EXECUTIVE SUMMARY

Park Derochie Coatings (the Developer) is applying to rezone Proposed Parcel G, located in the SW 1/4 of Section 9, Township 38, Range 5, W3M from AG – Agricultural District and M2 – Rural Industrial Park 2 District to entirely M2 – Rural Industrial Park 2 District. The purpose for this subdivision and rezoing is for expansion to the existing Industrial Coatings and Abrasive Blasting operation on Parcel G of the SW ¼, Section 9, Township 38, Range 5, W3M. The existing operation has been at this location for more than 20 years, occupies approximately 3.483 ha (8.61 ac) of land and was originally approved as a permitted use (manufacturing establishment) under the RM of Corman Park’s Zoning Bylaw.

The proposed development is situated on lands located within the RM of Corman Park No. 344, approximately 2.6 km south of the City of Martensville, immediately east of a service road that parallels Highway #12. There are several highway commercial and industrial developments located in the immediate vicinity of the proposed expansion of the Industrial Coating & Abrasive Blasting operation. This document shall serve as the Comprehensive Development Review (CDR) required requesting the re-zoning, subdivision and consolidation designation from AG – Agricultural District and M2 – Rural Industrial Park 2 District to entirely M2 – Rural Industrial Park 2 District.

A stormwater management report was completed in February, 2016 by Bullée Consulting Ltd. Drainage analysis of the subject parcel included calculations for pre- and post-development runoff conditions. The runoff generated post-development for a 1:100 year storm event was calculated to be 27 mm or 3,342 m³. Combined with the pre-development storage volume, the total volume to store for a 1:100 year storm and 125% storage volume was calculated at 4,178 m³. Bullée Consulting recommended that runoff be directed to shallow swales along the parcel perimeter following the existing drainage pattern and elevations. The swales will then drain towards a single pond or dugout located the southeast corner of the site. Construction of the pond will consist of in-situ material with 4:1 side slopes. Although size and dimensions of the pond will be dependent on the layout of the proposed development, final site grading and location of any buildings/storage areas, a conceptual layout, drainage plan and contour plans were designed illustrating the 4,178 m³ storage requirement. In the event that water runoff does occur, it is recommended that outlet control be undertaken through a single culvert or outlet pipe hydraulically designed to ensure runoff is not released at a rate exceeding the pre-development flow of 200 L/s/ha. Preliminary calculations indicate a 450 mm pipe should meet this criterion, and that adequate erosion protection and rip rap should be provided at the outlet.

Access to the proposed development will occur via the existing service road that borders the existing Park Derochie development. It is anticipated that the additional 12.35 ha of land will be used for outdoor storage purposes, and any internal access roads that need construction will be done so to the RM of Corman Park’s standards. No Traffic Impact Assessment (TIA) was undertaken as a part of this Comprehensive Development Review, as the development is expanding its existing operation to provide for additional storage space.

There is no need to provide for potable water, wastewater management, or utilities on the proposed 15.83 ha parcel of land, as it is anticipated that this area will be used for outdoor storage purposes.
only.

The RM will need to correspond with Martensville/Warman Fire and Protective Services to set up general the general parameters for these services at the proposed Development. It is assumed that these services are currently provided to the existing Park Derochie development, and an extension of this development will not have a great impact on the existing agreement between the RM and Martensville/Warman Fire and Protective Services. Police services will be provided by the Corman Park Police Services and the Martensville Detachment of the Royal Canadian Mounted Police.

The proposed development is not located on land considered to be heritage sensitive, according to the Heritage Conservation Branch at the Ministry of Parks Culture and Sport. According to the Saskatchewan Conservation Data Centre, the proposed development is not located in an area considered to have potential critical wildlife habitat or in an area with rare or endangered species of plants and animals.

In March, 2016 a mail out was distributed to all neighbours within 1 mile (1.6 km) of the proposed subdivision, informing residents of the proposed expansion to the existing Park Derochie Coatings development. A total of three letters were received in response. Concerns highlighted in two of these letters included ensuring drainage was correctly planned for, concerns regarding contaminated media left after blasting, possible pollutants including dust, noise and smells, and hours of operation. An additional letter was submitted indicating no concerns, but it was misplaced by the consultant. Developer responses to these concerns are indexed in Table 6-1.

Park Durochie initially approached CBC Radio about purchasing an additional 4.85 ha (12 acres). CBC Radio then approached Park Durochie and offered to sell 12.35 ha (30 acres) of land as they had no use for it. Park Durochie agreed to the greater amount and could use the land for further expansion which would have to applied for and approved by the RM at a future date.

It is important to note that Park Durochie is not proposing to intensify its operations. This additional land will allow for additional equipment storage. Park Derochie currently operates over 30 company vehicles and other trucks, and their Abrasive Blasting and Industrial Coatings business requires a lot of specialized mobile equipment for use on northern Uranium Mines ( Cameco, Areva), Potash Mines – PCS, Agrium, K+S, Mosaic, as well as other various jobs around Saskatchewan. Also, the existing location is used as a staging point for trucked loads of steel from all over Canada and USA, where it is unloaded and distributed to their shops for coating and then stored on-site until delivery is required.
1 INTRODUCTION

1.1 PURPOSE

The purpose of this document is to provide the Rural Municipality of Corman Park No. 344 with a Comprehensive Development Review to as per the requirements of the municipality.

This review provides a framework for the rezoning of the proposed parcel of land for the purpose of expanding an existing Industrial Coating & Abrasive Blasting operation. The existing 3.48 ha (8.61 ac) Parcel D is home to an Industrial Coating & Abrasive Blasting operation, that was previously approved as a permitted use (manufacturing establishment) under the M2 – Rural Industrial Park Zoning District.

The Developer of the project is Park Derochie Coatings. The Plan of Proposed Subdivision for the Development is attached as Appendix “A” to this document.

Questions on the proposal or the material contained within this document should be directed to Jim Walters (306-665-3441).

1.2 OVERVIEW

It is the intention of the Developer to expand the existing Industrial Coatings and Abrasive Blasting operation on the additional 12.35 ha portion of land to the east of the existing development. The proposed expansion is located approximately 3 km to the south of the City of Martensville.

The Developer has agreed to purchase the additional 12.35 ha parcel of land from CBC Radio. It is anticipated that no services, including water, sewer or other utilities will be required at this newly acquired portion of land, as it will be used for outdoor storage field use equipment, company vehicles and industrial consumables as well as, loads of structural steel, pipe, or other items needed to be coated.
2 INVENTORY AND ANALYSIS

2.1 EXISTING LAND USE

The proposed development site consists of approximately a 15.83 (39.12 ac) of land on the SW ¼, Section 9, Township 38, Range 5 W3M. The site is currently characterized by relatively flat and low gradient terrain, with small depressions susceptible to retaining water during spring runoff, higher intensity rainfalls and wet years.

Other land uses on the east side of Highway #12 consist mainly of lands used for highway commercial and industrial purposes. On the west side of Highway #12, a select number of single-parcel country residences were identified and mapped. The City of Martensville is located approximately 3 km to the north of the existing development. The site is currently zoned AG - Agriculture District, but the Developer is applying to rezone, subdivide and consolidate the parcel to the east to M2 – Rural Industrial Park 2 District. The existing Industrial Coating operation is zoned as M2 – Rural Industrial Park District, which was previously approved as a permitted use as a manufacturing establishment.
The Existing Land Use Context of the Proposed Development is as Follows:

North
- Existing Highway Commercial Dev’t  Adjacent to north boundary
- Township Road 382 (Lutheran Rd.)  Approx. 800 m north of north boundary
- City of Martensville Lagoon/Landfill  Approx. 1.3 km northeast of north boundary
- City of Martensville  Approx. 3 km north of north boundary

South
- Existing Highway Commercial Dev’t  Adjacent to south boundary
- CBC Radio Towers  Adjacent to south boundary
- East Cory Industrial Park  Approx. 2.0 km southeast of south boundary
- City of Saskatoon  Approx. 2.0 km south of south boundary

West
- Service Road  Adjacent to west boundary
- Highway #12  Approx. 30 m west of west boundary
- Single Parcel Country Residential  Across Highway #12, approx. 150 m west

East
- Vacant agricultural land  Adjacent to east boundary
- Rock Ridge Road  Approx. 1.2 km east of east boundary
- Power Utility  Approx. 1.2 km east of east boundary
- North Corman Industrial Park  Approx. 3.1 km east of east boundary

2.2 PROPOSED LAND USE

The proposed land use is to expand the existing Industrial Coatings and Abrasive Blasting operation on Parcel D, by adding 12.35 ha of land currently owned by CBC Radio.

The proposed development is compatible with the existing land uses currently in the surrounding area, specifically the highway commercial and industrial developments. The proposed development is designed to provide additional space for the existing Industrial Coating & Abrasive Blasting operation on Parcel D on the same quarter section. One lot, measuring approximately 12.35 ha in size has been purchased from CBC Radio, which currently operates four radio towers to the south of the proposed expansion. It is the intent of the Developer to subdivide this additional parcel from the parcel owned by CBC Radio and to consolidate it with the existing Park Derochie operation. The existing Park Derochie Operation is zoned as M2 – Rural Industrial Park 2 District and was approved as a permitted use under “Manufacturing Establishment”. It is the intent of the Developer to seek rezoning of the additional 12.35 ha parcel of land to M2 to accommodate the proposed expansion.
2.3 SERVICING

The Developer will not require any services (water, wastewater, power, natural gas) at the proposed expansion site, as it will mainly be used for storage purposes. Services are provided to the existing Industrial Coating & Abrasive Blasting operation on Parcel D of the SW ¼, Section 9, Township 38, Range 5 W3M. Should the Developer wish to expand their operations to include additional buildings that require municipal services, they will contact the appropriate utilities at that time.

2.4 POLICY CONTEXT

The proposed residential development has been designed to meet the requirements of the Official Community Plan (OCP) and Zoning Bylaw (ZB) for the RM of Corman Park.

2.4.1 CORMAN PARK OFFICIAL COMMUNITY PLAN

**Intensive Agricultural Objectives and Policies (Section 4)** - Section 4 of the Official Community Plan identifies the following Agricultural Policies that are pertinent to the proposed Park Derochie Industrial Coating & Abrasive Blasting operation expansion.

4.2 Intensive Agricultural Policies

- 4.2.3: Correspondence with RM of Corman Park administration indicated that the proposed development is located within 1.6 km of up to four Intensive Livestock Operations. However, the proposed development meets the separation distances as outlined in Table 1, Section 4.2 for a Rural Industrial Park or Use of the RM’s Official Community Plan (see correspondence from the RM of Corman Park attached as Appendix B).

**Industrial Objectives and Policies (Section 6)** – Section 6 of the Official Community Plan identifies the following Industrial Policies that are pertinent to the proposed Park Derochie expansion.

The existing Park Derochie development was rezoned as M2 – Rural Industrial Park 2 District as a Permitted Use (manufacturing establishment). As illustrated by this CDR, the proposed rezoning of an additional 12.35 ha of land would be to accommodate the expansion of this existing use.

6.2 General Industrial Policies

- The proposed development was initially approved as a permitted use (manufacturing establishment) in the R2 – Rural Industrial Park District under the RM of Corman Park’s Zoning Bylaw. The proposed development will be an extension of the existing Industrial Coating & Abrasive Blasting operation.
Land Conservation Policies (Section 9) – Section 9 of the Official Community Plan identifies the following land conservation policies that are applicable to the Park Derochie Coatings development:

9.2 Land Conservation Policies

- 9.2.3: The proposed development is not located on land considered to have heritage sensitivity, according to the Heritage Conservation Branch of the Ministry of Parks Culture and Sport (see attached query in Appendix C).

- 9.2.4: The proposed development is not located in any areas of significant wildlife or plant habitat, according to the Saskatchewan Conservation Data Centre (SKCDC) (attached as Appendix C).

- 9.2.9: A stormwater management report was completed in February, 2016 by Bullée Consulting Ltd. Drainage analysis of the subject parcel included calculations for pre- and post-development runoff conditions. The runoff generated post-development for a 1:100 year storm event was calculated to be 27 mm or 3,342 m$^3$. Combined with the pre-development storage volume, the total volume to store for a 1:100 year storm and 125% storage volume was calculated at 4,178 m$^3$. Bullée Consulting recommended that runoff be directed to shallow swales along the parcel perimeter following the existing drainage pattern and elevations. The swales will then drain towards a single pond or dugout located at the southeast corner of the site. Construction of the pond will consist of in-situ material with 4:1 side slopes. Although size and dimensions of the pond will be dependent on the layout of the proposed development, final site grading and location of any buildings/storage areas, a conceptual layout, drainage plan and contour plans were designed illustrating the 4,178 m$^3$ storage requirements. In the event that water runoff does occur, it is recommended that outlet control be undertaken through a single culvert or outlet pipe hydraulically designed to ensure runoff is not released at a rate exceeding the pre-development flow of 200 L/s/ha. Preliminary calculations indicate a 450 mm pipe should meet this criterion, and that adequate erosion protection and rip rap should be provided at the outlet (see attached drainage review and conceptual layout in Appendix D).

Servicing Policies (Section 11) – Section 11 of the Official Community Plan identifies the following servicing policies that are applicable to the Park Derochie development:

11.2 Servicing Policies

- 11.2.1: Access to the proposed development will occur via the existing service road that borders the existing Park Derochie development. It is intended that the additional 12.35 ha parcel will be used for storage purposes, and any internal access roads that need construction will be done so to the RM of Corman Park’s standards.
2.4.2 RM of Corman Park Zoning Bylaw

The proposed development would require rezoning Proposed Parcel G from partially A - Agriculture District and partially M2 – Rural Industrial Park 2 District to entirely M2 – Rural Industrial Park 2 District.
3 TRANSPORTATION AND MUNICIPAL SERVICES

3.1 COMMUNITY ACCESS

The proposed development is located immediately east of the service road that parallels Highway #12, south of the City of Martensville. No Traffic Impact Assessment (TIA) was undertaken as a part of this Comprehensive Development Review, as it is not anticipated that much by way of increased truck traffic will occur with the expansion of this existing permitted use.

3.2 INTERNAL ROADS

No internal roads are proposed for the additional 12.35 ha of land associated with this development. However, should any internal roads be required in the future, they will be engineered and constructed to the RM of Corman Park’s standards.

3.3 SEWAGE COLLECTION & WASTE WATER TREATMENT

The proposed 12.35 ha addition of land associated with this development will not require the installation of any wastewater services, as the parcel will be used for storage purposes.

3.4 POTABLE WATER SUPPLY AND DISTRIBUTION

Potable water will not be required at the proposed addition of land to the existing Park Derochie operation.

3.5 DRAINAGE

A drainage study, and conceptual layout, drainage plans and contour plans were completed by Bullée Consulting at the request of Park Derouchie Coatings (attached as Appendix D). The existing land use of the proposed development area consists of cultivated farmland that is relatively flat low gradient terrain with small depressions susceptible to retaining water during spring runoff, higher intensity rainfalls and wet years. There is no defined drainage route in the immediate area. Elevations within the site range from 511 m at the west extent to 509 m at the southeast. Runoff flows across the site from west to east following typical prairie “fill and spill” topography, where water becomes entrapped in the shallow lying areas before a spill point is reached. At the spill elevation, overland flow then migrates toward adjacent low lying areas before reaching a series of naturalized swales located approximately 2.4 km east and extending 4.2 km southwest of the site, with the ultimate outlet being the South Saskatchewan River by means of Opiminaw Creek. Bullée consulting provided a drawing of the existing drainage pattern attached in Appendix D.

The drainage study undertaken by Bullee Consulting concluded that post-development storm water facilities should allow sufficient capacity to store 125% of the excess post development runoff for
the 1:100 year, 24 hour storm event, as required by the RM of Corman Park. Release of storm water from the facility should not exceed the pre-development flow rate calculated using the 60 minute storm event. Both pre- and post-development runoff were calculated and it was concluded that in order to maintain existing conditions, a storm water management plan is required to hold all post-development runoff volumes above the 3,342 m$^3$ and release at a rate not exceeding 220 L/s/ha. By assuming an impervious surface of 60%, it was calculated that the total additional runoff generated post-development for the 1 in 100 year (+25%) storm event, the storage volume needed to meet the RM’s requirements would be 4,178 m$^3$.

In order to facilitate development of the parcel, Bullée Consulting recommended that runoff be directed to shallow swales along the parcel perimeter following the existing drainage pattern and elevations. The swales will then drain towards a single pond or dugout located at the southeast corner of the site. Construction of the pond will consist of in-situ material with 4:1 side slopes. Size and dimensions on the pond will be dependent on the layout, final site grading and location of any buildings or storage areas on the subject parcel. A conceptual layout illustrating the drainage plans, and contour plans for the pond are also attached as Drawing 2 in Appendix D.

Based on the existing site grades, Bullée Consulting anticipates that the proposed water retention dugout or pond feature will be required to function as a source of borrow material for site grading and filling of low areas. As such, it is anticipated that the actual storage volume which will be provided will exceed the retention requirements and will therefore result in little to no runoff generated from the site. In the event that water runoff does occur, it is recommended that outlet control be undertaken through a single culvert or outlet pipe hydraulically designed to ensure runoff is not released at a rate exceeding the pre-development flow of 200 L/s/ha. Preliminary calculations indicate a 450 mm pipe should meet this criterion, and that adequate erosion protection and rip rap should be provided at the outlet.

### 3.6 SHALLOW UTILITIES

There is no need for the developer to obtain any services to the proposed industrial development as the additional land is going to be used for storage purposes.

### 3.7 FIRE AND PROTECTIVE SERVICES

The RM will need to correspond with Martensville/Warman Fire and Protective Services to set up general the general parameters for these services at the proposed Development. It is assumed that these services are currently provided to the existing Park Derochie development, and an extension of this development will not have a great impact on the existing agreement between the RM and Martensville/Warman Fire and Protective Services. Police services will be provided by the Corman Park Police Services and the Martensville Detachment of the Royal Canadian Mounted Police.
4 Heritage and Environmental Considerations

4.1 Heritage Conservation

According to the Heritage Conservation Branch at the Ministry of Tourism Parks Culture and Sport, the proposed development is not located in an area with any potential heritage sensitivity (query attached as Appendix C).

4.2 Environmental Considerations

According to the Saskatchewan Conservation Data Centre, the proposed development is not located in a significant wildlife habitat or plant area (also attached as Appendix C).
5 Staging and Implementation

A Plan of Proposed Subdivision, attached as Appendix A, details the extent of the proposed subdivision and consolidation of land at the Park Derochie Industrial Development. As the existing development operates as an existing permitted use (manufacturing establishment) under the M2 – Rural Industrial Park 2 District, this development is considered to be an extension of this use. If RM Council approves the rezoning of Proposed Parcel G, it is anticipated that the 12.35 ha parcel of land will be subdivided from the existing CBC property, and consolidated to join with Parcel D, Plan No. 101648066 in the NW ¼ Section 9, Township 38, Range 5. This subdivision will need to be approved by the Community Planning Branch at the Ministry of Government Relations.
6 Public Consultation

In February 2016 a mail out was distributed to all neighbours within 1 mile (1.6 km) of the proposed expansion, informing residents of the desire of the Developer to expand their existing Industrial Coating & Abrasive Blasting operation. A total of three letters were received in response. Concerns highlighted in these letters are summarized as follows:

Stephen Gerich, March 30, 2016:

- Concerned that the landscaping/grading of the development be properly graded to accommodate the natural drainage of water in a correct direction. Concerned that if the new development is built up with clay, topsoil or gravel, the natural drainage could be blocked with no access for the water to move south.
- Concerns regarding contaminated media left after the blasting process.

Heather Veitch, Jake Wiebe, Holly Nelson, and Martin & Mary Guenther, March 28, 2016:

- Concerned about pollutions put into the environment such as dust, noise and smell from the chemicals.
- Also concerned about hours of operation. Would prefer hours limited to Monday-Saturday 7:00 am to 7:00 pm, and none on Sunday.

A neighbor sent a letter indicating no concerns, but this letter was misplaced.

Copies of the mail-out and all feedback received are attached as Appendix E.

Concerns listed about the proposed development and the Developer’s responses to those concerns are indexed in Table 6-1.

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Comments/Concerns</th>
<th>Developer’s Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerich</td>
<td>Drainage</td>
<td>A storm water retention pond will be constructed in the southwest corner of the site and will be designed to accommodate a 1 in 100 year flood event plus 25%.</td>
</tr>
<tr>
<td></td>
<td>Contaminated media left over</td>
<td>Spent abrasive media is currently being hauled away to Loraas and disposed of in accordance with provincial environmental regulations. Additionally, Park Derochie at this location abrasive blasts new structural steel, equipment or pipe for their various customers.</td>
</tr>
<tr>
<td></td>
<td>Materials occasionally have been stored on his property</td>
<td>Park Derochie will erect a fence along the northern property boundary of the Park Derochie parcel for the full length to ensure no materials are stored off the property on the Gerich parcel.</td>
</tr>
<tr>
<td></td>
<td>Pollutants/nuisances such as dust, noise, smell</td>
<td>Spent abrasive media is currently hauled away to Loraas and disposed of in accordance with provincial environmental regulations. Additionally, Park Derochie abrasive blasts new steel only and does not treat used steel that has been painted.</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hours of operation</td>
<td>Park Derochie has operated 20 hours per day for the past four years and this is not proposed to change. The plan for this additional land be used to store, field equipment, company vehicles, and consumables as well as loads of structural steel, or pipe that needs to be completed. Based on previous volumes of work or scheduled work hours, this should not exceed current working hours.</td>
<td></td>
</tr>
</tbody>
</table>

It is worth noting that there is no proposed intensification associated with the Park Derochie development, and that the additional area of the parcel is intended for outdoor storage. There may be a need in the future to build a new storage building on the property for small tools and equipment, but no immediate plans are in place at this time.
7 APPENDICES
Appendix “A”
Plan of Proposed Subdivision
Appendix “B”
Setback Correspondence
Hi Maggie,

See the attached image. These are the known ILO locations, and existing stockpile locations. I do not believe they are conduction any actual mineral resource extraction or not. Hope this helps.

**Cory Boudreau, B.A**
Planner I,
R.M. of Corman Park 344
Ph: (306)975-1665    Fax: (306)242-6965

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Hi Cory,

We are working on a BDR for a proposed expansion of a sandblasting operation (requesting rezoning to M2).

As per the BDR checklist, could you please let me know if the proposed development at Parcels D and G of the SW ¾ Section 9, Township 38, Range 5 W3M is located within 1.6 km of:

- An intensive livestock operation;
- Mineral resource extraction area;
- Recreation or conservation site; or,
- Other area of concern.

I can see that the development is located within 1.6 km of the City of Martensville’s sewage lagoon and solid waste disposal facility.

Thanks,

Maggie

Maggie Schwab, M.A.
CROSBY HANNA & ASSOCIATES
Appendix “C”
Heritage and Environmental Queries
Inquiry was made on February 17, 2016 at 1:17 PM
You are inquiring about the heritage sensitivity of the following land location:

Quarter-section: SW
  Section: 9
  Township: 38
  Range: 5
  Meridian: 3

This quarter-section is NOT heritage sensitive.

It is not necessary to submit the project to the Heritage Conservation Branch for screening. These results can be printed for submission to other regulatory bodies (e.g. Saskatchewan Environment, Saskatchewan Industry and Resources). Please email arms@gov.sk.ca if you have any questions.
Appendix "D"
Drainage Report and Concept Plan
Ms. Maggie Schwab  
Crosby Hanna & Associates  
407C 1st Avenue North  
Saskatoon, SK  S7K 1X5

Dear Ms. Schwab:

Re: Park Durochie Comprehensive Development Review

We are pleased to submit the following letter report as part of the R. M. of Corman Park’s Comprehensive Development Review process. The purpose of this report is to outline the proposed plan for storm water management within the parcel to mitigate any adverse effects within the surrounding area as a result of changes in land use or development.

1. INTRODUCTION

The proposed development site is located in the SW 1/4 of Sec 9 - Twp 38 - Rge 5 - W 3rd M, located 3.0 km south of the City of Martinsville adjacent to Provincial Highway 12. The total area of the development parcel is approximately 12.3 ha at full build-out. Existing land use consists of cultivated farmland with highway industrial sites to the north and south. Topography of the land is characterized by relatively flat and low gradient terrain, with small depressions susceptible to retaining water during spring runoff, higher intensity rainfalls and wet years. There is no defined drainage route in the immediate area. Elevations within the site range from 511 m at the west extents, to 509 m to the southeast. Runoff flows across the site from west to east following typical prairie ‘fill and spill’ topography, where water becomes entrapped in the shallow lying areas before a spill point is reached. At the spill elevation, overland flow then migrates toward adjacent low lying areas at slightly lower elevations before reaching a series of naturalized swales located 2.4 km east and extending 4.2 km southwest of the site, with the ultimate outlet being the South Saskatchewan River by means of Opimihaw Creek. The existing drainage patterns are shown on Drawing 1 (attached).

2. DESIGN STORMS

Two storms are critical for mitigating downstream flood potential and developing storm water management within the parcel. Critical storms are the 1 in 100 year, 24 hour and 60 minute storm events. Post-development storm water facilities should allow sufficient capacity to store 125% of the excess post development runoff for the 1 in 100 year, 24 hour storm event to meet the R.M. of Corman Park requirements. Release of storm water from the facility should not exceed the pre-development flow rate calculated using the 60 minute storm event. This event represents the critical flow rate seen by downstream users, based on the size of parcel, low gradient terrain and estimated time of concentration for the storm event.
Design storms will use the intensity-duration frequency curves already developed for the City of Saskatoon. Location of the development site is close enough in proximity to the City that any variance in design storms will be insignificant. Previous studies completed by the City and other developments in the area have utilized these storms for estimating flows, and it would be reasonable to use the Saskatoon storms to ensure consistency. Total rainfall and intensity for each storm are noted in Table 1.

<table>
<thead>
<tr>
<th>Table 1: Design Storms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 in 100 Year Event</strong></td>
</tr>
<tr>
<td>60 Minute Duration</td>
</tr>
<tr>
<td>24 Hour Duration</td>
</tr>
</tbody>
</table>

Using the above storms, pre-development flows will be used to estimate runoff potential and establish release rates off the project site.

3. **PRE-DEVELOPMENT RUNOFF POTENTIAL**

Assessing runoff potential will utilize the rational method, due to the relatively small subject area. Existing land use notes cultivated hay fields which are 100% permeable surfaces prior to reaching saturation limits. Soils in the area are a combination of relatively impervious clay till and surface deposits of sand and gravel. Based on the above, a conservative predevelopment runoff coefficient of 0.3 would be expected. Using the 60 minute and 24 hour duration storms, the pre-development runoff flows and volumes are noted below.

<table>
<thead>
<tr>
<th>Table 2: Pre-Development Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 in 100 Year, 60 Minute Duration Storm</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>Runoff Coefficient</td>
</tr>
<tr>
<td>Rainfall Intensity (15 minute)</td>
</tr>
<tr>
<td>Area</td>
</tr>
<tr>
<td>Runoff</td>
</tr>
</tbody>
</table>
Table 3: Pre-Development Volume 1 in 100 Year, 24 Hour Duration Storm

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runoff Coefficient</td>
<td>0.3</td>
</tr>
<tr>
<td>Total Rainfall (24 hour)</td>
<td>90.24 mm</td>
</tr>
<tr>
<td>Area</td>
<td>12.3 ha</td>
</tr>
<tr>
<td>Runoff Volume</td>
<td>3,342 m³</td>
</tr>
</tbody>
</table>

As noted, the pre-development flow for the 60 minute duration storm will be 220 L/s/ha and total pre-development runoff volume for the 24 hour duration is 3,342 m³. To maintain existing conditions, a storm water management plant is required to hold all post-development runoff volumes above the 3,342 m³ and release at a rate not exceeding 220 L/s/ha.

4. POST-DEVELOPMENT RUNOFF

Development of any site increases the volume of runoff generated by reducing the amount of pervious surface available for water to infiltrate. Parking areas, pavement, and buildings increase the impervious surface area resulting in larger storm and runoff volumes. A typical industrial parcel is expected contain between 45 - 75% impervious surfaces depending on the type of development and expected land use. Based on a review of nearby industrial developments, approximately 10% of the lot is covered by building with the remaining area consisting of gravelled parking and storage. Gravel surfaces would be considered a semipermeable surface, allowing some water to infiltrate the soil below before generating any substantial runoff. For the site at full development, an assumed impervious surface area of 60% will be used equal to a runoff coefficient of 0.6. Details are noted in Table 4.

Table 4: Post-Development Volume 1 in 100 Year, 24 Hour Duration Storm

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runoff Coefficient</td>
<td>0.6</td>
</tr>
<tr>
<td>Total Rainfall (24 hour)</td>
<td>90.24 mm</td>
</tr>
<tr>
<td>Area</td>
<td>12.3 ha</td>
</tr>
<tr>
<td>Runoff Volume</td>
<td>6,684 m³</td>
</tr>
</tbody>
</table>
Applying the above, the total additional runoff generated post-development for the 1 in 100 year, 24 hour duration storm event is equal to 27 mm or 3,342 m³. Combining this with the pre-development storage volume from Table 3, the total volume to storage the 1 in 100 year storm and 125% storage volume to meet the R. M. regulations are noted in Table 5.

<table>
<thead>
<tr>
<th>Description</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Development Runoff</td>
<td>3,342 m³</td>
</tr>
<tr>
<td>Post-Development Runoff</td>
<td>6,684 m³</td>
</tr>
<tr>
<td>Excess Runoff</td>
<td>3,342 m³</td>
</tr>
<tr>
<td>R. M. Requirement (additional 25%)</td>
<td>836 m³</td>
</tr>
<tr>
<td><strong>Total Storage Required</strong></td>
<td><strong>4,178 m³</strong></td>
</tr>
</tbody>
</table>

To meet storm water management requirements, the parcel requires a storm water management plan capable of attenuating 4,178 m³ of runoff. Release of storm water should not exceed the 220 L/s/ha noted earlier.

5. **STORM WATER MANAGEMENT PLAN**

To facilitate development of the parcel, runoff should be directed to shallow swales along the parcel perimeter following the existing drainage pattern and elevations. The swales will drain towards a single pond or dugout located at the southeast corner of the site. Construction of the pond will consist of in-situ material with 4:1 side slopes. Size and dimensions of the pond will be dependent on the layout, final site grading and location of any buildings or storage areas on the site. For conceptual planning purposes and to meet the 4,178 m³ storage requirement, approximate pond details are noted in Table 6. Conceptual layouts, drainage plans, and contour plans for the pond are shown on Drawing 2.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Required</td>
<td>4,178 m³</td>
</tr>
<tr>
<td>Active Storage Depth</td>
<td>0.75 m</td>
</tr>
<tr>
<td>Approximate Width</td>
<td>70 m</td>
</tr>
<tr>
<td>Approximate Length</td>
<td>80 m</td>
</tr>
</tbody>
</table>
6. **STORM WATER RELEASE AND OUTLET DESIGN**

Based on the existing site grades, it is anticipated the proposed water retention dugout or pond feature will be required to function as source of borrow material for site grading and filling of low areas. As such, it is anticipated the actual storage volume which will be provided will exceed the retention requirements and result in little to no runoff generated from the site. In the event water runoff does occur, outlet control will be through a single culvert or outlet pipe hydraulically designed to ensure runoff is not released at a rate exceeding the pre-development flow of 220 L/s/ha. Preliminary calculations indicate a 450 mm pipe should meet this criterion. Adequate erosion protection and rip rap should be provided for the outlet.

7. **CONCLUSION**

Providing the storage requirements identified above will accommodate the 1 in 100 year rainfall event and mitigate flood potential to downstream users.

We trust this letter report meets your requirements at this time. Should you have any questions in this regard, please do not hesitate to contact our office.

Yours truly,

BULLÉE CONSULTING LTD.

T. J. Ledding, P.Eng.
EXISTING GRANAGE

PROPOSED DEVELOPMENT

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PRELIMINARY ONLY
NOT FOR CONSTRUCTION

PARK DUROCHIE CDR
EXISTING SITE PLAN

SCALE: 1:15,000

T.J.L.
T.J.M.
L.J.K.

2016/01/29

96.06

PARK DUROCHIE CDR
EXISTING SITE PLAN

METERS

0
750
1500

SCALES SHOWN REFER TO ANSI D PAPER SIZE.
SCALES TO BE DOUBLED FOR ANSI B PAPER SIZES.
March 3, 2016

Dear Sir or Madam,

Neighbours of the following property:

<table>
<thead>
<tr>
<th>SW 1/4 Section 9, Township 38, Range 5, W3M</th>
</tr>
</thead>
<tbody>
<tr>
<td>(adjacent to the east side of Highway 12, approximately 3.0 km south of Martensville)</td>
</tr>
</tbody>
</table>

are hereby notified of a proposed expansion to an existing industrial sandblasting development on subject land named Park Derochie Coatings. The development will consist of an additional 15.83 ha of land to the east of the existing parcel to provide for additional storage space. See the maps on the reverse of this letter for the location of the existing development and proposed expansion to the Park Derochie Coatings development.

Any person who may be affected by the proposed development may address their questions, comments, or concerns by March 31st, 2016 via email to jwalters@crosbyhanna.ca, by fax to (306) 652-9613, or by mail to:

Jim Walters
Crosby Hanna & Associates
407 1st Ave N
Saskatoon SK, S7K 1X5

PARK DEROCHIE COATINGS INC.
March 30, 2016

Attention: Jim Walter (Crosby Hanna & Associates)

RE: Proposed Park Derochie Development/Expansion

The location of the Park Derochie Development is adjacent to our property (NW 09-38-05-W3). While our property does retain water (because of past gravel excavation) and has a caveat placed on it to allow for water drainage through it, we have some concerns we would like to be addressed.

The caveat was put in place to allow for natural drainage of water ultimately from the highway, through Wiebe’s property and then out. It was not put in place for adjacent landowners to drain into or to pump into.

We are concerned that the landscaping/grading of the new Park Derochie development be properly graded to accommodate the natural drainage of water in a correct direction. We have written confirmation from WSA (Al Keller) that indicates the natural drainage of our land is to the east and then south. The far eastern boundaries of our land and that of the new proposed development of Park Derochie are aligned. WSA has indicated that the natural water drainage is to the east and then south - which could drain over the back of the north east corner of the 15.83 ha proposed development. If the new development is built up with clay, topsoil or gravel, our concern is that the natural drainage would be blocked with no access for the water to move south.

We would expect that no drainage - graded or pumped - would occur onto our land and that drainage on the new development would not be established in a north or west pattern thereby ensuring no water drainage onto our land. Similarly, we would expect that snow pushing would not be dumped onto our property.
Your letter indicates the new development is to provide for additional storage space. We have some questions and concerns regarding this designation.

Is the new site to be an actual storage location or is it to be developed as an industrial based site?

Would this mean that no sandblasting would occur on this site? If there is going to be sandblasting on the site, we have concerns about the contaminated sand left after the blasting process. At the present time, we have some problems with Park Derochie pushing contaminated sand from a blasting area onto our land. This is happening along the north part of their lot. Sand and snow with debris during the winter months is pushed onto our property. Snow is also pushed onto our access road located directly to the north of their lot. Our concern is that this process would continue with their new development.

If you require further clarification on any of the above mentioned issues, please don't hesitate to contact me.

Sincerely,

Stephen Gerich
306.221.0554 (cell)
306.384.8716 (res)
Mar. 28, 2016

Crosby Hanna & Associates
407 1st Ave. North
Saskatoon, Sask. S7K 1X5

Dear Sir or Madam,
Regarding: SW ⅓ 9-38-5-W3.

Responding to your letter from Mar. 3, 2016.

As you are looking at a proposed expansion to an existing industrial sandblasting development, we as neighbors across highway 12 also want control of the pollutions that are being put into the environment such as the dust, noise and smell from the chemicals. The other thing is the hours of operation. We want designated work hours Mon-Sat 7a.m to 7p.m. and no work hours on Sunday.

If these requests can’t be met, we are opposed to this expansion.

Sincerely

Heather Veitch
Mary Guenther
Jake Wiebe

Cc: Joanne Janzen R.M.
Cc: R.M. of Corman Park