

KENOW WILDFIRE ASSESSMENT AND REMEDIATION WATERTON LAKES VARIOUS SITES ISSUED FOR TENDER

| DRAWING INDEX | |
|---------------|---|
| DWG. | DESCRIPTION |
| 176826-00-01 | OVERALL SITE PLAN |
| 176826-04-01 | SITE 4 PARK ENTRANCE PROPOSED REMEDIATION, LOCATION: GATE HOUSE |
| 176826-05-01 | SITE 5 PARK ENTRANCE PROPOSED REMEDIATION, LOCATION: HEAVY EQUIPMENT |
| 176826-06-01 | SITE 6 CANYON CHURCH CAMP PROPOSED REMEDIATION, LOCATIONS: COOK RESIDENCE, DIRECTOR RESIDENCE, HOSPITAL, FEMALE WASHROOM AND CABINS |
| 176826-07-01 | SITE 7 WATERTON GOLF PROPOSED REMEDIATION, LOCATION: MAINTENANCE SHED |

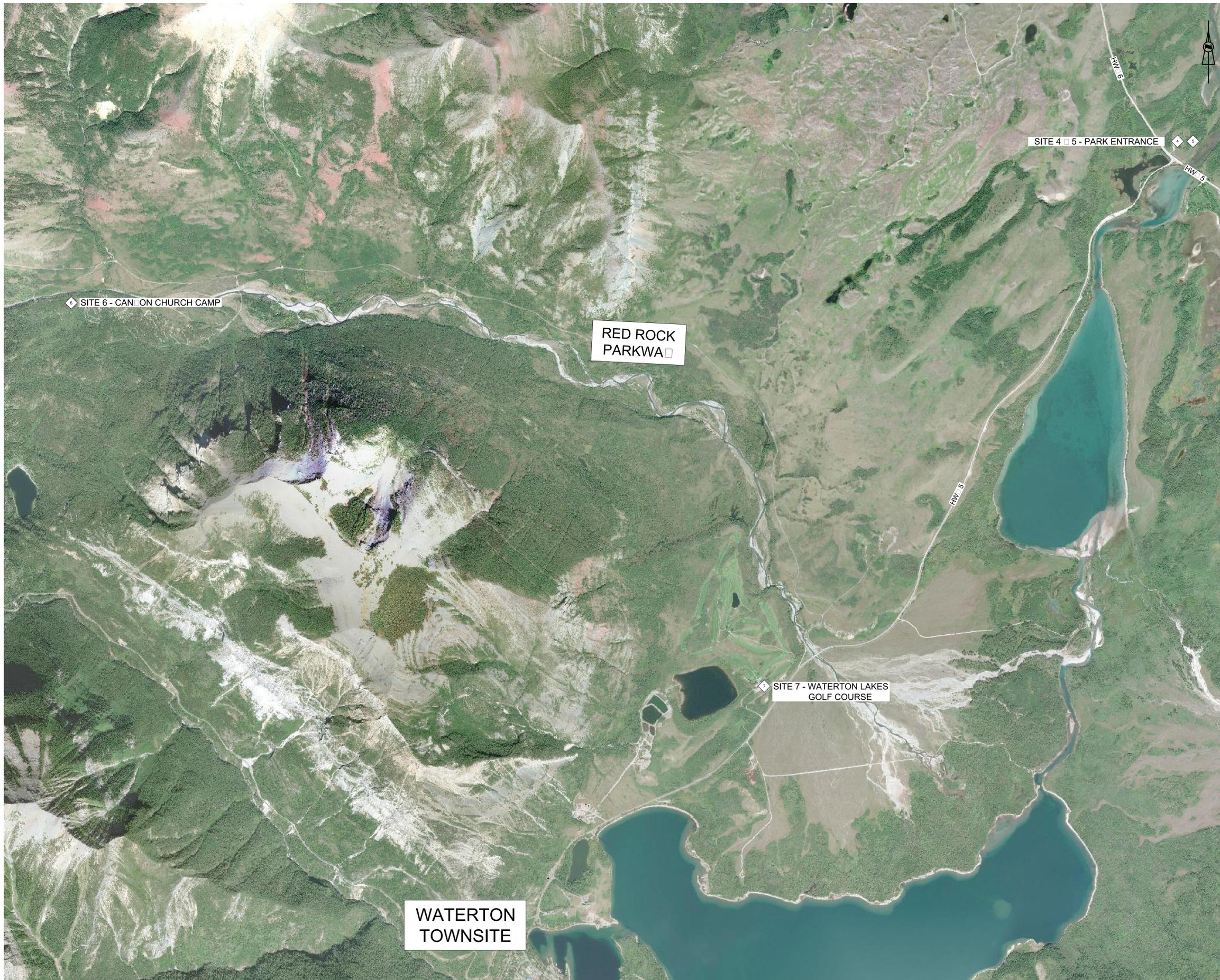


KE PLAN

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DILLON PROJECT: 176826
DATE: 07/24/2018





- Notes**
1. Hazardous material assessment of surface debris conducted between Dec. 19, 2017 and Jan. 19, 2018
 2. Shallow soil sampling assessment conducted from Dec. 19, 2017 to Dec 23, 2017
 3. Additional debris sampling at Site 6 completed in May 2018.
 4. Additional shallow soil sampling conducted in June 2018 at Site 4.

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 Date: July 13, 2018
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Project title/Titre du projet: **KENOW WILDFIRE ASSESSMENT AND REMEDIATION WATERTON LAKES**

Drawing title/Titre du dessin: **OVERALL SITE PLAN**

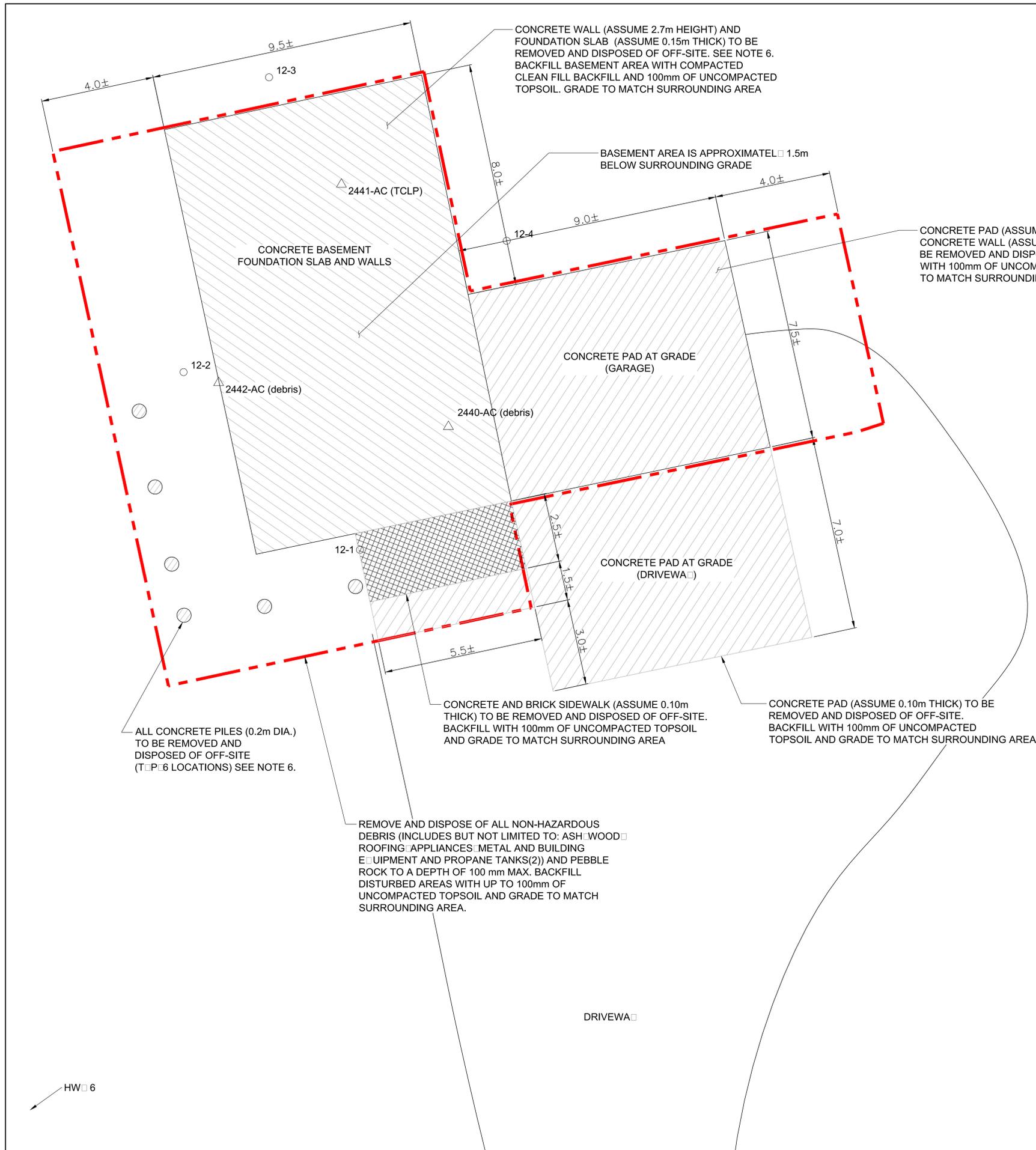
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| Surveyed by/Arpenté par: BOS | Drawn by/Dessiné par: BOS | Date/Date: 04/05/18 |
| Designed by/Concept par: ATY | Reviewed by/Revisé par: MHI | Scale/Echelle: 1:10000 |

PWSC Project Manager/Administrateur de Projets TPSGC

Client Acceptance/Acceptation du client: [Signature]

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| Project No./No. du projet: 176826 | Asset No./No. de bien: [Blank] | Sheet No./No. de la feuille: 1 of 5 |
|-----------------------------------|--------------------------------|-------------------------------------|

Drawing Reference No./No. de référence du dessin: **176826-00-01**



- Legend**
- Soil Sample Location
 - △ Debris Sample Location
 - Soil Sample Exceeding Applicable Tier 2 Regulatory Guidelines
 - ▲ Debris Sample Exceeding Regulatory Guidelines
 - - - Contaminated Soils Excavation Boundary
 - - - Non-Hazardous Surface Debris Boundary
 - ▨ Concrete
 - ▩ Brick

- Notes**
1. All Dimensions are approximate
 2. All quantities are approximate. Contractor to verify quantities on-site
 3. No hazardous material detected in surface debris during hazardous material assessment
 4. Site is within 500m of a surface water source
 5. Site is within 500m of a water well
 6. Assume 2.7m (9') basement concrete wall (0.15m thick) and concrete foundation (0.15m thick) within west portion of Gate House. Buried portion of basement is 1.5m (5') below grade
 7. Assume concrete piles are 0.20m in area and 1m deep
 8. Contractor required to cap and mark locations of water and sewer services
 9. Heavy Equipment Area is approximately 25m northeast of site

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Project title/Titre du projet: **KENOW WILDFIRE ASSESSMENT AND REMEDIATION WATERTON LAKES**

Drawing title/Titre du dessin: **SITE 4 - PARK ENTRANCE PROPOSED REMEDIATION LOCATION: GATE HOUSE**

| | | |
|------------------------------|-----------------------------|---------------------|
| Surveyed by/Arpenté par: BGS | Drawn by/Dessiné par: BGS | Date/Date: 04/05/18 |
| Designed by/Conçu par: AT5 | Reviewed by/Revisé par: MHT | Scale/Echelle: 1:50 |

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| Project No./No. du projet: 176826 | Asset No./No. du bien: [Blank] | Sheet No./No. de la feuille: 2 of 5 |
| Drawing Reference No./No. de référence du dessin: 176826-04-01 | | |

| | |
|---|--------------------|
| APPROXIMATE VOLUME OF NON-HAZARDOUS DEBRIS TO BE REMOVED AND DISPOSED OF OFF-SITE (DEPTH 100mm) | 120 m ³ |
| APPROXIMATE MASS OF FOUNDATION MATERIAL TO BE REMOVED AND DISPOSED OF OFF-SITE | 145 Tonnes |
| APPROXIMATE MASS OF IMPORTED CLEAN BACKFILL | 460 Tonnes |
| APPROXIMATE AREA OF IMPORTED TOPSOIL (DEPTH 100mm) | 425 m ² |

| SAMPLE ID | NORTHING | EASTING |
|---------------------|-------------|------------|
| 12-1 | 5444137.661 | 292539.982 |
| 12-2 | 5444143.934 | 292533.780 |
| 12-3 | 5444154.338 | 292536.784 |
| 12-4 | 5444148.568 | 292545.144 |
| 2440-AC (debris) | 5444142.061 | 292543.094 |
| 2441-AC (TCLP) | 5444150.610 | 292539.329 |
| 2442-AC (debris) | 5444143.610 | 292535.012 |
| BACKGROUND SAMPLE 3 | 5444116.872 | 292577.174 |

BACKGROUND SAMPLE 3



REMOVE AND DISPOSE OF ALL NON-HAZARDOUS DEBRIS (INCLUDES BUT NOT LIMITED TO: GENERATOR, TIRES, METAL, BURNT TIRE, TOOL SHED AND TANKS) TO A DEPTH OF 100 mm MAX. BACKFILL DISTURBED AREAS WITH UP TO 100mm OF UNCOMPACTED TOPSOIL AND GRADE TO MATCH SURROUNDING AREA.

- APPROXIMATE MASS OF CONTAMINATED SOIL TO BE REMOVED AND DISPOSED OFF-SITE (DEPTH 300mm) 95 tonnes
- CONTAMINANT DETECTED IN SOIL SAMPLE PAHs, Co, Cr, Pb, Cu, Zn, Ni, Cd, Hg, BTEX
- APPROXIMATE VOLUME OF NON- HAZARDOUS DEBRIS TO REMOVED AND DISPOSED OFF-SITE (DEPTH 100mm) 75m³
- APPROXIMATE MASS OF IMPORTED CLEAN BACKFILL (DEPTH 200 mm) 80 tonnes
- APPROXIMATE AREA OF IMPORTED TOPSOIL (DEPTH 100 mm) 290m²

| SAMPLE ID | NORTHING | EASTING |
|------------------|----------------------|------------|
| 11-1 | 5444164.870 | 292575.916 |
| 11-2 | 5444175.360 | 292574.062 |
| 11-3 | 5444187.477 | 292578.132 |
| 11-4 | 5444169.078 | 292584.405 |
| 2468-AC (TCLP) | 5444186.119 | 292573.784 |
| 2469-AC (debris) | 5444190.342 | 292575.774 |
| 11-5 | LOCATION APPROXIMATE | |
| 11-6 | | |
| 11-7 | | |
| 11-8 | | |
| 11-9 | | |

REMOVE AND DISPOSE OF ALL NON-HAZARDOUS DEBRIS TO A DEPTH OF 100 mm MAX. BACKFILL DISTURBED AREAS WITH UP TO 100mm OF UNCOMPACTED TOPSOIL AND GRADE TO MATCH SURROUNDING AREA.

EXCAVATE CONTAMINATED SOIL TO APPROXIMATE DEPTH OF 300mm BELOW EXISTING GROUND SURFACE AND DISPOSE OF OFF-SITE. BACKFILL WITH 200mm OF CLEAN BACKFILL AND 100mm OF UNCOMPACTED TOP SOIL. GRADE TO MATCH SURROUNDING AREA

EXCAVATE CONTAMINATED SOIL TO APPROXIMATE DEPTH OF 300mm BELOW EXISTING GROUND SURFACE AND DISPOSE OF OFF-SITE. BACKFILL WITH 200mm OF CLEAN BACKFILL AND 100mm OF TOPSOIL. GRADE TO MATCH SURROUNDING AREA

- Legend**
- Soil Sample Location
 - △ Debris Sample Location
 - Soil Sample Exceeding Applicable Tier 2 Regulatory Guidelines
 - ▲ Debris Sample Exceeding Regulatory Guidelines
 - - - Contaminated Soils Excavation Boundary
 - - - Non-Hazardous Debris Removal Boundary

- Notes**
1. All Dimensions are approximate
 2. All Quantities are approximate. Contractor to verify quantities on-site
 3. No hazardous material detected in surface debris during hazardous material assessment
 4. Miscellaneous debris may exist within 10m immediately outside of Non-Hazardous Debris boundary. This debris shall be disposed of by the Contractor
 5. Site is within 500m of a surface water source
 6. Site is within 500m of a water well
 7. Gate House is approximately 25m southeast of site

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Western and Northern Region / Ouest et Nord du Canada

Project title/Titre du projet: **KENOW WILDFIRE ASSESSMENT AND REMEDIATION WATERTON LAKES**

Drawing title/Titre du dessin: **SITE 5 - PARK ENTRANCE PROPOSED REMEDIATION LOCATION: HEAVY EQUIPMENT**

| Surveyed by/Arpenté par | Drawn by/Dessiné par | Date/Date |
|-------------------------|----------------------|-----------|
| BDS | BDS | 04/05/18 |

| Designed by/Concept par | Reviewed by/Revisé par | Scale/Echelle |
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| AT5 | MHT | 1:50 |

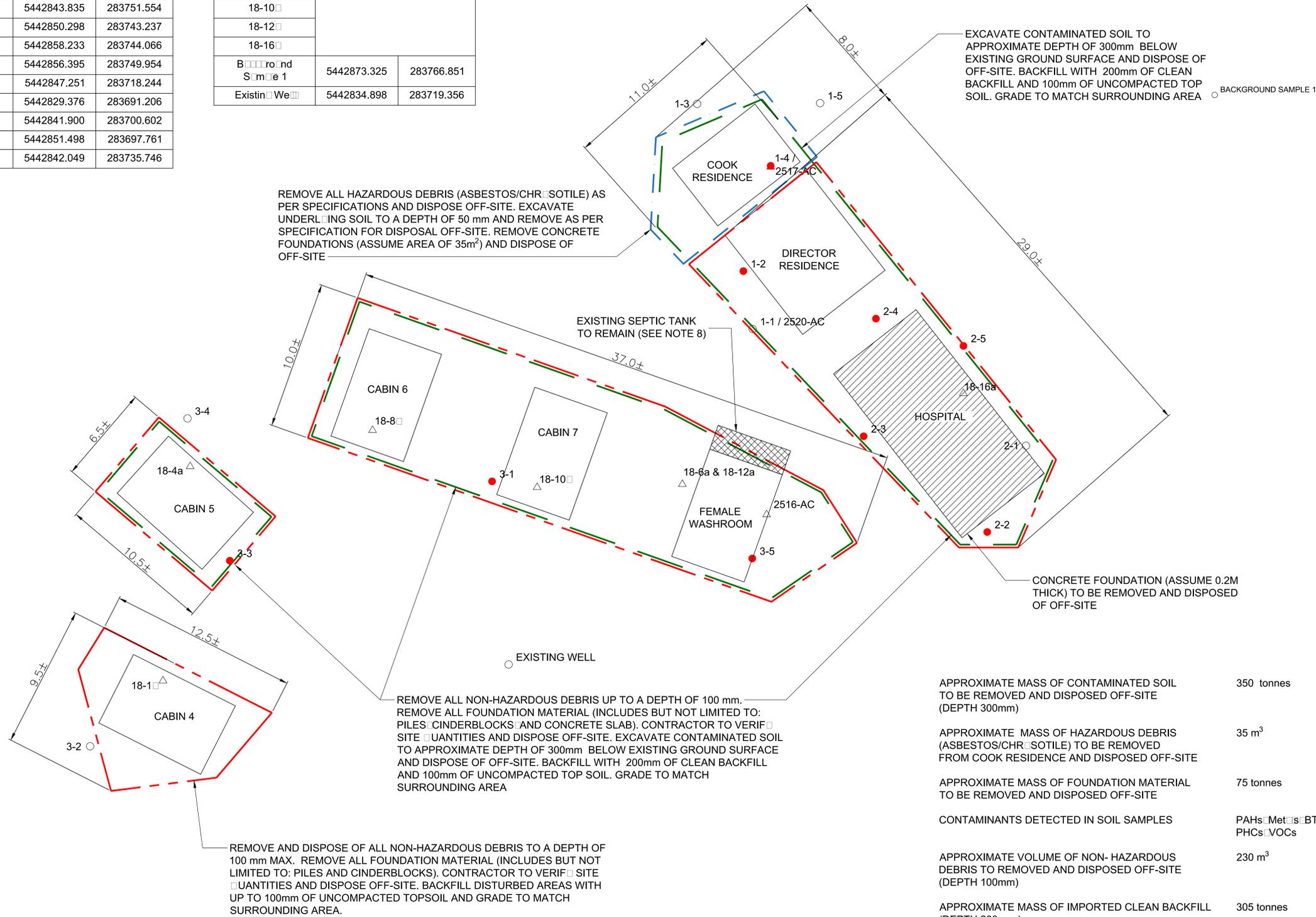
| Client Acceptance/Acceptation du client | | Approved by/Approuvé par |
|---|--|--------------------------|
| [Signature] | | [Signature] |

| Project No./No. du projet | Asset No./No. de bien | Sheet No./No. de la feuille |
|---------------------------|-----------------------|-----------------------------|
| 176826 | | 3 of 5 |

Drawing Reference No./No. de référence du dessin: **176826-05-01**

| SAMPLE ID | NORTHING | EASTING |
|-----------|-------------|------------|
| 1-1 | 5442857.537 | 283735.772 |
| 1-2 | 5442861.441 | 283735.149 |
| 1-3 | 5442872.725 | 283732.039 |
| 1-4 | 5442868.546 | 283736.987 |
| 1-5 | 5442872.775 | 283740.311 |
| 2-1 | 5442849.655 | 283754.163 |
| 2-2 | 5442843.835 | 283751.554 |
| 2-3 | 5442850.298 | 283743.237 |
| 2-4 | 5442858.233 | 283744.066 |
| 2-5 | 5442856.395 | 283749.954 |
| 3-1 | 5442847.251 | 283718.244 |
| 3-2 | 5442829.376 | 283691.206 |
| 3-3 | 5442841.900 | 283700.602 |
| 3-4 | 5442851.498 | 283697.761 |
| 3-5 | 5442842.049 | 283735.746 |

| | | |
|---------------------|----------------------|------------|
| 2516-AC (debris) | 5442845.089 | 283736.711 |
| 2517-AC (debris) | 5442868.546 | 283736.987 |
| 2520-AC (debris) | 5442857.537 | 283735.772 |
| 18-1 | LOCATION APPROXIMATE | |
| 18-4 | | |
| 18-6 | | |
| 18-8 | | |
| 18-10 | | |
| 18-12 | | |
| 18-16 | | |
| Background Sample 1 | 5442873.325 | 283766.851 |
| Existing Well | 5442834.898 | 283719.356 |



- Legend**
- Soil Sample Location
 - △ Debris Sample Location
 - Soil Sample Exceeding Applicable Tier 2 Regulatory Guidelines
 - ▲ Debris Sample Exceeding Regulatory Guidelines
 - - - Contaminated Soils Excavation Boundary
 - - - Non-Hazardous Debris Removal Boundary
 - - - Hazardous Debris Removal Boundary
 - ▨ Concrete

- Notes**
1. All Dimensions are approximate
 2. All Quantities are approximate. Contractor to verify quantities on-site
 3. Asbestos (Chrysotile) detected in surface debris of only the Cook's Residence during hazardous material assessment. No asbestos was detected from any other building on-site
 4. Site is within 500m of a surface water source
 5. Site is within 500m from a water well
 6. Assume all buildings on cinder block foundations that cover entire building footprint except the Hospital
 7. Contractor to assess and abate dangers posed by burnt utility poles and hazard trees in work area prior to starting work
 8. One concrete septic tank is located within the footprint of the Female Washroom. The tank is part of the septic system of the site which includes several underground lines and septic field. The system was undamaged by the fire. Contractor must take care not to damage any part of the septic system while completing the work
 9. Site access via Canyon bridge only
 10. Some sections of guardrail missing along Red Rock Parkway leading to site
 11. Contractor required to cap and mark locations of water and sewer services

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Consultant's Name / Nom de l'expert-consultant
DILLON CONSULTING

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Project Title/Titre du projet
KENOW WILDFIRE ASSESSMENT AND REMEDIATION WATERTON LAKES

Drawing Title/Titre du dessin
SITE 6 - CANYON CHURCH CAMP PROPOSED REMEDIATION

LOCATIONS: COOK RESIDENCE, DIRECTOR RESIDENCE, HOSPITAL, FEMALE WASHROOM AND CABINS

Surveyed by/Relevé par: BGS Date/Date: 04/05/18
Designed by/Concept par: ATY Reviewed by/Revisé par: MHI Scale/Echelle: 1:100

FWSC Project Manager/Administrateur de Projets TPSC

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| Project No./No. du projet | Asset No./No. de bien | Sheet No./No. de la feuille | |
| 176826 | | 176826-06-01 | 4 OF 5 |

APPROXIMATE MASS OF CONTAMINATED SOIL TO BE REMOVED AND DISPOSED OFF-SITE (DEPTH 300mm) 85 tonnes

CONTAMINANT DETECTED IN SOIL SAMPLE PAHs

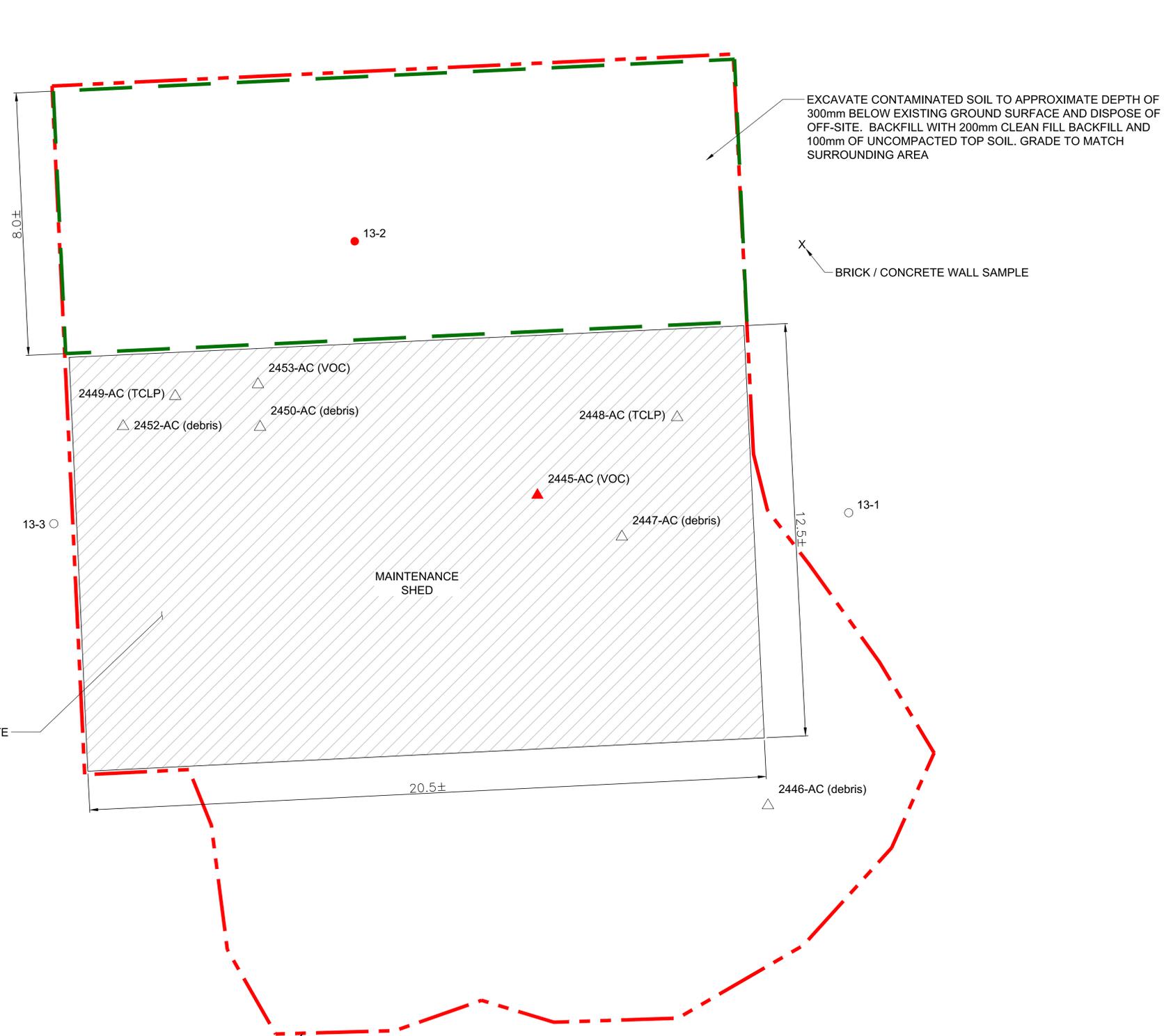
APPROXIMATE MASS OF FOUNDATION MATERIAL TO BE REMOVED AND DISPOSED OFF-SITE 105 tonnes

APPROXIMATE VOLUME OF NON-HAZARDOUS DEBRIS (CONTAINS VOCs) TO REMOVED AND DISPOSED OFF-SITE (EXCLUDES GOLF CARTS. SEE NOTE 7) (DEPTH 100mm) 270 m³

APPROXIMATE MASS OF IMPORTED CLEAN BACKFILL (DEPTH 200 mm) 75 tonnes

APPROXIMATE AREA OF IMPORTED TOPSOIL (DEPTH 100 mm) 610 m²

| SAMPLE ID | NORTHING | EASTING |
|------------------|-------------|------------|
| 13-1 | 5439778.122 | 289319.820 |
| 13-2 | 5439786.391 | 289304.819 |
| 13-3 | 5439777.790 | 289295.684 |
| 2445-AC (VOC) | 5439778.710 | 289310.367 |
| 2446-AC (debris) | 5439769.259 | 289317.366 |
| 2447-AC (debris) | 5439777.442 | 289312.931 |
| 2448-AC (TCLP) | 5439781.080 | 289314.608 |
| 2449-AC (TCLP) | 5439781.727 | 289299.370 |
| 2450-AC (debris) | 5439780.784 | 289301.946 |
| 2452-AC (debris) | 5439780.808 | 289297.788 |
| 2453-AC (VOC) | 5439782.087 | 289301.884 |



EXCAVATE CONTAMINATED SOIL TO APPROXIMATE DEPTH OF 300mm BELOW EXISTING GROUND SURFACE AND DISPOSE OF OFF-SITE. BACKFILL WITH 200mm CLEAN FILL BACKFILL AND 100mm OF UNCOMPACTED TOP SOIL. GRADE TO MATCH SURROUNDING AREA

BRICK / CONCRETE WALL SAMPLE

CONCRETE PAD (ASSUME 0.15m THICK) AND CONCRETE WALL (0.3m TALL x 0.2m WIDE) TO BE REMOVED AND DISPOSED OF OFF-SITE. BACKFILL WITH 100mm UNCOMPACTED TOP SOIL. GRADE TO MATCH SURROUNDING AREA

REMOVE AND DISPOSE OF ALL NON-HAZARDOUS DEBRIS TO A DEPTH OF 100 mm MAX. BACKFILL DISTURBED AREAS WITH UP TO 100mm OF UNCOMPACTED TOPSOIL AND GRADE TO MATCH SURROUNDING AREA.

- Legend**
- Soil Sample Location
 - △ Debris Sample Location
 - Soil Sample Exceeding Applicable Tier 2 Regulatory Guidelines
 - ▲ Debris Sample Exceeding Regulatory Guidelines
 - - - Contaminated Soils Excavation Boundary
 - - - Non-Hazardous Debris Removal Boundary
 - ▭ Concrete

- Notes**
1. All Dimensions are approximate
 2. All Quantities are approximate. Contractor to verify quantities on-site
 3. VOCs detected in surface debris during hazardous material assessment
 4. Site is within 500m of a surface water source
 5. Site is greater than 500m from a water well
 6. Contractor required to cap and mark locations of water and sewer services
 7. Approximately 40 burnt golf carts included with the debris. Majority of carts are gas powered, remainder are electric. Contractor is required to dispose of the carts as per applicable environmental regulations

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Drawing title/Titre du dessin: **SITE 7 - WATERTON GOLF PROPOSED REMEDIATION LOCATION: MAINTENANCE SHED**

| | | |
|------------------------------|-----------------------------|---------------------|
| Surveyed by/Arpenté par: BOS | Drawn by/Dessiné par: BOS | Date/Date: 04/05/18 |
| Designed by/Concept par: AYS | Reviewed by/Revisé par: MHI | Scale/Echelle: 1:50 |

| | | |
|--|--------------------------------|---------------------------------------|
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| Project No./No. du projet: 176826 | Asset No./No. du bien: [Blank] | Sheet No./No. de la feuille: 5 of 5 |
| Drawing Reference No./No. de référence du dessin: 176826-07-01 | | |