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KANALLARDAGI ROSTLOVCHI INSHOOTLAR FLYUTBETI FILTRATSIYASIGA OID HISOBLAR.

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Annotatsiya. Ushbu maqola Amu-Buxoro Irrigatsiya tizimlari havza boshqarmasi tasarrufidagi “Shohrud” kanalida joylashgan “Xachkab” gidrouzeli zamini bo’yicha olib borilgan filtratsiya hisoblarining natijalari keltirilgan. Filtratsiya hisoblari ingliz olimi Blyay tomonidan taklif etilgan to’g’ri chiziqli kontur filtratsiya metodi asosida olib borilgan. Olingan natijalar bo’yicha inshoot zaminida sodir bo’layotgan jarayonlar o’rganilib, xulosalar berilgan.

Kalit so‘zlar: Gidrouzel, to’g’ri chiziqli filtratsiya, nishablik koeffitsiyenti.

CALCULATIONS ON FLUTEBEAT FILTRATION OF ROTATING INSTALLATIONS IN CHANNELS.

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Annotation. This article presents the results of filtration calculations on the ground of the Khachkab hydroelectric power station located on the Shohrud canal under the Amu-Bukhara Irrigation Systems Basin Department. Filtration calculations were performed based on the linear contour filtration method proposed by the British scientist Blyay. Based on the results, the processes taking place on the construction site were studied and conclusions were drawn.

Keywords: **Hydro junction, linear contour filtration, slope coefficient.**

Filtratsiya deganda, suyuqlikning gruntlardagi g'ovaklik, yoriq (qoyali) orqali harakatiga aytiladi. Bunday gruntlardagi filtratsiya oqimining egallagan fazosiga filtratsiya viloyati deyiladi.

Biz filtratsiya hisoblarni to'g'ri chiziqli kontur filtratsiya metodi bo'yicha olib boramiz. Ushbu metod inshoot ostidagi real holatga yaqin naijalar olishimizga imkon beradi.

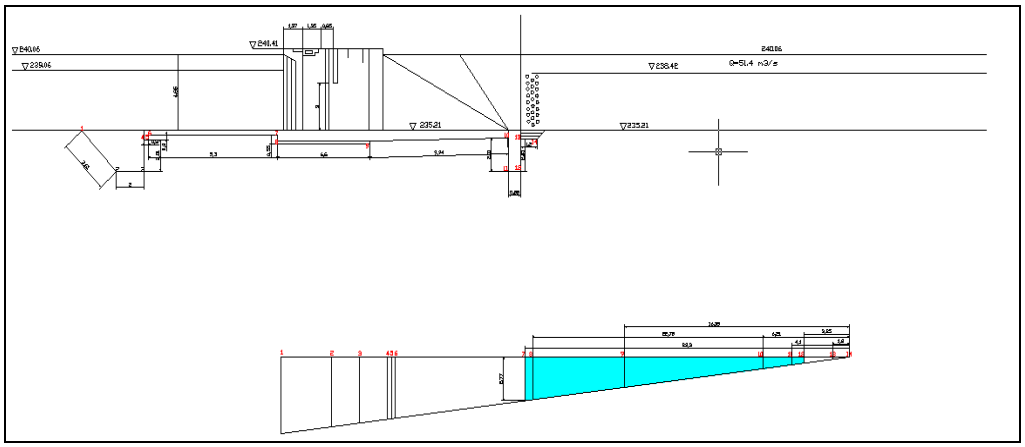
Inshoot flyutbeti ostidagi perimetrining yo'l qo'yilgan uzunligi L_p quyidagi formula bo'yicha aniqlanadi

$$L_p=C\cdot H=4{,}85\cdot 6{,}0=29{,}1$$

Bu formulada H–yuqori be'fdagi suvning chuqurligi, C–nishablik koeffitsiyenti, bu inshoot asosidagi tuproqlarga muvofiq quyidagi 1–jadval bo'yicha belgilanadi.

Inshoot flyutbeti ostidagi perimetrning uzunligi aniqlanadi.

Buni amalga oshirish uchun yuqori be'f tomonidan pastki be'f tomoniga qaratib son bo'yicha inshoot flyutbeti ostidagi raqamlar bilan burchakli nuqtalar belgilanadi. Undan so'ng to'g'ri gorizontal chiziqni o'tkazib, unda bir–biridan joylashuvi masofalar orqali ushbu burchakli nuqtalar raqamlar bilan ko'rsatiladi.



1-rasm. Ochiq rostlovchi inshoot bo‘ylama qirqimi va uning flyutbetiga ta’sir etadigan filtratsiya bosimi epyurasi.

Birinchi nuqtadan oxirgi nuqtagacha inshoot ostidagi flyutbet perimetrining uzunligi L o‘lchangan holda, masshtab bo‘yicha chizmadan aniqlanadi (1-rasm).

L=l1-2+l2-3+l3-4+l4-5+l5-6+l6-7+l7-8+l8-9+l9-10+l10-11+l11-12+l12-13+l13-14 = 3,61+2+2,01+0,03+0,03+9,3+0,55+6,6+9,94+2,11+0,85+2+ +0,85=40,37

Inshoot flyutbeti ostidagi perimetrining uzunligini yo‘l qo‘yilgan uzunligi Lp bilan solishtirib, $L > L_n$ shart bajarilishi tekshiriladi.

Bunda $L > L_n$ – shart bajarilmasa chizmada (1- rasm) ponur o‘lchamini o‘zgartirib, uni kattaroq o‘lchamda belgilashga to‘g‘ri keladi, bunda L uzunligi oshadi.

Inshoot ostiga ta’sir etadigan filtratsiya bosimi epyurasi tuziladi.

Inshoot kirish qismiga ta’sir etadigan filtratsiya suv bosimining kuchi aniqlanadi.

Buni bajarish uchun inshoot kirish qismi 1 o‘lchov birligi eniga ta’sir etadigan filtratsiya suv bosimining kuchi aniqlanadi. Ushbu kuch filtratsiya bosimi epyurasi maydonidir.

U quyidagicha aniqlanadi:

$$\omega_f = 0,5\cdot(h_7 + h_{12})\cdot L_{6\text{-}12}=0,5\cdot (2,77+0,39)\cdot 20,05=37,09\ m^2$$

Bunda h_6–inshoot kirish qismi suv urilmasi boshidagi (6–nuqtasidagi)

filtratsiya bosimi, h_{11}–inshoot kirish qismi suv urilmasi oxiridagi (11–nuqtadagi) filtratsiya bosimi, $L_{6\text{-}11}$ - inshoot kirish qismi suv urilmasining 6 –nuqtadan 11–nuqtasigacha ostki konturining uzunligi,

$$L_{6\text{-}11}= l6\text{-}7+l7\text{-}8+l8\text{-}9+l9\text{-}10+l10\text{-}11+l10\text{-}12=0,55+6,6+9,94+2,11+0,85=20,05 \text{ m}$$

Filtratsiya bosimi kuchi quyidagi formula bo‘yicha aniqlanadi

$$P_f= \gamma_{suv}\cdot\omega_f\cdot V_f=1\cdot 37,09\cdot 6=222,54 \text{ kN}$$

Bunda γ_{suv} - suvning hajmiy og‘irligi, $\gamma_{suv}=1$ t/m^3;

V_f – inshoot kirish qismining bir seksiyaning eni, n > 3 bo‘lgani uchun.

$$V_f = b_{st} + 2\cdot 0,5\cdot t_u=5+2\cdot 0,5\cdot 1= 6 \text{ m}$$

Bu formulalarda t_u–ustunning qalinligi, b_{st}–inshoot oralig’ini standart eni, $H_{o‘rta}$–inshoot kirish qismini o‘rtacha ko‘ndalang qirqimi bo‘yicha yon devorlarining balandligi.

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