PARC TONDU, MAESTEG ROAD, TONDU, CF32 9HZ

CONSTRUCTION PHASE SURFACE WATER AND SILT RUNOFF MANAGEMENT PLAN

PERMIT REF: PAN-022716

LLANMOOR DEVELOPMENT CO LTD

REV C

1. Llanmoor Development Co Ltd (LDC) have applied to NRW for a permit to use flocculant chemicals to manage silt runoff, during the construction phase, from a development site at Parc Tondu. The site comprises a residential development of 405No dwellings and associated highways, drainage and areas of Public Open Space. The first phase of 300 dwellings has undergone a scheme of earthworks to prepare the site to accommodate reinforced concrete foundations.
2. The site was formerly an Open cast coal mine, which ceased operation in the 1980's and was subsequently backfilled using excavated arisings and other inert materials. Sampling and testing undertaken by LDC's appointed geo-environmental consultant have confirmed that the site is free of contamination and suitable for residential use.
3. The earthworks were undertaken by Walters UK Ltd between July 2021 and October 2021 and completed in May 2022. A scheme of infrastructure works followed to install sewers and roads across the Phase 1 area (300units).
4. The purpose of this document is to outline the measures installed on site to manage surface water and silt runoff during the construction phase, quantify the volume of surface water storage and flocculant chemicals being used and to detail the management and monitoring process in place.
5. The site is divided into 3 drainage catchments (SW, SE and North). The site wide drainage network and attenuation basins have been designed to accommodate all storm events up to the 1:100yr with an allowance of 30% for climate change.

South Western Catchment

6. The southern western catchment is the largest and surface water runoff flows are collected in a large attenuation basin in the SW corner of the site (Discharge Point 2). During the construction phase the attenuation area has been over-excavated to maximise capacity in the system to intercept overland flows from the undeveloped parts of the site. The basin is connected to the piped drainage network via an overflow arrangement, rather than through the hydrobrake chamber, this ensures that all surface water entering the network does so via the attenuation basin to allow treatment and settlement of suspended solids prior to discharge.
7. The capacity of the south-western basin is approximately 5,400m3. The discharge rate at the outfall is limited to a high-level overflow from the basin which overtops during times when the basin is full. The allowable discharge rate from the flow control chamber approved as part of the site wide drainage is 68l/s. During periods of dry weather the water level in the pond is reduced by pumping away the top clean layer of treated water using a 3-inch submersible pump. This pumps at a rate of approximately 34l/s. This over pumping allows us to retain spare capacity in the system to cater for high rainfall events.
8. Floc Blocs and Floc mats are provided at the locations indicated on the submitted *Parc Tondu – Surface Water and Silt Runoff management Measures* plan (Appendix 1). These products have been purchased from Frog Environmental Ltd following consultation with their Consultant Engineer.
9. A system of channels and catchpits have been installed to capture surface water runoff and direct flows into the SW attenuation basin. These flows are also

channelled through pipes containing the floc products to begin the flocking process. Once the flows have been discharged into the attenuation basin, the flocking process takes effect, the suspended solids fall out of suspension and are retained in the base of the pond. The clean upper layer of water is then either directly discharged or pumped into the receiving watercourse. Fig 1 below shows the outfall from the SW basin, this comprises a lined channel with sedimats and hay bales to slow and add a further element of treatment to the discharging flows.

Fig 1 – Outfall to Discharge Point 2

10. Areas of the south-western catchment which are not in the immediate build programme have been top soiled and hydroseeded. By restoring these areas to grass this will reduce surface water runoff and mobilisation of silts from the exposed formation level.

South-East Catchment

11. The smallest catchment collects flows from the south-eastern corner of the site into an attenuation basin before being discharged into a public sewer in Clos Pwll Clai. The basin has been excavated in a tiered arrangement to manage construction phase storm water flows and provide the required treatment and settlement prior to discharge.
12. A series of lined channels with floc blocks and sedi-mats collect flows into the south-eastern basin, where the silts drop out of suspension before a controlled discharge into the drainage network.
13. The current volume of attenuation in the south-eastern basin is c. 600m3 and in line with the design volume for the approved drainage network which discharges to this location, albeit the construction phase catchment is much smaller in area.

Northern Catchment

14. Flows from the northern catchment enter the existing watercourse to the rear of the waste transfer station, this watercourse is then culverted under Maesteg Road and down through Aberkenfig, eventually discharging via a pipe into the river Ogmore at the confluence with the unnamed watercourse which runs along the western boundary of the development site.
15. Surface water and silt management measures have been installed in the northern area of Phase 1 as shown on in Appendix 1. These include a lined channel to direct flows into an attenuation area, installation of floc blocks within short lengths of pipes. The attenuation area comprises 2 tiered ponds with bunds which outfall to an existing natural pond within the woodland (within Llanmoor ownership). This pond provides a further level of treatment before it overflows into the downstream watercourse.
16. The volume of storage available in these basins is approximately 200m3.
17. Additionally, a large area of the northern part of Phase 1 was top soiled and grassed following the earthworks. This will naturally intercept flows and reduce silt mobilisation and considered an important element of the site wide surface water management measures.
18. Additionally, the drainage strategy for the northern catchment includes crate storage attenuation and a discharge into the watercourse via a hydrobrake and outfall into the watercourse at the rear of the Waste Transfer Station. Currently, the crate storage takes storm water flows from highways and occupied houses, silt runoff into this system is therefore minimal and is dealt with by periodic cleansing of catchpits to remove accumulated debris.
19. The piped system discharges at a rate of 11l/s, as approved by BCBC Drainage and DCWW.

Treatment Processes

20. Methods of treating surface water runoff to reduce and remove suspended solids are shown on the *Parc Tondu- Surface water and Silt Runoff Management Measures* plan (Appendix 1).
21. **Lined Channels** – These collect water from sub-catchment areas and direct to the attenuation areas. These are lined in polythene to reduce scouring and mobilisation of silt by erosion. These are also filled with clean stone which helps to slow down flows and provides an initial level of treatment. Sump areas within the channels allow some settlement and silt removal.
22. **Grassed Areas not under construction** – Large areas of the site were restored to grass following the cut and fill earthworks. This assists to protect the formation level from deterioration and slows runoff.
23. **Straw Bales** – Useful as a final polishing for discharges from the attenuation areas and help to slow water down.
24. **Floc Blocs and mats** – Following consultation with Frog Environmental it was deemed necessary to introduce the use of flocculant chemicals into the surface water management regime to try and remove the finer silt sediment from site runoff. In order to be effective floc blocks are placed within lengths of pipework along the lined channels to enable flows to receive the chemical upstream of the attenuation basins. This allows the process of flocculation to take place and for the silts to fall out of suspension when they enter the basins. Product Information Sheets have been submitted with the Permit application and are further included in Appendix 2.

Suspended Solids

25. Where possible the intention is to discharge water with negligible concentrations of suspended solids. In this respect the treatment process has been generally very effective and clean water either discharged or over pumped.
26. Liaison with NRW Environmental Officers during the course of the construction phase and in response to initial issues experienced on site suggested that an upper limit of 60mg/L TSS would be acceptable to NRW and unlikely to have an adverse affect on the main river.
27. Daily inspections are undertaken and the siltiness of water assessed visually. If there are signs of discolouration then measures are taken to reduce discharge.

Management of Concrete Washout

28. Cement powder and workable concrete are highly alkaline and can be damaging to the aquatic environment. Therefore, appropriate site management measures must be put in place to minimise risk of concrete washout and discharge into the watercourses adjacent to the site.
29. Concrete is produced in batches, delivered and loaded into hoppers for use on site. Wet pour concrete for use in foundations is contained within trenches and formwork which will naturally prevent overspill and washout. Formwork for concrete foundations is always bunded to prevent runoff/washout from the poured concrete,

this is also to ensure the structural properties of the concrete aren't diminished by washout of components of the concrete mix.

30. Concrete used for the laying of kerbs and patios for example is more at risk of washout where it is laid in areas exposed to runoff-for example at the sides of carriageways etc.
31. Controls put in place to minimise concrete washout include, regular monitoring of exposed wet concrete, temporary bunding of areas, cleansing hard surfaces using a road sweep to vacuum the waste products and cart off for disposal at a licenced facility, minimising the laying of concrete during periods of heavy rain and regular checking of sensitive receptors for any signs of runoff.
32. In addition, periodic cleansing of highway gullies and manhole catchpits to remove any concrete washout which may have occurred is carried out.
33. At Tondu, there are a number of treatment trains in place to management surface water and silt runoff (as described above), these also provide suitable barriers to any concrete washout entering the watercourses which are located on the western and northern boundaries of the site.
34. To date, and to demonstrate the effectiveness of the systems in place, there have been no pollution events attributable to concrete washout from the development.

Monitoring and Maintenance

35. Daily monitoring checks are undertaken by a member of the site management team. These include the outfalls, levels of water in the basins and the treatment measures detailed above. Daily Check Sheets are also completed for each discharge location. A copy of the daily check sheet is included in Appendix 3.
36. Photographs are also taken at each discharge location and of the attenuation pond levels to back up the daily check sheet. These are saved to a dedicated SW Management folder and dated for ease of reference.
37. During periods of rainfall the checks are carried out at least twice per day and recorded on a daily monitoring sheet with photographs.
38. Sampling Schedule – Water samples at the discharge locations are taken on a monthly basis and sent to laboratory for analysis and quantification of total suspended solids. Results showing an exceedance of 60mg/l will require additional measures to be employed to restore levels of TSS below 60mg/L maximum.
39. Periodic maintenance is carried out to de-silt and cleanse channels and sumps, replace floc products to ensure the system is working as intended.
40. During times when there is no discharge from the basins, a 3 inch pump is used to over pump clean water into the watercourse. This provides capacity in the system to deal with heavy rainfall events. During very wet periods a larger pump can be employed to recirculate water from the basins up onto the higher grassed areas of the site to provide capacity and a second round of treatment.

Emergency Contacts

41. The following contact details are for the site management team at Parc Tondu, who can be contacted if there is an emergency or immediate site based issue.

    Site Manager – Dale Dickinson

    Dale@llanmoor-Homes.co.uk

    Tel: 07557 732411

    Assistant Site Manager – Adam Cameron

    Adam@Llanmoor-homes.co.uk

    Tel: 07939 366892

    Project manager – Sam Jones

    Sam@llanmoor-homes.co.uk

    Tel: 07920 334964

42. Queries relating to the permit or design based queries should be sent to:-

    Martyn Richards – Development Engineer

    Email - Martyn@Llanmoor-homes.co.uk

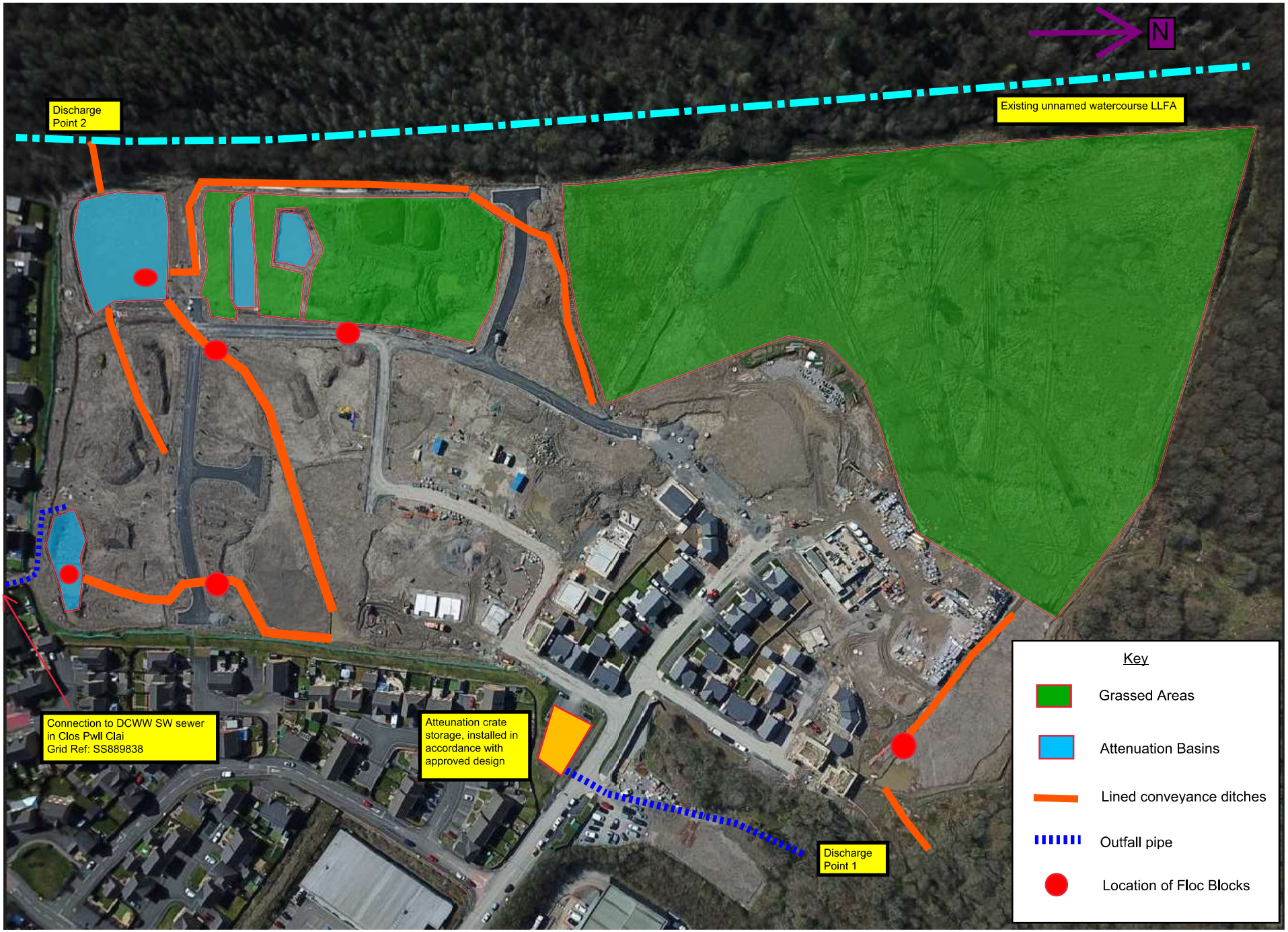
    Tel: 07904 331648

Reporting of Incidents

43. Incidents of discoloured water being discharged from site have been reported using the NRW Incident Team reporting Telephone number – 0300 0653000 or alternatively via icc@naturalresourceswales.gov.uk. This remains the method for self-reporting as advised by NRW Environment Officers and the site team are fully aware of the procedure.

APPENDIX 1

Parc Tondu - Surface Water and Silt runoff Management Measures



APPENDIX 2

Safety Data Sheet

Clearflow Gel Flocculant 360

1. Identification of the Product and the Company

Product Name: Clearflow Cyclone Gel Flocculant 360, Water Lynx Cyclone Block 360, Water Lynx Gel Block 360

Product Type: Solid **Chemical Family:** Anionic polymer

Material Uses: Clearflow Cyclone Gel Flocculant 360 is used as a flocculating agent in municipal and industrial water and wastewater treatment.

Supplier: Clearflow Group Inc. #140, 134 Pembina Road Sherwood Park, AB T8H 0M2
Ph. 780-410-1403 Fx. 780-410-1406 www.clearflowgroup.com

In Case of Emergency: 780-410-1403

2. Composition / Information on Ingredients

United States / Canada

Name:	CAS Number	% by Weight
Proprietary Blend	-	100%

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

3. Hazard Identification

Potential Acute Health Effects

Inhalation: Inhalation of vapours, mists or dusts of the product may be irritating to the respiratory system. May irritate mouth, nose, and throat.

Ingestion: May cause irritation of the lining of the stomach.

Skin: Mild to Moderate irritation can occur. Prolonged or repeated contact may cause defatting and drying of the skin. Prolonged or repeated contact may cause discomfort and local redness.

Eyes: May cause eye irritation. May result in mild to moderate irritation to eyes.

4. First Aid Measures

Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

Skin contact: In case of contact, rinse with soap and water. Remove contaminated clothing and launder before reuse.

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the longs.

Notes to Physician: Treatment based on sound judgement of physician and individual reactions of patient.

Check with your site manager that you have consent to use flocculant on site

5. Fire-Fighting Measures

Flash Point: None.

Flash Point Method: Not applicable.

Autoignition Temperature: Not available.

Flammable Limits in Air (%): Not available.

Extinguishing Media

Suitable: Use an extinguishing media suitable for the surrounding fire.

Not Suitable: None known.

Hazardous Thermal Decomposition Products: Carbon and Nitrogen Oxides.

Special Protective Equipment for Fire-Fighters: Fire fighters should wear full protective clothing, including self-contained breathing equipment.

NFPA Ratings for this product are: HEALTH 1 FLAMMABILITY 0 INSTABILITY 1

HMIS Ratings for this product are: HEALTH 1 FLAMMABILITY 0 REACTIVITY 1

6. Accidental Release Measures

Personal precautions: Wear appropriate protective equipment. Wet product and aqueous solutions of product are very slippery. Trace amounts of product on smooth surfaces can become extremely slippery when wet.

Environmental Precautions: Prevent entry of concentrated solutions into sewers or streams, dike if needed.

Procedure for Clean-up: Sweep or scoop dry material and place in appropriate container. Absorb aqueous solutions with a dry inert material, such as clay, and place in an appropriate waste disposal container. After most of the material has been cleaned-up clean the area with warm, soapy water.

7. Handling and Storage

Handling: For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment.

Storage: Store in a cool, dry area. Store in accordance with good industrial practices. Keep away from direct sunlight. Protect against physical damage.

8. Exposure Controls / Personal Protection

Personal Protection

Respiratory: A respirator is not be required when working with Clearflow Cyclone Gel Flocculant 360.

Hands: Use gloves appropriate for work or task being performed. Recommended: PVC, vinyl, or rubber.

Eyes: Safety eyewear should be used when there is a likelihood of exposure. Recommended: Chemical goggles; also wear a face shield if splashing hazard exists.

Skin Skin Contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location.

Engineering Controls: Local exhaust ventilation as necessary to maintain exposure to within applicable limits.

9. Physical and Chemical Properties

Physical State:	Solid	**Color:**	White or off-white
Odor:	Slightly Acidic	**pH:**	~7
Specific Gravity:	~1.1	**Boiling/Condensing Point**:	Not available.
Melting/Freezing Point:	Not available.	**Vapour Pressure:**	Not available.
Vapour Density:	Not available.	**% Volatile by Volume:**	Not available.
Evaporation Rate:	Not available.	**Solubility:**	Completely soluble but dissolves very slowly.
VOCs:	Not available.	**Viscosity:**	Concentration dependant.
Molecular Weight:	Not available.	**Other:**	None

10. Stability and Reactivity

Chemical Stability: The product is stable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: High temperatures.

Materials to Avoid: Strong bases such as sodium hydroxide may cause the release of ammonia.

Hazardous Decomposition Products: At high temperatures carbon oxides and nitrogen oxides may be released upon decomposition.

Additional Information: No additional information.

11. Toxicological Information

Principle Routes of Exposure

Ingestion: May cause irritation of the lining of the stomach.

Skin contact: Mild to moderate irritation can occur. Prolonged or repeated contact may cause defatting and drying of the skin. Prolonged or repeated contact may cause discomfort and local redness.

Inhalation: Inhalation of vapours, mists or dusts of the product may be irritating to the respiratory system. May irritate mouth, nose, and throat.

Eye Contact: May causes eye irritation. May result in mild to moderate irritation to eyes.

Additional Information: Prolonged and repeated contact with the skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis.

12. Ecological Information

Aquatic Ecotoxicity

Ingredient	Species	Test	Result
Whole Product	*Oncorhynchus mykiss* (Rainbow Trout)	LC50 96 hr	147.5 mg/L
	Daphnia magna	LC50 48 hr	>1500 mg/L

Other Information:

Bioaccumulation: The product is not expected to bioaccumulate.

Persistence / Degradability: Full degradation through environmental exposure is expected. Degradation initiation and rate is dependent on UV exposure.

Acute Toxicity

Acute Oral LD50: Oral LD50 (Rat) > 5000 mg/kg

Acute Dermal LD50: Not available.

Acute Inhalation LC50: Not available.

Carcinogenicity

Acrylamide is a suspected human carcinogen.

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity / Teratogenicity / Embryotoxicity / Mutagenicity: Not available.

13. Disposal Considerations

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

14. Transport Information

Regulatory Information	UN Number	Proper Shipping Name	Hazard Class	PG*	Label	Additional Information
DOT (U.S.)	-	-	-	-	-	not a regulated product
TDG (Canada)	-	-	-	-	-	not a regulated product

PG* : Packaging Group

15. Regulatory Information

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

16. Other Information

Additional Information: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

Prepared By: Clearflow Group, Inc.

Date of Issue: 1/05/2021

Change List: original document – 1/13/2015
data review, SDS conversion, address update – 4/08/2019
Logo update, data review, product name update – 1/05/2021

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All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Clearflow makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Clearflow's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

*****END OF SDS*****

Safety Data Sheet

Clearflow Gel Block Flocculant 494

1. Identification of the Product and the Company

Product Name: Clearflow Gel Block Flocculant 494 **Product Type:** Gel Block **Chemical Family:** Coagulant/Flocculant

Material Uses: Clearflow Gel Block Flocculant 494 is used as a flocculation agent in municipal and industrial water and wastewater treatment.

Supplier: Clearflow Group Inc. 140,134 Pembina Rd Sherwood Park, AB T8H 0M2
Ph. 780-410-1403 Fx. 780-410-1406 www.clearflowgroup.com

In Case of Emergency: 780-410-1403

2. Composition / Information on Ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

3. Hazard Identification

Potential Acute Health Effects

Inhalation: Inhalation of vapours, mists or dusts of the product may be irritating to the respiratory system. May irritate mouth, nose, and throat.

Ingestion: May cause irritation of the lining of the stomach.

Skin: Mild to Moderate irritation can occur. Prolonged or repeated contact may cause defatting and drying of the skin. Prolonged or repeated contact may cause discomfort and local redness.

Eyes: May cause eye irritation. May result in mild to moderate irritation to eyes.

4. First Aid Measures

Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

Skin contact: In case of contact, rinse with soap and water. Remove contaminated clothing and launder before reuse.

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the longs.

Notes to Physician: Treatment based on sound judgement of physician and individual reactions of patient.

5. Fire-Fighting Measures

Flash Point: Not available.

Flash Point Method: Not applicable.

Autoignition Temperature: Not available.

Flammable Limits in Air (%): Not available.

Extinguishing Media

Suitable: Use an extinguishing media suitable for the surrounding fire.

Not Suitable: None known.

Hazardous Thermal Decomposition Products: Carbon and Nitrogen Oxides.

Special Protective Equipment for Fire-Fighters: Fire fighters should wear full protective clothing, including self-contained breathing equipment.

NFPA Ratings for this product are:	HEALTH 1	FLAMMABILITY 0	INSTABILITY 1
HMIS Ratings for this product are:	HEALTH 1	FLAMMABILITY 0	REACTIVITY 1

Check with your site manager that you have consent to use flocculant on site

6. Accidental Release Measures

Personal precautions: Wear appropriate protective equipment. Wet product and aqueous solutions of product are very slippery. Trace amounts of product on smooth surfaces can become extremely slippery when wet.

Environmental Precautions: Prevent entry of concentrated solutions into sewers or streams, dike if needed.

Procedure for Clean-up: Sweep or scoop dry material and place in appropriate container. Absorb aqueous solutions with a dry inert material, such as clay, and place in an appropriate waste disposal container. After most of the material has been cleaned-up clean the area with warm, soapy water.

7. Handling and Storage

Handling: For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment.

Storage: Store in a cool, dry area. Store in accordance with good industrial practices. Keep away from direct sunlight. Protect against physical damage.

8. Exposure Controls / Personal Protection

Personal Protection

Respiratory: A respirator should not be required when working with Clearflow Gel Block Flocculant 494.

Hands: Use gloves appropriate for work or task being performed. Recommended: PVC, vinyl, or rubber.

Eyes: Safety eyewear should be used when there is a likelihood of exposure. Recommended: Chemical goggles; also wear a face shield if splashing hazard exists.

Skin Skin Contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location.

Engineering Controls: Local exhaust ventilation as required.

9. Physical and Chemical Properties

Physical State: Solid

Color: White or off-white

Odor: Slight vinegar odor

pH: 6.5-7 (concentration dependant)

Specific Gravity: ~1.1

Boiling/Condensing Point: Not available.

Melting/Freezing Point: Not available.

Vapour Pressure: Not available.

Vapour Density: Not available.

% Volatile by Volume: Not available.

Evaporation Rate: Not available.

Solubility: Completely soluble but dissolves very slowly.

VOCs: Not available.

Viscosity: Concentration dependant.

Molecular Weight: Not available.

Other: None

10. Stability and Reactivity

Chemical Stability: The product is stable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: High temperatures.

Materials to Avoid: Strong bases such as sodium hydroxide may cause the release of ammonia.

Hazardous Decomposition Products: At high temperatures carbon oxides and nitrogen oxides may be released upon decomposition.

Additional Information: No additional information.

11. Toxicological Information

Principle Routes of Exposure

Ingestion: May cause irritation of the lining of the stomach.

Skin contact: Mild to moderate irritation can occur. Prolonged or repeated contact may cause defatting and drying of the skin. Prolonged or repeated contact may cause discomfort and local redness.

Inhalation: Inhalation of vapours, mists or dusts of the product may be irritating to the respiratory system. May irritate mouth, nose, and throat.

Eye Contact: May causes eye irritation. May result in mild to moderate irritation to eyes.

Additional Information: Prolonged and repeated contact with the skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis.

Acute Toxicity

Acute Oral LD50: Oral LD50 (Rat) > 5000 mg/kg

Acute Dermal LD50: Not available.

Acute Inhalation LC50: Not available.

Carcinogenicity

2-Propenamide is a suspected human carcinogen, but is present at <0.05% (drinking water additive standard).

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity / Teratogenicity / Embryotoxicity / Mutagenicity: Not available.

12. Ecological Information

Aquatic Ecotoxicity

Ingredient	Species	Test	Result
Whole product	Rainbow Trout (*Oncorhynchus mykiss*)	96hr LC50 Survival (OECD 203)	210.2 mg/L
	Daphnia magna	48hr EC50 Immobilisation (OECD 202)	418.4 mg/L

Other Information:

Bioaccumulation: The product is not expected to bioaccumulate.

Persistence / Degradability: Complete mineralization is expected under environmental exposure. Degradation initialization and rate are UV dependent.

13. Disposal Considerations

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

14. Transport Information

Regulatory Information	UN Number	Proper Shipping Name	Hazard Class	PG*	Label	Additional Information
DOT (U.S.)	-	-	-	-	-	not a regulated product
TDG (Canada)	-	-	-	-	-	not a regulated product

PG* : Packaging Group

15. Regulatory Information

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

16. Other Information

Additional Information: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

Prepared By: Clearflow Group, Inc.

Date of Issue: 1/05/2021

Change List: original –10/24/2011
Company name, minor formatting, review of data – 03/21/2016
data review – 04/10/2018
convert to SDS – 04/04/2019
Logo update, data review, product name update – 1/05/2021

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*****END OF SDS*****

APPENDIX 3

Daily water management checks Tondu

Date	
Time	

Inspected By

Sam Jones
Sign

Evidence of suspended solids in Watercourse

Yes	No

If yes, Action to be taken

If taken a sample please refer to the sample sheet

	Weather
7:30	
08:00	
08:30	
09:00	
09:30	
10:00	
10:30	
11:00	
11:30	
12:00	
12:30	
13:00	
13:30	
14:00	
14:30	
15:00	
15:30	
16:00	
16:30	

Zones	
One	2 No Flock Mats
Notes	
Two	Pipe with 2 No blocks with 2 No Flock
Notes	
Three	Pipe with 3 No Blocks
Notes	
Four	Pipe wth 2 No blocks + 2 No Mats
Notes	
Five	Pipe with 2 No blocks with 1 No Flock
Notes	
Six	Pipe with 5 No blocks + 2No Mats
Notes	
Seven	Pipe with 3 No blocks
Notes	
Eight	4 No Mats
Notes	
Nine	2 No Mats
Notes	