

ADVANTAGES OF SITE "F" OVER SITE "D" FOR REGIONAL LANDFILLING

SITE "F" - ADVANTAGES

A. Hydrogeology & Design

1. There will be no adverse impact on public health and safety occasioned by landfilling at Site "F".

Crutcher, Vol. 121, pp. 29207-29214; 29229
Sobanski, Vol. 32, p. 7005; Vol. 37, pp. 82006-07
Bowen, Vol. 170, p. 38904
Feenstra, Vol. 170, p. 42328
Charlesworth, Vol. 85, p. 20337 and Ex. M-437, p. 1-2

2. There are no existing or anticipated downgradient groundwater water users within one kilometre of Site.

Trow, Ex. H-14, App. "A", p. 3
Charlesworth, Vol. 85, p. 20334-35

3. The Groundwater at Site is of very poor quality and essentially non-potable.

Trow, Ex. H-14, App. "A", p. 3
Charlesworth, Vol. 85, p. 20334

4. Municipal piped water supply for all downgradient residents exists today.

Trow, Ex. H-14, App. "A", p. 3
Charlesworth, Vol. 85, p. 20334

5. There are no existing or anticipated surface water users within one kilometre of Site.

Trow, Ex. H-14, App. "A", p. 3
Charlesworth, Vol. 85, p. 20335

6. Sewers are in place near the site which have capacity to receive leachate.

Trow, Ex. H-14, App. "A", p. 3
Charlesworth, Vol. 85, p. 20336

SITE "D" - COMMENT

A. Hydrogeology & Design

1. In the event of trap failure, there will be rapid adverse impact on the existing groundwater resource. This is exacerbated if the unweathered upper till is fractured.

Feenstra, Ex. H-936 and Volume 169 & 170.

2. On Site and Site adjacent groundwater users exist.

3. Groundwater, despite poor quality in some locations, is an existing, used groundwater resource.

4. Piped water supply is not in place and there are practical and legal constraints to its introduction.

5. There are surface water users abutting Site "D": (i.e. on First Line and the Winter Farm, on Hwy 25).

6. Sewers are not currently in place at Site "D" and none is proposed. There are, in any event, practical and legal constraints to their introduction at Site "D".

apples + oranges
no impact
hr 50
no failure
no migration

F-off site mig imm -
danger
surface
water
impact -
community
safety
failure

Fallways
failure
-adverse S.W.
-not so, deep
shall

Kids
play in it
rec. uses.

uncertainty
geology
sewage
gran
units
re
contaminant
local-regional
trap.
or effect
small.
no problem.
no pathy for
off site migration

F. Swater.

- perm
- liner - know
what
our bottom

- perm draws fail - time
- if perm drain not
entirely in right place
liner unit on escape
now

10	8	rest caught
20	8	
30	8	
40	8	
50	8	

K - greater.
more water
higher

engineering cost. -
~~do not~~
cost
= not hydrogeology + design
= operational factor

7. The reasonable use of groundwater in the Queenstone shale is contaminant migration (leachate attenuation).

The reasonable use of groundwater in the fresh water rind south of Highway 403 is drinking water but there will be no impact on this water.

MOE Submissions, para. 36
Charlesworth, Ex. M-437, p. 7-1
Hughes, Vol. 167, pp. 41672, 41689-90

8. There are significant, natural attenuation characteristics in the materials at Site F.

Feenstra, Vol. 46, pp. 10523-28
Rowe
Charlesworth, Vol. 85, p. 20337
Bowen, Vol. 160, p. 38962

9. It is more likely that the underdrains at Site "D" will fail than at Site "F", having regard to the gravity flow principles at Site "F" and slope considerations.

Charlesworth, Ex. M-437, p. 7-1 to 7-2
- still clog (not landfill)

10. Site "F" will produce a lower volume of leachate than will Site "D" in comparable time periods.

Hirashi, Vol. 48, pp. 10966-68

11. The leachate management system at Site "F" is very straightforward in engineering terms.

Hirashi, Vol. 48, p. 10968-70

not know. - essential.

12. The conceptual design proposed at Site "F" has been delineated before the Board and tested under cross-examination.

changed design eng
re F.
SF agreeing to PW.

13. The Site "F" engineering concept complies with the MOE's Guidelines for Engineered Facilities at Landfill Sites.

- not sure
- uncertain
necessary &
4 fails
contingency

drill more (PW)

SF saying
PW beginning
? contingency
more
P.W.

lowering
water
level
& causing
evening
for flow
forward
if

7. The reasonable use of all groundwater at Site "D" and in its vicinity is domestic and agricultural use.

MOE Submissions, para. 23

8. The attenuation capability of the materials at Site "D" will be significantly diminished if the unweathered till is fractured.

presence not proven

9. A substantial part of the leachate collection system at Site "D" cannot be maintained or replaced during the life of the landfill.

no site / revisions
would be better
maintenance

10. Site "D" will generate more leachate, faster, than Site "F".

Hirashi, Vol. 48, p. 10966-68

11. Maintenance of the hydraulic trap is a question of maintaining a delicate balance between the heads in the landfill and the heads outside.

Feenstra, Vol. 172, pp. 42846-847

12. Since the Reply Evidence of Mr. Feenstra there has been no delineation by the Region of a conceptual design for Site "D" nor has it been tested under cross-examination.

concept - trap + contingency

13. It is, at the very least, unknown whether a new design concept for Site "D" will comply with the Ministry's Guidelines. The hydraulic trap design did not.

MOE Submissions, para. 25

not limited to
pipe unlimited
& necessary
liner + trap
belt & suspension
trap PW
new
P. wells

→ PW/no trap.
not in landfill
"hydraulic
trap around landfill"
"containment" →
not off site.

14. The landowners at Site "F" are in support of landfilling and are not opposed to expropriation for this purpose.

hydrogeology + design. {fin. gain?}
Stagl, p. 22748
Bacon, p. 24566; 24750 and 24601.

15. Design advantages at Site "F" identified by the Region's consultants remain applicable.

Charlesworth, Vol. 85, p. 20339-40
Ex. M-437, p. 7-1 to 7-2
Hirashi, Vol. 48, pp. 10968-70

16. There is evidence that Site "F" is unusually suitable in hydrogeologic terms, for landfilling.

no downgradient.
Sobanski, Vol. 32, p. 7005;
Vol. 37, pp. 82006 to 82007
Morrison & Beatty, Ex. N-186 and N-471
Charlesworth, Vol. 85, pp. 20338 to 339

17. There is a history of successful, safe landfilling in the area of Site "F".

Charlesworth, Vol. 85, p. 20340-41

B. PLANNING

18. Landfilling is compatible with the existing and surrounding uses at Site "F".

Stagl, pp. 22743-745
Bacon, p. 24600 - 601; Ex. N-586, p. 96

19. Site "F" is surrounded by other public uses which would be compatible with landfilling, as a public use.

Walker, pp. 14716, 14897 ff
Bacon, p. 24605 Ex. N-586, p. 49
Stagl, p. 22720

20. Site "F" is insulated from community developments in the area by man-made and natural barriers

Stagl, p. 22713-714
Walker, p. 14716-22
Bacon, p. 24604-605

14. Landowners at Site "D" are opposed to landfilling and, in the event of approval, will have to be expropriated against their will.

15. Design advantages at Site "D" identified by the Region's consultants are in large part no longer applicable as the conceptual design now proposed by the Region is uncertain.

Trow, Ex. H-14, App. "A", p. 2

- adv. trap still there
- time
16. There is no such evidence at Site "D".

water level
direct measure

17. No similar factor

Don't know

B. PLANNING

18. Landfilling is incompatible with the existing and surrounding agricultural uses at Site "D".

Stagl, pp. 22735; 22741-742
Walker, p. 14899 (disruptive)

19. There is not today a public use focus at Site "D". Landfilling is a public use proposed for an area that currently has none.

Bacon, p. 24764

20. Site "D" is in the midst of an existing and stable agricultural community.

Bacon, p. 24566, 24601, 24750

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| <p>21. There is evidence that landfilling at Site "F" will advance the objectives of the Foodland Guidelines of the Ministry of Agriculture.</p> <p>Bacon, p. 24681-686, Ex. N-586, p. 96
Stagl p. 22745
Kentridge, pp. 23213-214</p> <p>22. Landfilling at Site "F" by the Region conforms with all applicable planning policies in the area (i.e. Parkway Belt West Plan, Regional Official Plan, City of Burlington Official Plan).</p> <p>Stagl, p. 22743-747
Bacon, p. 24608-610, N-586, p. 95
Kentridge, pp. 23208-210
Walker, p. 14754</p> <p>23. There is evidence that there is ^{no} feasible alternate use of the Site "F" lands.</p> <p>Bacon, p. 24740-750; N-586, p. 97
Walker, p. 14707-715</p> <p>24. There is evidence that landfilling at Site "F" is the most appropriate use of those lands.</p> <p>Bacon, pp. 24566, 24749 - 750
Ex. N-586, p. 95
Walker, p. 13917</p> <p>25. There is evidence that from a planning perspective Site "F" is unusually suitable for landfilling.</p> <p>Bacon, p. 24566, 24750 and 24601, 24726, Ex. N-586, p. 95
Stagl, p. 22530</p> <p>26. Landfilling at Site "F" will not disrupt or introduce a change to the existing community infrastructure.</p> <p>Stagl, p. 22743 - 744
Walker, p. 14897 ff
Bacon, p. 24768</p> <p>* 27. Landfilling at Site "F" will introduce a confirmed, known rehabilitation plan for the on-site quarry.</p> <p>Stagl, pp. 22744 - 747
Walker, pp. 14681 - 14683
Bacon, Ex. N-586, p. 96</p> | <p>21. There is evidence that landfilling at Site "D" will conflict with the objectives of the Foodland Guidelines of the Ministry of Agriculture. Even following rehabilitation of the Site after landfilling there will remain a high to moderate adverse impact on agricultural uses.</p> <p>Ex. H-14, Appendix "D", p. 1
Stagl, pp. 22537, 22745
Kentridge, p. 22213-214
Bacon, pp. 24763-764</p> <p>22. There is evidence that landfilling at Site "D" requires amendments to certain of the governing planning policies (i.e. Town of Milton Official Plan and Town of Milton Zoning By-Law).</p> <p>Stagl,
Kentridge, pp. 23214-217</p> <p>23. There is a viable, existing alternate use of the Site "D" lands, namely, agricultural uses.</p> <p>24. There is evidence that landfilling at Site "D" is not the most appropriate use of those lands.</p> <p>Stagl, pp. 22564-565
Kentridge,
Bacon, pp. 24763-770</p> <p>25. There is no such evidence concerning Site "D".</p> <p>26. Landfilling at Site "D" will be disruptive of an existing, established community.</p> <p>Walker, p. 14897 ff
Bacon, pp. 24768-769</p> <p>27. No similar factor.</p> |
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28. Landfilling at Site "F" will not impact on residential uses.

Bacon, p. 24724, Ex. N-586, p. 96.

29. Landfilling at Site "F" would be harmonious with the historical land use pattern in the area.

Walker, p. 14901
Stagl, p. 22743

30. There is no existing or prospective bird hazard/airport safety issue at Site "F".

28. Landfilling will impact on residential uses

Walker, p. 13714
Kentridge, pp. 23196-200

29. Landfilling at Site "D" would be less harmonious with the historical land use pattern in the area than at Site "F".

Walker, p. 14901

30. There are two airport facilities (the Burlington Airpark and the Chaput airstrip) in close proximity to Site "D", that is, within 8 km of the Site.

C. SOCIAL IMPACTS

31. Landfilling at Site "F" will not result in the dislocation of any residents.

Stagl, pp. 22,550, 22741 - 2
Bacon, p. 24724
Kentridge, p. 23195
Walker, p. 14256

32. At Site "F" there will only be a low-moderate population impact.

Ex. H-14, App. "E", p. E-2

33. Landfilling at Site "F" will not cause the loss of any existing businesses.

Stagl, Ex. M-529, Table 1

34. No one in vicinity of Site "F" will have their livelihoods threatened as a result of landfilling

35. On matters of air quality and odour impacts, Site "F" is the preferred site according to the Region's consultants.

Ex. H-14, App. "F", p. F-6

36. Site "F" is the preferred Site from a litter impact perspective.

Ex. H-14, App. "G", p. G-1

C. SOCIAL IMPACTS

31. Landfilling at Site "D" will result in the dislocation of residents.

Kentridge, p. 23195
Stagl, p. 22549

32. At Site "D" the population impact is moderate-high.

Ex. H-14, App. "E", p. E-2

33. Landfilling at Site "D" will cause the dislocation of existing businesses.

Stagl, Ex. M-529, Table 1

34. On the evidence of Mr. Garrod's clients, livelihoods will be threatened by landfilling at Site "D"

(W. Martin, C. Reed, Newman, Winters)

35. While Site "D", in the opinion of the Region's consultants, would be acceptable from an air quality perspective, Site "F" is preferable.

Ex. H-14, App. "F", p. F-6

36. While Site "D", in the opinion of the Region's consultants, would be acceptable from the perspective of litter impacts, Site "F" is preferable.

Ex. H-14, App. "G", p. G-1
Bacon, pp. 24767-768

37. Site "F" can operate virtually without mitigation and meet the noise criterion of the MOE.

Ex. H-14, App. "H", p. H-3

38. The overall level of visual impact at Site "F" is medium to low, according to the Region's consultants. There will be no fundamental change to the existing visual environment in the area.

Ex. H-14, App. "I", p. 7.
Wright, Vol. 8, p. 1879-80

D. CULTURAL IMPACTS

39. Site "F" is preferred over Site "D" with respect to cultural impacts according to the Region's consultants. It does not contain any significant archaeological sites.

Ex. H-14, App. "J", p. J-1

40. Landfilling at Site "F" would have no impact on heritage features.

Ex. H-14, p. 39
MacNaughton, Ex. B901, p. 29

E. COSTS

41. If Site "F" does not require a liner and Site "D" does, the costs of Site "D" will be greater than those at Site "F", given that they are otherwise comparable on the evidence of the Region's witnesses.

Ex. H-14, App. "K", p. K-1

F. BIOPHYSICAL FACTORS

42. It is in the area of biophysical factors alone that Site "D" was regarded as the preferred Site by the Region's consultants. Nonetheless, there are no biophysical conditions which preclude landfilling at Site "F".

Ex. H-14, App. "C", p. C-18.
Hellas, pp. 1167-1168

37. Site "D" requires mitigation to meet the MOE noise criterion. Site "F" is the preferred site based on noise impacts according to the Region's consultants.

Ex. H-14, App. "H", p. H-1

38. The overall level of visual impact at Site "D" is high, according to the Region's consultants. There will be a fundamental change to the existing visual environment in the area. There will be a high impact on 65 residences at Site "D".

Ex. H-14, App. "I", p. 6 and p. 12.
Wright, Vol. 8, p. 1879-80; and
p. 1883
Bacon, pp. 24765-766

D. CULTURAL IMPACTS

39. Site "D" contains two significant archaeological sites.

Ex. H-14, App. "J", p. J-1

40. Landfilling at Site "D" would require displacement of two heritage features.

Ex. H-14, p. 39
MacNaughton, Ex. B901, p. 29

E. COSTS

41. Without the liner issues, the costs at both Sites are comparable.

Watson, Ex. H-14, App. "K", p. K-1

F. BIOPHYSICAL FACTORS

42. Site "D" is preferred, but is itself a compromise site

Ex. H-14, App. "C", p. C-18.
Hellas, pp. 1169-70