Sps “sainJinro nagebobaTa proeqtirebis, kvlevis da eqsper tizis samecniero centri”

LTD “THE SCIENTIFIC CENTER OF ENGINEERING BUILDING DESIGNING RESEARCH AND EXPERTISE”



eqsper tizis daskvna

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damkveTis identifikacia:

q.Tbilisi,daba wyneTi d.amilaxvaris(stalinis)quCa nakveTi #01.20.01.087.019

daskvnis Sedgenis safuZveli: xelSekruleba 05.05.2021 weli)

eqsper tizis amocana:

q.Tbilisi,daba wyneTi d.amilaxvaris(stalinis)quCa naTia feriSvilis sakuTrebaSi arsebuli miwis nakveTze #01.20.01.087.019 sastumros konstruqciuli proeqtis mixedviT mSeneblobis procesSi momijnave nakveTebze (s.k. 01.20.01.088.052). (s.k. 01.20.01.087.025). (s.k. 01.20.01.087.037). (s.k. 01.20.01.087.024). (s.k. 01.20.01.088.018). (s.k. 72.08.25.086). da gzaze gavlenis SesaZleblobis gansazRvra maTi teqnikuri mdgomareobis gaTvaliswinebiT.

Tbilisi

2021 weli

Semadgen l oba

1. inspeqt i rebis Sems r u l ebe l ebi - - - - - - - - - - - - - - - - - - 3
2. gamoyenebu l i no r mat i u l i dokumentebi - - - - - - - - - - - - - - - - - - 3
3. war modgeni l i masa l ebi - - - - - - - - - - - - - - - - - - 4
4. kv l eviTi nawi l i - - - - - - - - - - - - - - - - - - 5
5. daskvna - - - - - - - - - - - - - - - - - - 8



gamoyenebuli normatiuli literatura

1. saqarTvelosmTavrobisdadgenileba №255 2019 wlis 31 maisiq. TbilisimSeneblobisnebarTvisgacemisadaSenoba-nagebobiseqspluataciaSimiRebiswesisadapirobebisSesaxeb
2. saqarTvelosmTavrobis 2016 wlis 28 ianvris #41 dadgenilebadamSeneblobisnebarTvisgacemiswesisdasanebarTvopirobebisSesaxeb.
3. saqarTvelos mTvarobis #71 dadgenileba _„saqarTvelos teritoriazesamSeneblo sferos maregulirebeli teqnikuri reglamentebi“:

   teqnikuri reglamenti _ „betonisa da rkinabetonis konstruqciebi“ (danarTi 1);

   teqnikuri reglamenti _ „Senobebisa da nagebobebis fuZeebi“ (danarTi 2);

   teqnikuri reglamenti _ „seismomedegi mSenebloba“ (danarTi 3);

   teqnikuri reglamenti _ „samSeneblo klimatologia“ (danarTi 5).
4. СНиП 2.02.01-83 основания здании и сооружении, 1983 г.;
5. Справочник проектировщика. `Основания фундаменты и подземные сооружения~. М. 1985 г;
6. СНиП 2.03.01-84* `Бетонные и железобетонные конструкции~. М. 1988 г;
7. СниП 2.01.07-85 `Нагрузки и воздей стви. Нормы проектирования~;
8. СниП 3.03.01-87 `Правила производства и приемки работ~;

warmodgenili masalebi

1. q.Tbilisi,daba wyneTi d.amilaxvaris(stalinis)quCa naTia feriSvilis sakuTrebaSi arsebuli miwis nakveTze #01.20.01.087.019 sastumros proeqtis konstruqciuli nawili – el.versia;
2. q.Tbilisi,daba wyneTi d.amilaxvaris(stalinis)quCa naTia feriSvilis sakuTrebaSi arsebuli miwis nakveTze #01.20.01.087.019 sastumros

mSeneblobisaTvis gamoyofili samSeneblo moednis sainJinro-geologiuri kvlevebis teqnikuri angariSi – el.versia;
3. momjnave nakveTebis monacemebi

kvleviTi nawili

Sesavali

eqspertis amocanas warmoadgens:

eqspertizis Catareba: q.Tbilisi,daba wyneTi d.amilaxvaris(stalinis)quCa naTia feriSvilis sakuTrebaSi arsebuli miwis nakveTze #01.20.01.087.019 sastumros konstruqciuli proeqtis mixedviT mSeneblobis procesSi momijnave nakveTebze (s.k. 01.20.01.088.052). (s.k. 01.20.01.087.025). (s.k. 01.20.01.087.037). (s.k. 01.20.01.087.024). (s.k. 01.20.01.088.018). (s.k. 72.08.25.086). da gzaze gavlenis SesaZleblobis gansazRvra maTi teqnikuri mdgomareobis gaTvaliswinebiT. saqarTvelos mTavrobis dadgenileba №255 2019 wlis 31 maisi q. Tbilisi mSeneblobis nebarTvis gacemisa da Senoba nagebobis eqspluataciaSi miRebis wesisa da pirobebis Sesabamisad arsebul Senoba-nagebobaze zemoqmedebis Sefaseba, romlis momijnavedac dagegmilia mSeneblobа maTi teqnikuri mdgomareobis gaTvaliswinebiT.

.

kvleva

kvleva ganxorcielda q.Tbilisi,daba wyneTi d.amilaxvaris(stalinis)quCa naTia feriSvilis sakuTrebaSi arsebuli miwis nakveTze #01.20.01.087.019 sastumros konstruqciuli proeqtis mixedviT mSeneblobis procesSi momijnave nakveTebze (s.k. 01.20.01.088.052). (s.k. 01.20.01.087.025). (s.k. 01.20.01.087.037). (s.k. 01.20.01.087.024). (s.k. 01.20.01.088.018). (s.k. 72.08.25.086). da gzaze gavlenis SesaZleblobis gansazRvra maTi teqnikuri mdgomareobis gaTvaliswinebiT.

.konstruqciuli proeqtis mixedviT saproeqto nagebobaSi gegmaSi marTkuTxedis formisaa, zomebiT RerZebSi 12.5X14.0.m., proeqtis safuZvlad miRebulia arqiteqturul-gegmarebiTi gadawyvetebi da teritoriis sainJinro-geologiuri pirobebi.

. gamosakvlevi Senoba, mdebareobs daba wyneTi d.amilaxvaris(stalinis)quCa naTia feriSvilis sakuTrebaSi arsebuli miwis nakveTze samsarTuliani Senoba (sarTulebis simaRleebia: -3.3 m; 3.30 3.3, m.

Senobis mzid konstruqcias warmoadgens monoliTuri rkinabetonis sivrciTi karkasi saproeqto Senobis saZirkvlad miRebulia monoliTuri kolonebis qveS wertilovani, xolo 2 kedlebis qveS lenturi saZirkvlebi. Senobis saZirkveli rkinabetonis wertilovani 170170X40X40X40sm; 200X200X40X40. 100X90X40X40sm; sm;Sekruli randkoWebiT 40X40 sm. CaRrmavebuli --1.4 - 1.85 gruntis pirobiTi saangariSo winaRobis sidide R_0 =2.5 kgZ/sm C=0.14 j_1 =17 gradusi.
saproeqto kolonebi monoliTuri rkinabetonis kveTiT 40X40sm 25 klasis betonisagan. rigelebi monoliTuri rkinabetonis kveTiT 40X50(h)da 40X20(h)sm. (damaluli rigelebi),betonis klasi 25. gadaxurvebi monoliTuri rkinabetonis filebiT sisqiT 20sm. betonis klasi 25. kibeebi monoliTuri rkinabetonis 25 klasis betonisagan saxuravi brtyeli ori fena linokromiT, mowyobili pemzis 10 sm-iani fenasa da qviSa-cementis xsnaris gamaswo rebel fenaze . kedlebis Sevseba II kategoriis mcire zomis samSeneblo blokebiT moculobiTi woniT araumetes 1200 3 kg/m da betoni klasiT aranaklebi 3,5. kedlebisa da tixrebis wyobaSi gamoyenebul iqnas qviSa-cementis xsnari aranaklebi 50 markis.mcire zomis samSeneblo blokebis Sevseba magrdeba rkinabetonis svetebTan armaturis badiT (sigrZiT aranaklebi 70 sm-isa), simaRleze bijiT 50-60sm. aseve gaTvaliswinebula Sevsebis

momijnave nakveTebSi (s.k. 01.20.01.088.052).). mdebareobs erTsarTuliani sacxovrebeli Senoba .gegmaSi marTkuTxedis formis gabarituli zomebiT 8.0X9.0 metri sarTulis simaRle h =3,00 metria. saZirkveli lenturi, CaRrmavebiT 1.15m Senobis mzid konstruqcias warmoadgens mzidi kedlebis sistema.saproeqto Senobis saZirkvlad miRebulia monoliTuri lenturi saZirkvlebi. gruntis pirobiTi saangariSo winaRobis sidide R_0 =2.5 kgZ/sm gadaxurvebi (saxuravi) orqanobiani xis nivnivebze Tunuqis buruliT(suraTi) daSoreba (wiTeli xazi 10 metri) Senoba 43 metri.

momijnave nakveTebSi (s.k. 01.20.01.087.025).). mdebareobs orsarTuliani sacxovrebeli Senoba .gegmaSi marTkuTxedis formis gabarituli zomebiT 10.0X16.0 metri sarTulis simaRle h =3,00 metria. saZirkveli lenturi,

CaRrmavebiT 1.5 m Senobis mzid konstruqcias warmoadgens mzidi kedlebis sistema.saproeqto Senobis saZirkvlad miRebulia monoliTuri lenturi saZirkvlebi. gruntis pirobiTi saangariSo winaRobis sidide R_0 =2.5 kgZ/sm sarTulebs Soris kavSiri gare kibeebiT gadaxurvebi xis koWebZe da saxuravi orqanobiani xis nivnivebze Tunuqis buruliT(suraTi) daSoreba (wiTeli xazi 10 metri) Senoba 30 metri.

momijnave nakveTebSi (s.k. 01.20.01.087.037).). mdebareobs orTsarTuliani sacxovrebeli Senoba .gegmaSi marTkuTxedis formis gabarituli zomebiT 16X15 metri sarTulis simaRle h =3,00 metria. saZirkveli lenturi, CaRrmavebiT 1.45m Senobis mzid konstruqcias warmoadgens mzidi kedlebis sistemaaqvs Ria da daxuruli aivnebi.saproeqto Senobis saZirkvlad miRebulia monoliTuri lenturi saZirkvlebi. gruntis pirobiTi saangariSo winaRobis sidide R_0 =2.5 kgZ/sm sarTulebs Soris kavSiri Sida kibeebiT gadaxurvebi xis koWebZe da saxuravi orqanobiani xis nivnivebze Tunuqis buruliT(suraTi) daSoreba (wiTeli xazi 10 metri) Senoba15.7 metri.

momijnave nakveTebSi (s.k. 01.20.01.087.024).). mdebareobs orsarTuliani sacxovrebeli Senoba .gegmaSi marTkuTxedis formis gabarituli zomebiT 16X17 metri sarTulis simaRle h =3,00 metria. saZirkveli lenturi, CaRrmavebiT1.6m Senobis mzid konstruqcias warmoadgens monoliTuri rkinabetonis sivrciTi karkasi Senobis saZirkveli rkinabetonis wertilovani. 100X90X40X40sm; sm;Sekruli randkoWebiT 40X40 sm.
saproeqto kolonebi monoliTuri rkinabetonis kveTiT 30X30sm 25 klasis betonisagan. rigelebi monoliTuri rkinabetonis kveTiT 30X40(h) gadaxurvebi monoliTuri rkinabetonis filebiT sisqiT22. betonis klasi 25. kibeebi monoliTuri rkinabetonis 25 klasis betonisagan saxuravi brtyeli ori fena linokromiT, (suraTi) daSoreba (wiTeli xazi 10 metri) Senoba 12.7 metri.

momijnave nakveTebSi (s.k. 01.20.01.088.018)mdebareobs erTsarTuliani sacxovrebeli Senoba .gegmaSi marTkuTxedis formis gabarituli zomebiT 28X23 metri sarTulis simaRle h =3,00 metria. saZirkveli lenturi, CaRrmavebiT 1.6m Senobis mzid konstruqcias warmoadgens mzidi kedlebis

sistema.saproeqto Senobis saZirkvlad miRebulia monoliTuri lenturi saZirkvlebi. gruntis pirobiTi saangariSo winaRobis sidide R_0 =2.5 kgZ/sm gadaxurvebi (saxuravi) orqanobiani xis nivnivebze Tunuqis buruliT(suraTi) daSoreba (wiTeli xazi 10 metri) Senoba 53.5 metri.

saproeqto dokumentaciis mixedviT saproeqto Senoba(s.k. 01.20.01.087.019)miwis zedapiridan CaRrmaveba aris -1.8; momijnave Senobebis da saproeqto Senobis saZirkvlis Ziris niSnulebs Soris sxvaoba Δh Seadgens:)

nageboba (s.k. 01.20.01.088.052).1.8-1.15=0.75 m; daSoreba 43.6 metri

nageboba (s.k. 01.20.01.087.025)1.8-1.5=0.3 m; 30 metri

nageboba (s.k. 01.20.01.087.037)1.8-1.45=0.35 m; daSoreba15.7metri

nageboba (s.k. 01.20.01.088.024)1.8-1.6=0.2. daSoreba 12.7 metri

nageboba (s.k. 01.20.01.088.018)1.8-1.6=0.2. daSoreba 53.5metri

gza 1.8-0.2=1.6. daSoreba12 metri

gamokvlevis mizans warmoadgens: dadgeniliqnes Tu ramanZiliT unda iyos dacilebuli saproeqto saZirkveli arsebuli Senobis saZirkvels, raTa SenarCunebuli iqnes am ukanaskneli mdgradoba.

axali Senobis saZirkvlis Ziris niSnuli unda dainiSnos arsebuli saZirkvlis Ziris niSnulis mimarT Semdegi pirobiT (ix. Справочник проектировщика, `Основания, фундаменты и подземние сооружения~, M, 1985):

$$\Delta h \le a\left(tg j_1 + \frac{C_I}{p}\right),$$

sadac: a – saZirkvlebs Soris manZilia; j_1 da C_I – fuZe-gruntebis Siga xaxunis kuTxisa da SeWidulobis Zalis saangariSo mniSvnelobebia; p – zeda saZirkvlis Zirze saSualo saangariSo datvirTaa. wvrili qviSebi(forianobis koeficienti0.65 P=1.6 $j_1 = 17, C_I = 0.014$

amgvarad saZirkvlebs Soris dasaSvebi minimaluri manZilis gasaangariSeblad gamoviyeneT formula:

$$a \ge \frac{\Delta h}{tg j_I + \frac{C_I}{p}}$$

nageboba (s.k. 01.20.01.088.052).1.8-1.15=0.75 m; daSoreba 43.6 metri

saproeqto SenobisaTvis saZirkvlebs Soris dasaSvebi minimaluri manZili iqneba:

$$a \geq \frac{0.75}{tg17^\circ + \frac{0.014}{1.6}} = =2.4 \text{ m.}$$ (daSoreba 43.6 metri) piroba dakmayofilda

nageboba ((s.k. 01.20.01.087.025)1.8-1.5=0.3 m; 30 metri

saproeqto SenobisaTvis saZirkvlebs Soris dasaSvebi minimaluri manZili iqneba:

$$a \geq \frac{0.3}{tg17^\circ + \frac{0.014}{1.6}} = =0.95\text{m.}$$ (daSoreba 30 metri) piroba dakmayofilda

(s.k. 01.20.01.087.037)1.8-1.45=0.35 m; daSoreba15.7metri

saproeqto SenobisaTvis saZirkvlebs Soris dasaSvebi minimaluri manZili iqneba:

$$a \geq \frac{0.35}{tg17^\circ + \frac{0.014}{1.6}} = =1.11 \text{ m.}$$ (daSoreba 15.7 metri) piroba dakmayofilda

(s.k. 01.20.01.088.024)1.8-1.6=0.2. daSoreba 12.7 metri saproeqto SenobisaTvis saZirkvlebs Soris dasaSvebi minimaluri manZili iqneba:

$$a \geq \frac{0.2}{tg17^\circ + \frac{0.014}{1.6}} = =0.64 \text{ m.}$$ (daSoreba 12.7 metri) piroba dakmayofilda

nageboba (s.k. 01.20.01.088.018)1.8-1.6=0.2. daSoreba 53.5metri

saproeqto SenobisaTvis saZirkvlebs Soris dasaSvebi minimaluri manZili iqneba:

$$a \geq \frac{0.2}{tg17^\circ + \frac{0.014}{1.6}} = =0.64 \text{ m.}$$ (daSoreba 53.5 metri) piroba dakmayofilda

gza 1.8-0.2=1.6. daSoreba12 metri



saproeqto SenobisaTvis saZirkvlebs Soris dasaSvebi minimaluri manZili iqneba:

$$a \geq \frac{1.6}{tg17^\circ + \frac{0.014}{1.6}} = = 5.09 \text{ m.}$$ (daSoreba 12 metri) piroba dakmayofilda vizualuri daTvalierebiT, momijnave Senobis teqnikuri mdgomareoba damakmayofilebelia. mas ar gaaCnia jdeniTi deformaciis niSnebi, romelic uaryofiT gavlenas moaxdenda Senobis mdgradobaze. es Senobebi damoukidebeli konstruqciis nagebobebia.

daskvna

q.Tbilisi,daba wyneTi d.amilaxvaris(stalinis)quCa naTia feriSvilis sakuTrebaSi arsebuli miwis nakveTze #01.20.01.087.019 sastumros konstruqciuli proeqtis mixedviT mSeneblobis procesSi momijnave nakveTebze (s.k. 01.20.01.088.052). (s.k. 01.20.01.087.025). (s.k. 01.20.01.087.037). (s.k. 01.20.01.087.024). (s.k. 01.20.01.088.018). (s.k. 72.08.25.086). da gzaze gavlenis.

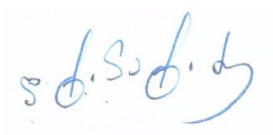
gzaze savaraudo zegavlenasTan dakavSirebiT dadginda : mSeneblobis procesSi nakveTebze (s.k. 01.20.01.088.052). (s.k. 01.20.01.087.025). (s.k. 01.20.01.087.037). (s.k. 01.20.01.087.024). (s.k. 01.20.01.088.018). (s.k. 72.08.25.086). da gzaze saproeqtosgan moSorebis manZili akmayofilebs zemoT gaangariSebul pirobebs romlis gaTvaliswinebiT saproeqto Senobis nulovani ciklis da Semdgomi samuSaoebi ar moaxdens momijnave Senobebze, uaryofiT gavlenas.

.

qvabulis CaWra unda Sesruldes Sromis usafrTxoebis,samSeneblo normebisa da wesebis sruli dacviT mSeneblobа unda ganxorcieldes mSeneblobis organizaciis proeqtis dacviT, romelic unda iTvaliswinebdes yvela mosalodnel risks mSeneblobaSi

eqsperti

demuri tabataZe





momi jnave miwis nakveTebisa da Senoba-nagebobebis ganTavsebis sqema

saz ogad oeb r ivi Senoba

saz ogad oeb r ivi Senoba

sacx ov r ebe l i Senoba

sap r oekt o Senoba

sacx ov r ee l i Senoba

sacx ov r ebe l i Senoba

X=475250
Y=4615950

3
daba wyneTi, s t a l inis q.
01.20.01.087.037

2
daba wyneTi, s t a l inis q.
01.20.01.087.034

4
daba wyneTi, s t a l inis q.
01.20.01.087.025

1
daba wyneTi, s t a l inis q. #3
01.20.01.086.018

5
daba wyneTi, (nakveTi 088.052)
01.20.01.088.052

01.20.01.087.019

საგზაო ეროვნული სივრცე

15.3

12.7

30.0

43.6

10.0

53.5

10.0

kv

kv

kv

1. daba wyneTi, stalinisq. koteji #3 s.k. 01.20.01.086.018





2. daba wyneTi, stal inis q. s.k. 01.20.01.087.024





3. daba wyneTi, stal inis q. s.k. 01.20.01.087.037





4. daba wyneTi, s t a l inis q. s.k. 01.20.01.087.025





5. działka wyneTi, (nakveTi 008.052) s.k. 01.20.01.088.052



