Sps “sainJinro nagebobaTa proeqtirebis, kvlevis da eqsperTizis samecniero centri”
LTD “THE SCIENTIFIC CENTER OF ENGINEERING BUILDING DESIGNING RESEARCH AND EXPERTISE”
tel: 577588218 599179823; (032) 2227704
E-mail: d.tabatadze@gtu.ge

vamtkiceb
direqtori
demuri tabataZe
/saxeli gvari/

30.06.2024.2024-272
/xelmowera. b.a/

eqsperTizis daskvna



daskvnis Sedgenis safuZveli: xelSekruleba #26/06-24 – 26.06.2024 w.

eqsperTizis obieqti: eqsperTizis obieqti: q. Tbilisi, l. goTuas q. #7, s.k. 01.10.03.02.092 mravalfunqciuri mravalbiniani sacxovrebeli saxlebis koreqtirebuli konstruqciuli nawili

eqsperTizis amocana: warmodgenili koreqtirebuli proeqtis (q. Tbilisi, l. goTuas q. #7, s.k.01.10.03.02.092 mravalfunqciuri mravalbiniani sacxovrebeli saxlebis koreqtirebuli konstruqciuli proeqti) konstruqciuli nawilis eqsperTiza

Tbilisi
2024 weli

Semadgen l oba

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



inspeqtirebis Semsruleblebi

demuri tabataZe – ganaTleba umaRlesi, kvalifikacia: inJiner-mSenebeli, teqn. mecn. kandidati mSeneblobis dargSi, samSeneblo meqanikisa da seismomedegobis kaTedris profesori saqarTvelos teqnikur universitetSi, sainJinro akademiiis akademikosi, muSaobis staJi – 44 weli.



gamoyenebuli normatiuli literatura

1. saqarTvelos mTavrobis 2009 wlis 24 martis #57 dadgenileba „mSeneblobis nebarTvis gacemis wesisa da sanebarTvo pirobebis Sesaxeb“;
2. СНиП 2.02.01-83 основания зданий и сооружений, 1983 г.;
3. Справочник проектировщика. `Основания фундаменты и подземные сооружения~. М. 1985 г;
4. СНиП 2.03.01-84* `Бетонные и железобетонные конструкции~. М. 1988 г;
5. saqarTvelos mTvarobis #71 dadgenileba _„saqarTvelos teritoriaze samSeneblo sferos maregulirebeli teqnikuri reglamentebi“:
   - teqnikuri reglamenti _ „betonisa da rkinabetonis konstruqciebi“ (danarTi 1);
   - teqnikuri reglamenti _ „Senobebisa da nagebobebis fuZeebi“ (danarTi 2);
   - teqnikuri reglamenti _ „seismomedegi mSeneblobа“ (danarTi 3);
   - teqnikuri reglamenti _ „samSeneblo klimatologia“ (danarTi 5).

warmodgenili masalebi

q. Tbilisi, l. goTuas q. #7, s.k. 01.10.03.02.092 mraval funqciuri mravalbiniani sacxovrebeli saxlebis koreqtirebuli proeqtis, konstruqciuli nawili – el.versia PDF-faili

q. Tbilisi, l. goTuas q. #7, s.k. 01.10.03.02.092 mraval funqciuri mravalbiniani sacxovrebeli saxlebis koreqtirebuli konstruqciuli proeqtis

mSeneblobisTvis gamoyofil teritoriis sainJinro geologiuri kvlevis angariSi – el.versia PDF-faili

1. Senobis mzidi konstruqciebis statikuri da dinamikuri zemoqmedebebis gaangariSebeba – el.versia lira-faili (2 failad).

kvleviTi nawili

Sesavali

.

kvleva

eqsperTis amocanas warmoadgens:

damkveTis mier wamodgenili: q. Tbilisi, l. goTuas q. #7, s.k. 01.10.03.02.092 mravalfunqciuri mravalbiniani sacxovrebeli saxlebis koreqtirebuli proeqtis konstruqciuli nawilis – normatiul literaturaSi miTiTebul moTxovnebTan Sesabamisobis dadgena.

kvleva

eqsperTizaze warmodgenilia S.p.s. " iu ei di studia " (direqtori a.jobava)konstruqtoris irakli uruSaZis mier, arqiteqturuli davalebis safuZvelze Sesrulebuli ` q. Tbilisi, l. goTuas q. #7, s.k. 01.10.03.02.092 mravalfunqciuri mravalbiniani sacxovrebeli saxlebis koreqtirebuli proeqtis konstruqciuli nawili.

proeqti warmodgenilia A-3 formatis PDF-albomis saxiT. albomSi warmodgenilia 62 naxazi, da 22 gverdi angariSi romlebic Sesrulebulia maRal doneze, gamoxazulia konstruqciuli detalis gegmebi, kvanZebi, Wrilebi da kveTebi.

arqiteqturuli proeqtis mixedviT Senoba or blokad aris gayofili antiseismuri nakeriT. q. Tbilisi, l. goTuas q. #7, s.k. 01.10.03.02.092 mravalfunqciuri mravalbiniani sacxovrebeli saxlebis bloki1. marTkuTxa moxazulobisaa da is 26 sarTuliania, aqedan 2 miwisqveSa sarTulia, sadac gamoyofili aris saparkinge sivrceebi. monoliTuri rkinabetonis SemomzRudi kedlebi, diafragmebi da birTvi –

perimetris SemomzRudi kedlebi - perimetris SemomzRudi kedlebi sardafisdoneze400
mm sisqisaa, masSi gamoyenebuli aris B-40klasis betoni. sixistisbirTvis kedlebi 400 mm sisqisaa. diafragmebi 400 mm sisqis. monoliTur kedlebSi da sixistis birTvis kedlebSi gamoyenebuli betonis klasia B-40 gamoyenebuli
armaturis klasi grZivi da ganivi mimarTulebebzeA500C.
monoliTuri rkinabetonis sarTulSua gadaxurvis filebi da kibis marSbaqnebi –sarTulis gadaxurva Sesrulebulia monoliTuri rkinabetonis wibovani filebiT, sisqiT 20.0 sm wiboebis simaRle 50sm da 60 sm filis CaTvliT,. monoliTuri
rkinabetonisaa agreTve kibis da pandusis konstruqciebic. Senobas konturze sardafis doneSi, nawilze, gaaCnia rkinabetonis sayrdeni kedeli, sayrdeni kedlis ukan ewyoba hidroizolaciis fena. miwis ukuCayra unda moxdes 250 mm fenebad datkepniT, Semkvrivebis koeficientamde 95% (an deformaciis
modguli 40 mpa). sarTulSua gadaxurvis filebSi, filis wiboebSi da kibis marS-baqnebSi gamoyenebulia betonis klasia B-40, xolo gamoyenebuli armaturis
klasi grZivi da ganivi mimarTulebebze A500C.
bloki 2miekuTvneba monoliTuri rkinabetonis CarCo-kavSirebiani sivrculi sistemas, romlis mzidi elementebia:
monoliTuri rkinabetonis saZirkveli - xelovnur fuZeze 250 mm fenebad datkepniT, Semkvrivebis koeficientamde 95% (an deformaciis moduli 40 mpa)Senobis saZirkvelis filis sisqe h=100.0 sm. saZirkvelSi gamoyenebuli betonis klasia B-40. armaturis klasi grZivi da ganivi mimarTulebebze A500C.
monoliTuri rkinabetonis svetebi – Senobis svetebis ganikveTis zomebi 100X40. svetebSi gamoyenebuli betonis klasia B-40, gamoyenebuli armaturis klasi grZivi da ganivi mimarTulebebze A500C.
koreqtireba "2" blokis -0,60 3.60 da 5,20 niSnulze Sida gegmarebis cvlileba, rac gulisxmobs 2 blokis 1 sarTulze dacvis samsaxurisTvis gankuTvnili saTavsebis damatebas. cvlileba ganicada -1 da -2 sarTulebze 2 blokis sadarbazo kibis ujredebma da liftis Saxtam,

monoliTuri rkinabetonis SemomzRudi kedlebi, diafragmebi da birTvi – perimetris SemomzRudi kedlebi - perimetris SemomzRudi kedlebi sardafis doneze 250 mm sisqisaa, masSi gamoyenebuli aris B-40 klasis betoni. sixistis birTvis kedlebi 250 mm sisqisaa. diafragmebi 200 mm sisqis. monoliTur kedlebSi da sixistis birTvis kedlebS igamoyenebuli betonis klasia B40. gamoyenebuli
armaturis klasi grZivi da ganivi mimarTulebebzeA500C.
monoliTuri rkinabetonis gadaxurvis filebi–sarTulis gadaxurva Sesrulebulia
monoliTuri rkinabetonis wibovani filebiT, 20.0 sm wiboebis si maRle 40x50, 60x50 filis CaTvliT, gamoyenebulia betonis klasia B-40, xolo gamoyenebuli armaturis klasi grZivi da ganivi mimarTulebebze A500C
karkasis Sevseba II kategoriis wvrili blokebiT (moculobiTi wona araumetes 1200kg/m3), wvrili blokebis Sevseba aucileblad damagrebuli unda iyos kolonebTan armaturis naSverebiT sigrZiT ara naklebi 700 mmkolonis cal mxares,romlebic simaRleze unda dadges bijiT 600 mm(yovel sami rigis Semdeg). saWiroa agreTve gaTvaliswinebuli iqnas Sevsebis mWidro mimagreba monoli-Tur gadaxurvasTan
proeqtis ganmartebiT baraTSi aseve mocemulia zogadi saxis SeniSvnebi. SeniSvnebia
warmodgenili naxazebzec. Senobis rkinabetonis elementebSi gamoyenebulia armatura A240 ∅8 mm diametriT, A500c –∅12, ∅14,, ∅16, ∅20, ∅22, ∅25, ∅28, mm diametriT. betoni klasiT: betonis momzadebisaTvis B-7.5, miwis qveS da SexebaSi myof konstruqciul elementebSi B40W4, xolo danarCeni konstruqciebisaTvis
B -40.
kedlis Sevseba II kategoriis wvrili blokebiT
(moculobiTi wona araumetes 1200kg/m3), wvrili blokebis Sevseba aucileblad damagrebuli unda iyos kolonebTan armaturis nawverebiT sigrZiT ara naklebi 700 mmkolonis cal mxares,romlebic simaRleze unda dadges bijiT 600 mm (yovel sami rigis Semdeg). saWiroa agreTve gaTvaliswinebuli iqnas Sevsebis mWidro mimagreba monoliTur gadaxurvasTan
karkasis mzidi konstruqciebis gaangariSeba Sesrulebulia rogorc erTiani sivrciTi sistema mudmiv, droebiT xanmokle vertikalur datvirTvaze,

horizontalur qaris datvirTvaze pulsaciis gaTvaliswinebiT, 8-balian seismur
zemoqmedebaze da maT saangariSo Tanwyobaze, Catarebulia licenzirebuli aangariSo kompleqsi Senoba gaangariSebulia sasrul elementTa meTodiT programa
„lira sapr 2017“-is gamoyenebiT,
saqarTveloSi moqmedi samSeneblo normebis Sesabamisad. saangariSo sqema agebulia
arqiteqturuli
proeqtis da konstruqciuli sqemebis Sesabamisad seismuri Zalebis formireba X, Y da maT mimarT 45°–iani kuTxis mimarTulebiT xdeba normatiul
dokumentSi `seismomedegi mSenebloba~ (pn 01.01-09)-Si moyvanili meTodikis safuZvelze. damatebiT Catarebulia gaangariSeba fuZis seismuri aCqarebebis instrumentul Canawerebze e.w. realur aqselerogramebze. seismuri aCqarebebis instrumentuli Canawerebi aRebuli iqna Senobebis ganTavsebis teritoriis geofizikuri kvlevebis safuZvelze. proeqtis konstruqciuli nawili Sesrulebulia saqarTveloSi moqmedi
.
koreqtireba "2" blokis -0,60 3.60 da 5,20 niSnulze Sida gegmarebis cvlilebas, rac gulisxmobs 2 blokis 1 sarTulze dacvis samsaxurisTvis gankuTvnili saTavsebis damatebas. cvlileba ganicada -1 da -2 sarTulebze 2 blokis sadarbazo kibis ujredebma da liftis Saxtam,
samSeneblo normebisa da wesebis yvela moTxovnis gaTvaliswinebiT – "seismomedegi mSenebloba (pn 01.01-09)"; “betonisa da rkinabetonis konstruqciebi (pn 03..01.-09)"; "mSeneblobis da nagebobebis fuZeebi (pn 02.01.-08)"; "samSeneblo klimatologia (pn 01.05.-08)"; “СНиП 2.01.07.85 Нагрузки и воздей ствии”; moTxovnebis Sesabamisad.
proeqtis konstruqciuli nawili Sesrulebulia saqarTveloSi moqmedi samSeneblo normebisa da wesebis moTxovnis gaTvaliswinebiT.
calkeuli SeniSvnebi Cvens mier gamoTqmuli samuSaoebis mimarT, avtoris mier miRebuli iqna da angariSSi Setanilia saTanado koreqtivebi.
konstruqciul proeqtSi miRebuli mzidi konstruqciebis geometriuli parametrebi, betonis klasi da armirebebi Seesabameba saangariSo modelis parametrebs. naxazebi Sesrulebulia Sesabamisi standartebis mixedviT.

angariSiT miRebuli Sedegebis safuZvelze SeiZleba gakeTdes daskvna, rom nageboba akmayofilebs mdgradobisa da simtkicis Sesabamisi normatiuli dakumentebis moTxovnebs.

daskvna

eqspertizaze warmodgenili: S.p.s. " iu ei di studia " (direqtori a.jobava)konstruqtoris irakli uruSaZis mier, arqiteqturuli davalebis safuZvelze Sesrulebuli koreqtirebuli proeqtis konstruqciuli nawili Sesrulebulia saqarTveloSi moqmedi samSeneblo normebisa da wesebis moTxovnebis gaTvaliswinebiT.

calkeuli SeniSvnebi Cvens mier gamoTqmuli samuSaoebis mimarT, avtoris mier miRebuli iqna da angariSSi Setanilia saTanado koreqtivebi.

saproeqto Senobis rkinabetonis mzidi konstruqciebis daarmirebis SemowmebiT dadginda, rom karkasis mzidi elementebi ZiriTadad akmayofilebs mzidunarianobis moTxovnebs- gaangariSebiT saWiro armaturis farTobi ar aRemateba proeqtiT gaTvaliswinebuls.

proeqts eZleva dadebiTi Sefaseba.

.

kvlevis angariSi Seadgina:

eqsperti: */d. tabataZe/*

eqspertis rekomendaciebi

1. mSeneblobis organizaciam uzrunvelyos monoliTuri rk.b-is konstruqciebSi (saZirkvlis fila, filebi, svetebi) betonis Cawyoba uwyvetad. wyvetis SemTxvevaSi winaswar damuSavebuli meTodologiis mixedviT ganxorcieldes dabetonebis gagrZeleba.

2. rk.b-is elementebis dabetonebisas unda gaewios kontroli betonis klass, vibrirebas, dabetonebis xarisxs da Srobis procesebs TanaxmadГОСТ 10180-78; ГОСТ 18105.0-80; ГОСТ 18105.1-80; ГОСТ 18105.2-80;

3. rk.b-is konstruqciebSi gamoyenebuli A500C (ДСТУ 3760-98) klasis armaturazeSemowmebuli iqnas xarisxi da Sedges armaturis gamocdebis Sesabamisi aqtebi.

4. mSeneblobis dros Semowmebuli unda iqnas betonis kubikebi da isini aucilebelia aRebuli iqnas yvela konstruqciis betonidan da gansakuTrebulad svetebidan.

5. karkasis Rerovan elementebSi ganivi armireba Sesruldes Sekruli

armaturis sakidebis meSveobiT, romelTa bo loebi gadaiRunos da Caankerdes konstruqciis tanSi.

6. svetebSi da kedlebSi grZivi muSa armaturebis gadabma ganxorcieldes pirgadadebiT, Reroebis raodenobis Sesabamisad da naxazebze naCvenebi gadabmis mixedviT, sadac armaturaTa 50% gadaebmeba sxvadasxva doneze.

7. armaturebis moRunva ganxorcieldes civad (gacxelebis gareSe).

8. r/b konstruqciebi romlebic exeba grunts unda daifaros 2 fena rulonuri hidroizolaciiT gruntis wylis donidan min 2 metris zeda niSnulamde xolo danarCeni nawili SesaZlebelia daifaros 2 fena cxeli bitumis meSveobiT. romelzec Semdgom unda moewyos damcavi fenebi, rom daculi iqnas gruntis ukuCayris dros dazianebisagan.

9. SenobaSi mowyobili wylis rezeruaris kedlebi, iataki da Weri dafaruli unda iqnas min 2 fena hisdroizolaciiT, romelmac unda uzrunvelyos konstruqciis 100%iani dacva wylis gaJonvisagan.

10. konstruqciebis sayalibo naxazebi ganxiluli iqnas arqiteqturul da (MEP)–sainJinronaxazebTan erTad.

11. mSeneblobis gaCerebis SemTxvevaSi gaTvaliswinebuli iqnas konservaciis samuSaoebi, romelic SeTanxmebuli unda iqnas proeqtis konstruqciuli nawilis avtorebTan.

12. filebis ganyalibeba unda ganxorcieldes mas Semdeg, rodesac betonis simtkice miaRwevs saproeqto klasis min 70-%-s. zeda niSnulis filebis dabetonebisas dayalibis moxsnis Semdeg filebze qvemodan moewyos droebiTi e.w. domkratebi da daiZabos.

13. gadaxurvis filebis, liftis da kibis ujredebSi karis Rioebis gabarituli zomebi konstruqciul naxazebTan erTad aRebuli da gadamowmebuli unda iqnas arqiteqturuli naxazebis mixedviT.

14. teqnikuri zedamxedvelis mier yuradReba unda mieqces urigelo filebSi svetebis irgvliv vertikaluri Reroebis mowyobas. rigelis da svetisSeerTebis adgilas svetis tanSi gaxSirebuli e.w. xamutebis mowyobas da isini ganuxrelad unda Sesruldes im bijebiT da im raodenobebiT, rogorc es proeqtSia mocemuli.

15. im SemTxvevaSi Tu niSnulze damuSavebul qvabulze ar aRmoCnda is grunti rac mocemuli aris geologiis daskvniT da konstruqciul proeqtSi unda ecnobos geologs da proeqtis konstruqciuli nawilis avtorebs. sabolood damuSavebuli qvabuli miRebul iqnas inJiner-geologisa da

proeqtis konstruqtoris mier saTanado aqtze xelmoweriT .