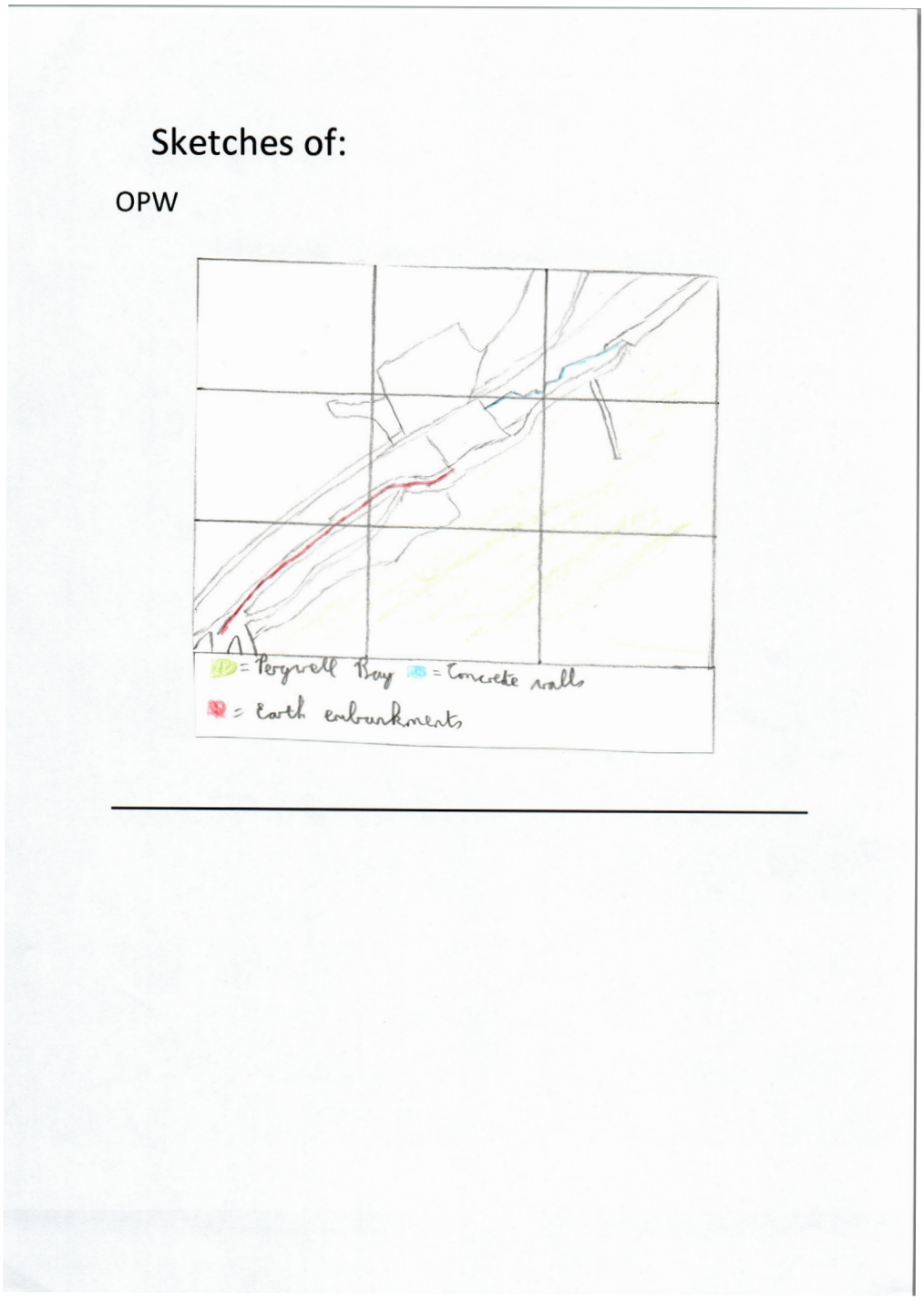
This is the Save Cork City proposal for their tidal barrier, flood defence.

Save Cork City flood defence sketch plan for Cork City



Teacher annotations based on Features of Quality

- Consideration of geographical of significance and sustainability



Teacher annotations based on Features of Quality

- Well organised to a very clear purpose


Save Cork City proposal plan
= Cork
= tidal barrier
= River
= Little island
= Passage

The Effects

OPW:

The social impacts

The OPW are trying to make Cork City the best they can, by erasing all historic spots of the city, by using unused areas of the city to make the city bigger and more populated and building new walls to lessen, or even stop flooding for the city and environment.

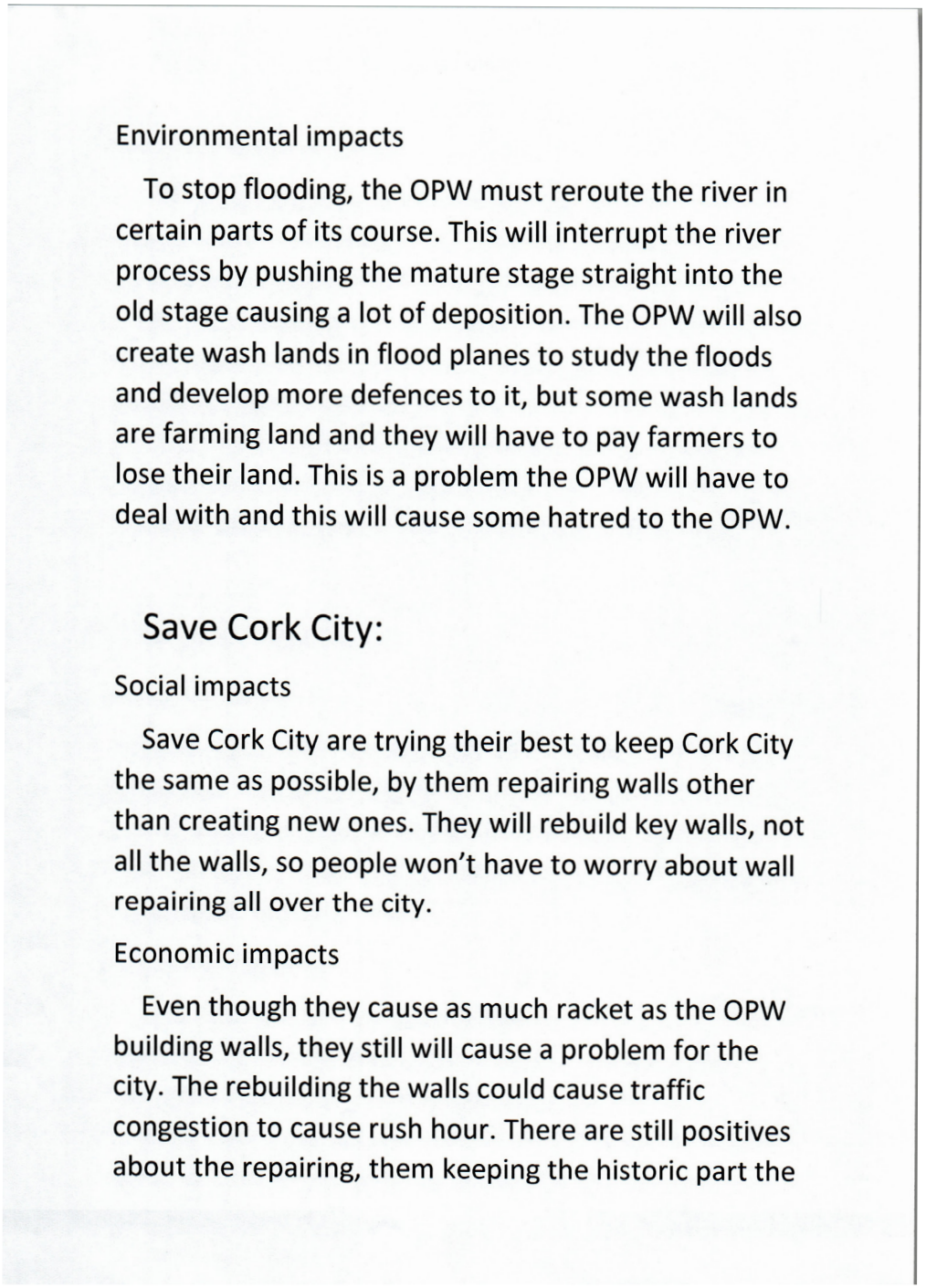
Economic impacts

The OPW are going to make this flood defence when they have a chance, but this will affect businesses around it. When they build the flood walls, they will also build new paths and roadways. Them building the roadworks will ruin some people's businesses by the OPW closing off the areas they are building on, causing people to avoid them.

OPW flood wall scheme

Teacher annotations based on Features of Quality

- Organised to a purpose and includes some detail



Environmental impacts

To stop flooding, the OPW must reroute the river in certain parts of its course. This will interrupt the river process by pushing the mature stage straight into the old stage causing a lot of deposition. The OPW will also create wash lands in flood planes to study the floods and develop more defences to it, but some wash lands are farming land and they will have to pay farmers to lose their land. This is a problem the OPW will have to deal with and this will cause some hatred to the OPW.

Save Cork City:

Social impacts

Save Cork City are trying their best to keep Cork City the same as possible, by them repairing walls other than creating new ones. They will rebuild key walls, not all the walls, so people won't have to worry about wall repairing all over the city.

Economic impacts

Even though they cause as much racket as the OPW building walls, they still will cause a problem for the city. The rebuilding the walls could cause traffic congestion to cause rush hour. There are still positives about the repairing, them keeping the historic part the

Teacher annotations based on Features of Quality

- Very good awareness of processes, patterns and systems

Cork City will make it touristic and will give more money to Cork.

Environmental impacts

Save Cork City are doing a small bit of the OPW idea by creating wash lands upstream, to study the floods in the coming future by the tide. But them making the tidal barrier will come with a cost. This project will interrupt the tide, causing a lot of erosion and deposition from the sea and the river.

These are the effects of the OPW and Save Cork City proposals.

[redacted]

To whom it concerns

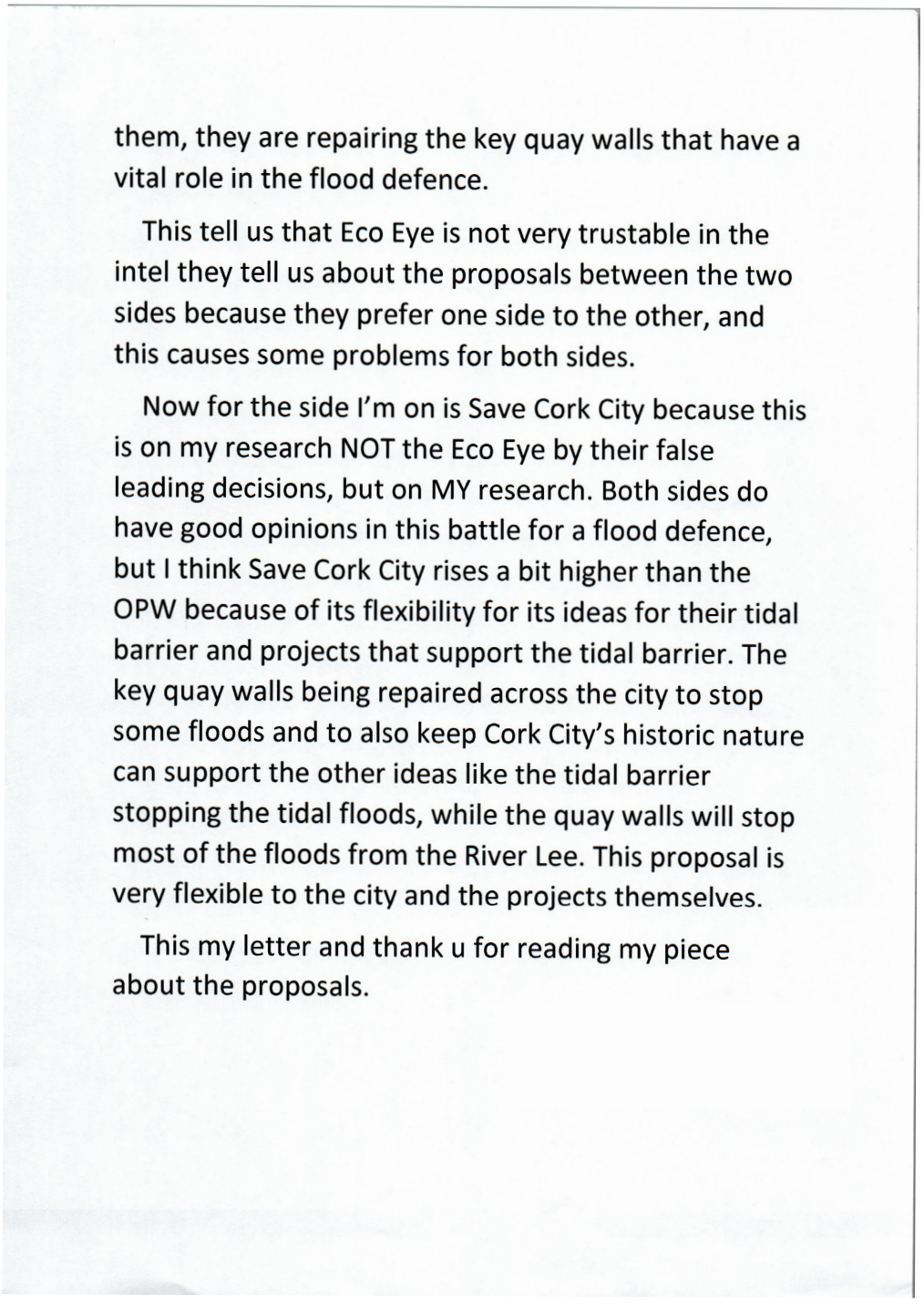
I am writing this because I want to say who has the better flood defence proposal and sustainable and functional option for Cork City, the OPW or Save Cork City.

Before I researched, I thought that Save Cork City tidal barrier had the better option because Eco Eye's Duncan Stewart made people think Save Cork City have

a better proposal by making it sound more sustainable then the OPW who had only walls to work on. All this was from Duncan's perspective. But when I started researching, my choice for a better proposal started to shift.

When I started to research, I realised that the OPW are much more then just walls that Eco Eye told us. They do make flood walls, but its one plan for there for their flood defence proposal. They are working on new, upgraded pathways and roadways for the people of Cork City and are changing the river's course to try to stop flooding. They are also working on water pumps to relocate some water, flood forecasting system and enhanced early flood warning. This tells us that Eco Eye were not showing the full picture around the OPW, but they showed the full picture for Save Cork City.

I then started to research Save Cork City and I found the tidal barrier proposal along with their plans. They are planning to place the tidal barrier at little island to try and stop tidal flooding in the city. This is placed along with catchment management to try to stop flooding and quay walls to control some flooding in the area. They are against the building new walls plan because it could ruin Cork for its historic self, but are creating quay walls because they are not creating



them, they are repairing the key quay walls that have a vital role in the flood defence.

This tell us that Eco Eye is not very trustable in the intel they tell us about the proposals between the two sides because they prefer one side to the other, and this causes some problems for both sides.

Now for the side I'm on is Save Cork City because this is on my research NOT the Eco Eye by their false leading decisions, but on MY research. Both sides do have good opinions in this battle for a flood defence, but I think Save Cork City rises a bit higher than the OPW because of its flexibility for its ideas for their tidal barrier and projects that support the tidal barrier. The key quay walls being repaired across the city to stop some floods and to also keep Cork City's historic nature can support the other ideas like the tidal barrier stopping the tidal floods, while the quay walls will stop most of the floods from the River Lee. This proposal is very flexible to the city and the projects themselves.

This my letter and thank u for reading my piece about the proposals.

Teacher annotations based on Features of Quality

- Engages effectively with key geographical questions including consideration of geographical significance and sustainability, and draws relevant conclusions

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LEVEL OF ACHIEVEMENT

Best fit on balance judgement =  Above 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.