

2 N14 ø8.0 C=984

2 N15 ø8.0 C=336

2 N11 ø5.0 C=269

2 N12 ø8.0 C=836

2 N13 ø8.0 C=706

310

r A

P77 V36 P68 AV/32 V30 P64 P57 P47

40 156.8 80 386.7 13 202 15 490 13 135 40

156.8 198.7 202 490 125

8 N2 c/21 19 N2 c/21 10 N2 c/21 24 N2 c/21 9 N2 c/21

685

23) 

Technical drawing of a reinforced concrete slab (Laje) showing top and side views.

Top View Dimensions and Reinforcement:

- Overall width: 3.00m
- Overall length: 6.07m
- Reinforcement bars and spacing:
 - 2 N59 ø10.0 C=232
 - 1 N22 ø8.0 C=170
 - 2 N25 ø8.0 C=242
 - 1 N24 ø8.0 C=151
 - 2 N3 ø5.0 C=295
 - 2 N4 ø5.0 C=279
 - 1 N19 ø8.0 C=220
 - 2 N20 ø8.0 C=902
 - 27 N2 c/21
 - 13 N2 c/21
- Other dimensions: 140, 70, 310, 127, 26, 199, 127, 26, 50, 221.5, 607, 262, 563.5, 663.5, 7, 34, 69.

Side View (SEÇÃO A-A) Dimensions:

- Slab thickness: 0.20m
- Reinforcement bar diameter: ø8
- Reinforcement bar spacing: 125

Technical drawing of a 10 N1 65.0 C=9 shaft. The drawing includes a side view and a cross-sectional view. The side view shows a shaft with a total length of 270.8 mm, a diameter of 65.0 mm, and a keyway with a width of 31.0 mm. The keyway is located at a distance of 221 mm from the left end. The shaft is labeled with '2 N80 ø8.0 C=278' at the top left, '10 N1 c/21' in the center, and '2 N79 ø8.0 C=229' at the bottom left. The cross-sectional view shows a shaft with a diameter of 65.0 mm and a keyway with a width of 34 mm. The keyway is located at a distance of 9 mm from the left end. The shaft is labeled with '10 N1 ø5.0 C=9' at the bottom right.

Technical drawing of a 12 N2 Ø8.0 C=314 beam. The drawing includes a side elevation and a cross-section. The side elevation shows a beam with a total length of 272, a central section of 251.7, and end sections of 13. The beam is supported by P69 and P67. The cross-section shows a height of 40 and a width of 13. The beam is labeled 12 N2 Ø8.0 C=314.

Technical drawing of a rectangular plate. The main view shows a plate with overall dimensions 34 (width) x 221 (length). It features a central rectangular hole with dimensions 10 N5 c/21. The hole is positioned 10 units from the bottom edge and 221 units from the left edge. The plate is labeled with material specifications: 2 N29 ø8.0 C=278 and 2 N28 ø8.0 C=229. A detail view 'A' shows a cross-section of the plate with a thickness of 15 units. A side view shows the plate's profile with a width of 34 units and a height of 9 units. The plate is labeled with material specifications: 10 N5 ø5.0 C=9.

Technical drawing of a 2000mm long metal profile. The main dimensions are 2000mm (total length), 532mm (top flange width), 310mm (top flange thickness), 40mm (bottom flange thickness), 293mm (bottom flange width), 160mm (bottom flange width), 14 N2 c/21 (bottom flange holes), 8 N2 c/21 (bottom flange holes), 2 N31 ø8.0 C=574 (top flange holes), 2 N30 ø8.0 C=532 (bottom flange holes), 22 N2 ø5.0 C=6 (bottom flange holes). The drawing includes callouts for P60, P48, P43, P40, P45, P46, P47, P48, P49, P50, P51, P52, P53, P54, P55, P56, P57, P58, P59, P60, P61, P62, P63, P64, P65, P66, P67, P68, P69, P70, P71, P72, P73, P74, P75, P76, P77, P78, P79, P80, P81, P82, P83, P84, P85, P86, P87, P88, P89, P90, P91, P92, P93, P94, P95, P96, P97, P98, P99, P100, P101, P102, P103, P104, P105, P106, P107, P108, P109, P110, P111, P112, P113, P114, P115, P116, P117, P118, P119, P120, P121, P122, P123, P124, P125, P126, P127, P128, P129, P130, P131, P132, P133, P134, P135, P136, P137, P138, P139, P140, P141, P142, P143, P144, P145, P146, P147, P148, P149, P150, P151, P152, P153, P154, P155, P156, P157, P158, P159, P160, P161, P162, P163, P164, P165, P166, P167, P168, P169, P170, P171, P172, P173, P174, P175, P176, P177, P178, P179, P180, P181, P182, P183, P184, P185, P186, P187, P188, P189, P190, P191, P192, P193, P194, P195, P196, P197, P198, P199, P200, P201, P202, P203, P204, P205, P206, P207, P208, P209, P210, P211, P212, P213, P214, P215, P216, P217, P218, P219, P220, P221, P222, P223, P224, P225, P226, P227, P228, P229, P230, P231, P232, P233, P234, P235, P236, P237, P238, P239, P240, P241, P242, P243, P244, P245, P246, P247, P248, P249, P250, P251, P252, P253, P254, P255, P256, P257, P258, P259, P260, P261, P262, P263, P264, P265, P266, P267, P268, P269, P270, P271, P272, P273, P274, P275, P276, P277, P278, P279, P280, P281, P282, P283, P284, P285, P286, P287, P288, P289, P290, P291, P292, P293, P294, P295, P296, P297, P298, P299, P300, P301, P302, P303, P304, P305, P306, P307, P308, P309, P310, P311, P312, P313, P314, P315, P316, P317, P318, P319, P320, P321, P322, P323, P324, P325, P326, P327, P328, P329, P330, P331, P332, P333, P334, P335, P336, P337, P338, P339, P340, P341, P342, P343, P344, P345, P346, P347, P348, P349, P350, P351, P352, P353, P354, P355, P356, P357, P358, P359, P360, P361, P362, P363, P364, P365, P366, P367, P368, P369, P370, P371, P372, P373, P374, P375, P376, P377, P378, P379, P380, P381, P382, P383, P384, P385, P386, P387, P388, P389, P390, P391, P392, P393, P394, P395, P396, P397, P398, P399, P400, P401, P402, P403, P404, P405, P406, P407, P408, P409, P410, P411, P412, P413, P414, P415, P416, P417, P418, P419, P420, P421, P422, P423, P424, P425, P426, P427, P428, P429, P430, P431, P432, P433, P434, P435, P436, P437, P438, P439, P440, P441, P442, P443, P444, P445, P446, P447, P448, P449, P450, P451, P452, P453, P454, P455, P456, P457, P458, P459, P460, P461, P462, P463, P464, P465, P466, P467, P468, P469, P470, P471, P472, P473, P474, P475, P476, P477, P478, P479, P480, P481, P482, P483, P484, P485, P486, P487, P488, P489, P490, P491, P492, P493, P494, P495, P496, P497, P498, P499, P500, P501, P502, P503, P504, P505, P506, P507, P508, P509, P510, P511, P512, P513, P514, P515, P516, P517, P518, P519, P520, P521, P522, P523, P524, P525, P526, P527, P528, P529, P530, P531, P532, P533, P534, P535, P536, P537, P538, P539, P540, P541, P542, P543, P544, P545, P546, P547, P548, P549, P550, P551, P552, P553, P554, P555, P556, P557, P558, P559, P560, P561, P562, P563, P564, P565, P566, P567, P568, P569, P570, P571, P572, P573, P574, P575, P576, P577, P578, P579, P580, P581, P582, P583, P584, P585, P586, P587, P588, P589, P590, P591, P592, P593, P594, P595, P596, P597, P598, P599, P600, P601, P602, P603, P604, P605, P606, P607, P608, P609, P610, P611, P612, P613, P614, P615, P616, P617, P618, P619, P620, P621, P622, P623, P624, P625, P626, P627, P628, P629, P630, P631, P632, P633, P634, P635, P636, P637, P638, P639, P640, P641, P642, P643, P644, P645, P646, P647, P648, P649, P650, P651, P652, P653, P654, P655, P656, P657, P658, P659, P660, P661, P662, P663, P664, P665, P666, P667, P668, P669, P670, P671, P672, P673, P674, P675, P676, P677, P678, P679, P680, P681, P682, P683, P684, P685, P686, P687, P688, P689, P690, P691, P692, P693, P694, P695, P696, P697, P698, P699, P700, P701, P702, P703, P704, P705, P706, P707, P708, P709, P710, P711, P712, P713, P714, P715, P716, P717, P718, P719, P720, P721, P722, P723, P724, P725, P726, P727, P728, P729, P730, P731, P732, P733, P734, P735, P736, P737, P738, P739, P740, P741, P742, P743, P744, P745, P746, P747, P748, P749, P750, P751, P752, P753, P754, P755, P756, P757, P758, P759, P760, P761, P762, P763, P764, P765, P766, P767, P768, P769, P770, P771, P772, P773, P774, P775, P776, P777, P778, P779, P780, P781, P782, P783, P784, P785, P786, P787, P788, P789, P790, P791, P792, P793, P794, P795, P796, P797, P798, P799, P800, P801, P802, P803, P804, P805, P806, P807, P808, P809, P810, P811, P812, P813, P814, P815, P816, P817, P818, P819, P820, P821, P822, P823, P824, P825, P826, P827, P828, P829, P830, P83

Technical drawing of a door assembly showing a top view and two side views. The top view shows a door with a handle and a lock. Dimensions include 23, 34, 664, 310, 198.5, 177, 211.5, 10 N2 c/21, 9 N2 c/21, 11 N2 c/21, 2 N33 ø8.0 C=717, P43, P37, P35, V18, 198.5, 177, 211.5, 10 N2 c/21, 9 N2 c/21, 11 N2 c/21, 2 N32 ø8.0 C=685, 7, 30 N2 ø5.0 C=94. The side views show the door's profile with dimensions 91, 113, 34, and 7.

Technical drawing of a rectangular plate with the following specifications:

- Top edge: 2 N61 $\phi 10.0$ C=310
- Left edge: 38
- Right edge: 38
- Top edge detail: 239
- Top edge detail: 270
- Top edge detail: $r A$
- Left edge detail: P37
- Left edge detail: $L A$
- Right edge detail: P35
- Bottom edge: 34
- Bottom edge: 177
- Bottom edge: 34
- Bottom edge detail: 177
- Bottom edge detail: 14 N6 c/13
- Bottom edge: 2 N60 $\phi 10.0$ C=239
- Right edge detail: ESC 1:25
- Right edge detail: 50
- Right edge detail: 30
- Right edge detail: 29
- Right edge detail: 24
- Right edge detail: 14 N6 $\phi 5.0$ C=118

[illegible]

Technical drawing of a 13 N2 c/21 window frame. The drawing includes a side elevation and two cross-sections. The side elevation shows a frame with a top rail (2 N38 ø8.0 C=325) and a bottom rail (2 N38 ø8.0 C=282). The total width is 282, and the total height is 24. The frame is divided into two main sections: a left section (P23) and a right section (P15). The distance between the centerlines of the rails is 260. The frame is shown in a closed position with a handle (A) and a lock (A). The cross-sections show the frame's profile with a width of 13 and a height of 13. The bottom rail has a height of 34 and a width of 7. The frame is labeled '13 N2 c/21'.

Technical drawing of a reinforced concrete beam (SEÇÃO A-A) showing dimensions and reinforcement details. The beam has a total length of 500 cm. Reinforcement includes 2 N5 top bars (C=150), 2 N11 top bars (C=285), 2 N5 bottom bars (C=524), and 2 N5 bottom bars (C=9). The beam is supported by P74 and P66. The drawing also shows a cross-section of the beam with a height of 40 cm and a width of 34 cm.

Technical drawing of a roof structure (Dachstuhl) showing a cross-section and elevation. The drawing includes various structural elements like rafters, beams, and roof panels, labeled with dimensions and material specifications. Key labels include:

- 2 N46 ø8.0 C=249
- 30, 221
- 1 N45 ø8.0 C=205
- 30, 177
- 1 N44 ø8.0 C=165
- 30, 137
- 2 N48 ø8.0 C=175
- 155, 122
- 1 N47 ø8.0 C=115
- 95, 22
- 2 N8 ø5.0 C=274
- 2ø2c, A
- 310
- 1ø2c
- P33, V16, L A, V14, P2
- 50, 570
- 28 N2 c/21
- 1ø2c
- 1 N42 ø8.0 C=203
- 245
- 2 N43 ø8.0 C=629

Technical drawing of a reinforced concrete beam (Viga) showing top and side views.

Top View Dimensions:

- Reinforcement bars: 2 N49 ø8.0 C=160, 2 N50 ø8.0 C=243, 2 N9 ø5.0 C=288, 2 N21 ø8.0 C=621, 27 N2 ø5.0 C=5.
- Width: 310
- Total length: 583.5
- Section line A-A is indicated.

Side View Dimensions:

- Height: 40
- Width: 34

Section Line A-A: ESC 1:25

2 N52 ø8.0 C=151
43 130

2 N53 ø8.0 C=263
242

23

SEÇÃO A-A
ESC 1:25

2 N10 ø5.0 C=455

405

A

P45

P33

5 747.5 50

747.5

36 N2 ø21

2 N51 ø8.0 C=807

36 N2 ø10 C=94

36 N2 ø8.0 C=94

2 N58 ø8,0 C=160
27 135

2 N57 ø8,0 C=150
125 27

2 N11 ø5,0 C=285

310

P58 L A P46

15 500 15

2 N45 c/21

2 N56 ø8,0 C=524

40

15

34

9

24 N5 ø5,0 C=90

SEÇÃO A-A
ESC 1:25

2 N57 ø8.0 C=150
27 125

2 N58 ø8.0 C=160
135 27

2 N11 ø5.0 C=285

310

P27 L A P24

5 500 5

500

2 N45 c/21

2 N56 ø8.0 C=524

SEÇÃO A-A
ESC 1:25

40

34

9

24 N5 ø5.0 C=90

2 N58 ø8,0 C=160
27 135

2 N57 ø8,0 C=150
125 27

2 N11 ø5,0 C=285

310

P16 L A P8

5 500 5

2 N45 c/21

2 N56 ø8,0 C=524

SEÇÃO A-A
ESC 1:25

40

15

34

9

24 N5 ø5,0 C=90

[illegible]

Resumo do aço

AÇO	DIAM (mm)	C.TOTAL (m)	PESO (kg)	
CA50	8.0	468.8	185.2	
	10.0	15.6	9.6	
CA60	5.0	606.1	93.3	
PESO TOTAL (kg)				
CA50	194.8			
CA60	93.3			

Volume de concreto (C-25) = 6.31 m³
 Área de forma = 91.65 m²

Volume de concreto (C-25) = 6.31 m³
Área de forma = 91.65 m²

1 VIGAS NÍVEL 310
ESCALA: INDICADA

		Atendimento à NBR 9050/2015; Alteração: quadro de áreas, sanitários infantis 1 e 2, altura da platibanda, mobiliário e equipamento, altura da cerâmica nos sanitários, cor dos portões dos solários e altura da porta PA6; Acesso das duchas higiênicas e escaninhos pré-escola. Retirada da chapa de aço abaixo da platibanda.
02	JANEIRO/2017	Alteração paredes - shift para tubulação hidráulica e detalhamento: alteração da altura da platibanda; Correção: Blocos: B34, B36; Sapatas: S34, S36; Pilares: P33, P45, P57; Vigas: viga 310; V22, V56, V75; Supressão: Viga 310; V72.
01	AGOSTO/2016	
Nº	DATA	DESCRIÇÃO
CONTROLE DE REVISÕES		

Thiago M. G. C.
DEPARTAMENTO DE ENGENHARIA



PREFEITURA MUNICIPAL DE ROSÁRIO DO SUL
ESTADO DO RIO GRANDE DO SUL – BRASIL
SECRETARIA MUNICIPAL DE OBRAS, VIAÇÃO, TRÂNSITO E TRANSPORTE
DEPARTAMENTO DE ENGENHARIA



CRECHE PRÉ ESCOLA - FNDE - TIPO 2

Endereço: Rua Olavo Bilac - Bairro João Nunes da Silva

Responsável Técnico:	Proprietário
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Gleber Clairton Severo Machado
CAU: A29825-5
CPF: 610.410.170-49

Marcos Paulo Silva da Luz
Prefeito Municipal de Rosário do Sul

PROGRAMA PROINFÂNCIA - PROJETO TIPO 2

PROJETO DE ESTRUTURA

COORDENAÇÃO
CGEST - Coordenação
Geral de Infraestrutura
Educativa

ESTRUTURA DE CONCRETO
VIGAS NÍVEL 310
FORMA E ARMAÇÃO

SCV

FORMATO
A1 (841x594)

ESCALA
INDICADA
DATA EMISSÃO
JANEIRO/2017

4/17