

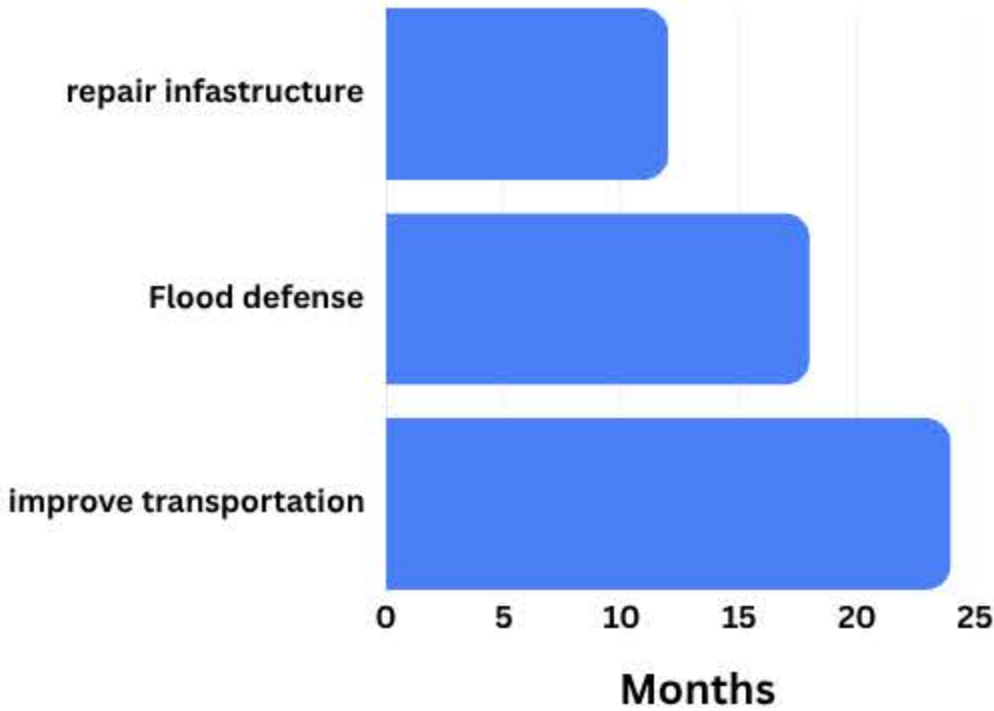
Introduction

In July 2025, following weeks of intense rainfall caused by an unusual Atlantic weather system, several towns across the West Midlands—including Worcester, Shrewsbury, and Kidderminster experienced catastrophic flooding. The River Severn, already at critical levels, breached its defences in multiple areas. Within hours, streets were underwater, electricity networks failed, and hundreds of homes and businesses were submerged.

RACI Matrix

	Responsible	accountable	consulted	informed
Government	Yes	Yes	Yes	No
Workers	Yes	Yes	No	No
Public	No	No	No	Yes

Gantt chart



Quad Chart

goals - Repair and upgrade damaged infrastructure - Enhance flood defense - Improve transportation networks - Support community recovery	. Stakeholders - Local residents - Local councils and government - Local business owners - Building companies (builders, electricians etc.) - Emergency services
desired outcome - Flood resilient infrastructure - Safe transport routes - Revitalized economy - stronger, safer communities	Measures of success - Reduced flood risk - Increased economic activity - Positive community feedback

RISK ASSESSMENT

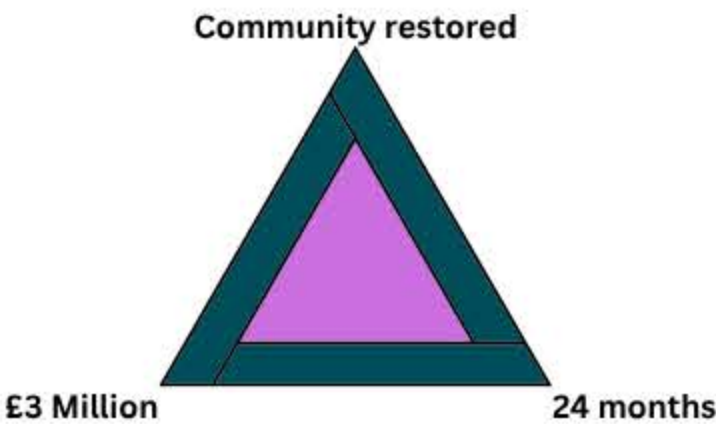
Risk	Likelihood	Impact	Risk level	Mitigation
Additional flood	medium	high	high	monitor weather forecast
funding delay	medium	high	high	contingency funds
materials shortage	medium	medium	medium	backup suppliers
health risks	medium	high	high	sanitation and medical support
construction delays	medium	high	high	strict scheduling
community resistance	low	medium	medium	engage community
safety incidents	low	high	medium	safety procedure
environmental damage	low	medium	low	follow EP guidelines

Work Breakdown Structure

Initiation	Planning	execution	monitoring and gontrol	Closure
Search and Rescue Emergency Medical Aid Temporary Shelters Food and Water Distribution	Infrastructure Inspection Housing Damage Survey Environmental Impact Review Community Needs Assessment	Debris Collection Hazardous Waste Disposal Sanitation and Water Drainage Infrastructure Restoration Roads and Bridges Repair Power and Telecommunications Water and Sewage Systems Housing Reconstruction Temporary Housing Repair Damaged Homes Rebuild Destroyed Homes	Progress inspection Cost control Quality control Risk monitoring Reporting	Final Inspection Handover to local authorities Financial closure Lessons learnt Project report

Conclusion

By ensuring that we complete the project within the budget that has been assigned. We will ensure that all aspects of life in the local area are restored and made more resilient for the future. By completing it within the 24 month time frame, we can acheive this with minimal disruption to the economic and social wellbeing of the community



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Reflective report

For the first section of the assignment, i created a poster detailing the plan to rebuild the community and infrastructure after a major flood in the west midlands. I outlined a few key aspects such as damage, costs, effects on all stakeholders etc. In this poster, i included a brief introduction, a quad chart, a GANTT chart, a risk assessment, a work breakdown structure, a RACI matrix and a short conclusion.

At first, i felt quite overwhelmed by the task because there was so many elements that i was required to include. I managed to list all of the requirements and one by one i created all of the charts and graphs. I was becoming quite frustrated at times because everything is expected to be done in such a specific way. Therefore, i was unable to put my personal touch or individual angle anywhere. This happens a lot when i am completing assignments at University but i have had to accept that this is the way that things are expected to be done and now i just get on with it. I used Canva to create my poster, because of the simplicity of the interface i was pleasantly surprised that the task became much simpler than i originally anticipated.

All in all, i think i created a very effective poster with all of the relevant information included, i gave clear statistics and a numerical evaluation of all the work that needed to be completed. I did not want to focus too much on animation or an overly-colourful backgrounds because i believe that it would have taken away from the seriousness of the project proposal.

As this was my first time using Canva, it took a while for me to understand how to use it effectively. There was an AI assistant there but i did not deem it necessary to use its assistance. On a different app, i create all of the graphs and charts and listed all of the information that would be included in my poster. Once i had chosen my minimalistic

colour scheme, i began transferring all of the information over to my poster and organizing it in the most aesthetically pleasing way that i could. I did find that there was too much information involved so to make it look any simpler was almost impossible.

I learned that a work breakdown is not what i initially thought that it was, it was a little more complicated. After receiving feedback, i went back and changed the WBS to the way that it is expected. I also misunderstood exactly what kind of risk assessment was expected because i did not originally include numerical values to all of the risks and likelihoods.

If i ever had to handle a similar project in the future, i would use the exact method and format that the university expects from me and use my own brain and thoughts a little less. I find that however much i try to add my own personal touch on anything, it is not received well. Overall, i enjoyed creating this poster and i learnt how to use Canva.

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Project Management
Assignment PART C



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Introduction

In July 2025, after weeks of heavy rain from an unusual Atlantic weather system, several towns in the West Midlands, such as Worcester, Shrewsbury, and Kidderminster, were hit by terrible flooding. The River Severn, which was already at dangerous levels, broke through its defences in several places. Within a few hours, the streets were flooded, the power went out, and hundreds of homes and businesses were underwater.

Project description

My team and I have been tasked with the reconstruction of local infrastructures that have been damaged. Before we begin, the search and rescue teams must declare that all of the sites have been cleared and the public have been safely evacuated, which aligns with established post-disaster response protocols (Federal Emergency Management Agency, 2019). Located 5 miles from the project site, our temporary shelters will accommodate and provide emergency medical aid and food distribution for everybody involved. A comprehensive work breakdown must be provided before we begin so that all parties involved can collaborate and calibrate their efforts, as effective project structuring is essential in disaster recovery (Harold Kerzner, 2017). A risk assessment report must also be provided in order to minimize disruption or delays in project completion. All relevant stakeholders, including the public, must be informed every step of the way, as community engagement is critical in disaster recovery (United Nations Office for Disaster Risk Reduction, 2020).

Initiation and Planning

Before reconstruction can begin, we must assess the damage. Our building surveyors will scout the area and categorically summarize the damage and potential costs for restoration or rebuilding, consistent with damage assessment frameworks (World Bank, 2010). Structural engineers will also be required to make accurate assessments. Structural engineering ensures buildings are safe, stable, and durable by analyzing loads and environmental stresses (Mario Salvadori, 1990).

They also work with architects to ensure structural integrity and compliance with safety codes. Collaboration with local authority inspectors is essential, as regulatory enforcement plays a key role in maintaining public health and safety during reconstruction (Health and Safety Executive, 2022).

Execution

Once planning has been completed, work begins. Debris removal and hazardous waste management must follow structured environmental safety procedures, as improper handling can lead to long-term contamination (United States Environmental Protection Agency, 2016). We will start by checking the area once the water goes down. We will look for unstable buildings, sharp objects, and places that might be contaminated before you begin cleaning. All workers will wear protective gear like waterproof gloves, sturdy boots, masks, and eye protection to avoid getting hurt or exposed to harmful substances. We begin by clearing large, non-hazardous items such as fallen branches, broken furniture, and building materials. Sort these into piles for disposal, recycling, or salvage. We make sure to separate hazardous waste early on. This includes things like chemicals, paints, batteries, fuel containers, medical waste, and anything that might have been touched by sewage or industrial runoff. We will never mix these with regular trash. We handle them according to local rules, which may mean working with city officials or licensed waste services. If an area has been contaminated by sewage, we clean it thoroughly with the right cleaning products. Throw away porous items like carpets or insulation if they can't be fully cleaned. When working indoors, we keep the space well-ventilated to lower the risk of breathing in mold or toxic fumes, which can appear quickly after a flood. Working together as a community helps make cleanup faster and safer. Set up collection points and keep everyone informed to avoid mixing waste and spreading contamination. Keep records of hazardous materials and how they are disposed of to help with regulations and future recovery. By focusing on safety, staying organized, and following environmental guidelines, communities can recover more effectively and reduce long-term health and environmental problems.

The next step will be to ensure that all of the flood water is correctly drained. Flood cleanup requires protective equipment, waste separation, and sanitation measures to reduce health risks, particularly from mold and contaminated water (World Health Organization, 2018). Drainage restoration is essential, as effective water management systems reduce the risk of secondary flooding and improve resilience to future climate-related events (Intergovernmental Panel on Climate Change, 2021). Streets that used to be busy with people are now slow-moving channels of water full of trash. This means that both natural and man-made systems need to work together. Storm drains need to be cleared quickly so that water can flow through them again. They are often full of sediment and trash. To move extra water into nearby rivers or reservoirs, temporary pumping stations will be set up. Trenches and barriers also help keep runoff away from homes and important infrastructure. Soil saturation makes things harder because the ground can't soak up water as well. As drainage gets better over time, the focus will shift to stopping secondary flooding by strengthening drainage networks.

Repairing roads and bridges is a priority, requiring structural assessments and resilient design approaches to withstand future hazards (American Society of Civil Engineers, 2017).

Floodwaters can wash away important support structures, weaken foundations, and damage road surfaces. Engineers must first check for hidden structural problems like cracks, unstable soil, and a lower load capacity. Removing debris and fixing the drainage are important first steps.

Temporary fixes might let people back in quickly, but long-term fixes need stronger materials and better designs that can handle floods. We will add better drainage systems, higher roads, and stronger bridge supports to lower the risk in the future. Efficient coordination between authorities will speed up recovery and help communities get back to normal.

Restoring power and telecommunications requires coordinated infrastructure recovery strategies, prioritizing critical services and integrating resilience into rebuilt systems (International Energy Agency, 2020). This calls for collaboration between local communities, utility companies, and emergency services. Prioritising vital infrastructure including hospitals, water systems, and communication hubs, as well as assessing damage and isolating threats, are the first tasks for crews. While long-term repairs are being made, temporary generators, mobile cell towers, and satellite links frequently fill in the gaps. Because of the risks posed by submerged equipment and unstable structures, safety is still of utmost importance. Having open lines of contact with the public will help control expectations and lessen anxiety. Rebuilding more robustly, raising equipment, and incorporating flood-resistant technologies into vital networks as a whole are all necessary for long-term resilience.

Some of the local homes and buildings have not been destroyed but they have been damaged. Restoring them will take patience, careful planning, and safety inspections. Prior to entering, we will evaluate the structural integrity and make sure the walls, electrical systems, and foundations are secure. To stop mould from growing, we remove polluted water and debris as soon as possible. It's crucial to use airflow and dehumidifiers for thorough drying. When feasible, salvage materials; if compromised, replace plasterboard and insulation. To lower health hazards, disinfect every surface. For repairs and adherence to local laws, hire qualified experts. Lastly, to better withstand future flooding, rebuild using durable materials and raise vital systems.

Housing restoration and rebuilding must incorporate resilient construction practices, as disaster-resistant housing significantly reduces long-term vulnerability (United Nations Human Settlements Programme, 2015). Rebuilding the homes that have been significantly destroyed after a major flood is another challenge and an emotional journey for affected communities. It begins with clearing debris, assessing land stability, and ensuring that reconstruction plans meet updated safety and environmental standards. Homeowners can collaborate with our architects,

engineers, and local authorities to design structures that are more resilient to future disasters. Financial hurdles, including insurance claims and funding gaps, can slow progress, but community support and government aid can help. Ultimately, rebuilding is not just about restoring buildings, but about reestablishing security, identity, and hope for families determined to recover and thrive.

The goal of temporary housing is to combine dignity, safety, and quickness. Depending on the size, cost, and duration of the repairs, the "best" strategy typically combines a number of choices. Start with short-term, immediate shelter. The quickest way to get those affected somewhere secure and private is frequently through hotels, hostels, and short-term rentals. To swiftly secure rooms, the local authorities should collaborate with chains or platforms like as Airbnb (via disaster-response programs) or the British Red Cross. Families or vulnerable people that require stability immediately benefit greatly from this.

Modular or mobile housing is frequently more viable for somewhat longer durations (weeks to several months). In order to keep people close to their homes, places of employment, and educational institutions, temporary cabins, trailers, or prefabricated units can be erected close to impacted towns.

Cost control when rebuilding infrastructure after a major flood requires disciplined planning, transparent governance, and adaptive execution. We must prioritize critical assets, conduct accurate damage assessments, and use standardized cost benchmarks to prevent inflation and waste. Competitive procurement processes and clear contracts reduce the risk of overspending, while real-time monitoring systems help track budgets and flag deviations early. Incorporating resilient design—such as flood-resistant materials and elevated structures—may raise upfront costs but lowers long-term repair expenses. Collaboration with local communities and stakeholders ensures resources are allocated efficiently, while contingency funds and risk assessments help manage uncertainties without derailing overall financial stability.

Risk Assessment

A full risk assessment is necessary to identify potential issues and ensure project success. Disaster risk management literature emphasizes evaluating likelihood, impact, and mitigation strategies to reduce uncertainty (David Alexander, 2002). There are many risks involved in a project like this, and we have outlined these in our risk assessment below:

RISK ASSESSMENT

Risk	Likelihood	Impact	Risk level	Mitigation
Additional flood	medium	high	high	monitor weather forecast
funding delay	medium	high	high	contingency funds
materials shortage	medium	medium	medium	backup suppliers
health risks	medium	high	high	sanitation and medical support
construction delays	medium	high	high	strict scheduling
community resistance	low	medium	medium	engage community
safety incidents	low	high	medium	safety procedure
environmental damage	low	medium	low	follow EP guidelines

To find possible problems and make sure a project is finished successfully, a full risk assessment is necessary. The assessment that was given lists a number of risks that come with a flood-related project, looking at how likely they are to happen, how bad they will be, and what the overall risk level is. It also suggests ways to reduce these risks.

One of the biggest risks that has been found is the chance of more flooding. the risk of further flooding remains significant throughout the project, requiring continuous monitoring and early warning systems. Funding delays, material shortages, and health risks are also common challenges in post-disaster reconstruction projects, as highlighted in global recovery studies (World Bank, 2010). However, the risk of flooding is high overall because the chance is medium and the effect is high. Flooding can stop work, hurt infrastructure, and slow down progress. To deal with this, it is best to keep a close eye on weather forecasts so that early warnings and quick actions can be taken.

Another big risk is that funding will be late. Delays in financial resources can stop or slow down the project a lot, with a medium chance of happening but a big effect. If you don't have enough

money, it can be hard to get materials, pay workers, or stick to deadlines. Establishing contingency funds is suggested as a mitigation strategy, ensuring that the project can continue even if expected funding is postponed.

There is a medium risk level for material shortages. Shortages could also play a part in slowing down construction and make work harder, even though the chances and effects are both rated as medium. Using backup suppliers is a good way to lower this risk. Having backup suppliers makes sure that things keep going even if the main ones don't deliver on time.

Health risks are another big worry, especially in areas that have been flooded where sanitation and disease control can be hard to manage. Environmental risks must also be considered, ensuring compliance with environmental protection standards throughout the project lifecycle (EPA, 2016). Even though the chance is medium, the effect is so big that this is a high-risk situation. To keep workers and the people around them safe, it is important to put in place proper sanitation measures and make sure they can get medical help.

Construction delays can significantly affect timelines and costs, reinforcing the need for structured project management practices (Kerzner, 2017). Community resistance can be reduced through transparent communication and stakeholder engagement (UNDRR, 2020). Even though the chance is only medium, the high impact means that strict scheduling and project management are needed. Setting clear deadlines and checking in on the project regularly can help keep it on track.

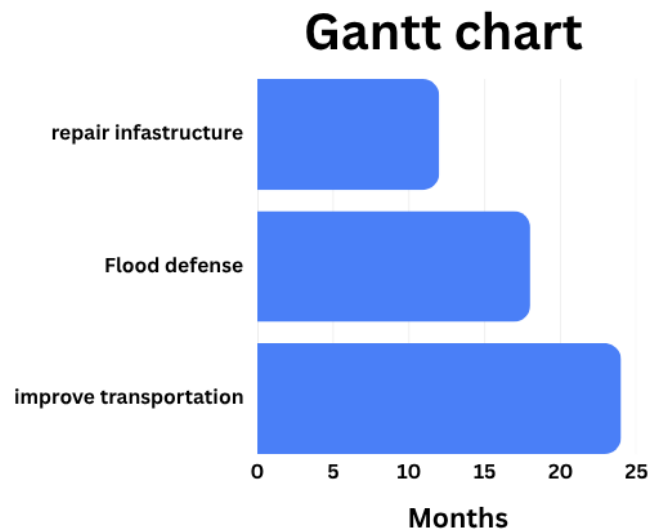
Some risks are thought to be less serious, but they still need to be dealt with. For example, community resistance has a low chance of happening and a medium effect. Getting involved with the community and keeping lines of communication open can help people trust you and lower their resistance. Safety incidents, while not likely, could also have serious effects. This risk can be lessened by following strict safety rules.

Lastly, environmental damage is seen as a risk with a low chance of happening and a medium impact. To protect the environment as much as possible, it is important to follow the rules for environmental protection during the whole project. Environmental risks must be considered, ensuring compliance with environmental protection standards throughout the project lifecycle (EPA, 2016).

This risk assessment shows how important it is to plan ahead and take steps to reduce risk. The project can lower uncertainty and increase its chances of success by finding possible risks and putting in place the right plans.

Gantt Chart

We have broken down the project into 3 phases. Repair infrastructure, provide flood defence systems, improve transportation. According to our calculations. The repair and rebuilding of infrastructure can be completed in 12 months . This will mark the end of the first phase. New and improved flood defence systems can then be implemented and completed 6 months after this, and overall transportation improvements via new bridges and roads will be completed months after that. That gives us an overall timeline of 24 months.



Quad Chart

There is a plethora of people that are involved or affected by this project. Careful planning and realistic timelines must be kept to ensure that investors and community interests are upheld throughout. We have created a Quad chart to represent this information.

Quad Chart	
goals • Repair and upgrade damaged infrastructure • Enhance flood defense • Improve transportation networks • Support community recovery	Stakeholders • Local residents • Local councils and government • Local business owners • Building companies (builders, electricians etc.) • Emergency services
desired outcome • Flood resilient infrastructure • Safe transport routes • Revitalized economy • stronger, safer communities	Measures of success • Reduced flood risk • Increased economic activity • Positive community feedback

Conclusion

It is crucial that ensure our timekeeping, quality control and our subsequent reports. The trust and safety of the community is dependent on us being honest and transparent regarding our planning and execution. By ensuring that we complete the project within the budget that has been assigned. We will ensure that all aspects of life in the local area are restored and made more resilient for the future. By completing it within the 24 month time frame, we can achieve this with minimal disruption to the economic and social wellbeing of the community.

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