**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL – SOUTHERN ZONE, CHENNAI**

**Original Application No. 39 of 2020 (SZ)**

**BETWEEN**:

Dr. Lubna Sarwath

…**Applicant**

**A N D**

The State of Telangana,
Rep. by its Chief Secretary

& 8 Others

...**Respondents**

**MEMO FILED ON BEHALF OF THE RESPONDENT NO. 9**

**Filed On : 14.03.2023**

**Filed by:**

Polkampally Pavan Kumar Rao &

S. Kishore Kumar

ADVOCATES

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**ADVOCATES**
**COUNSELS FOR RESPONDENT NO. 9**

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**Date**: 14.03.2023

**Place**: Chennai

**Counsel for the Respondent No.9**

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& 8 Others

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**MEMO**

May it please your Lordships!

1. It is most humbly submitted that, the Respondent No. 9 herein in compliance with the Order of this Hon'ble Tribunal dated 07.02.2023, has approached the Irrigation Authority seeking granting a permission for replacing existing Hume Pipes with Box Type Storm water drain from the existing culvert to the Bulkapur Nala.

2. It is submitted that the said Irrigation Authority upon consideration of grant for permission had issued an approval for the same with amended specifications, which is being filed herewith, which are relevant for the purpose of adjudication of the present case.

3. In compliance of the same, the Respondent herein through this Memo is herewith placing the said documents on the record of this Hon'ble Tribunal.

   Hence this memo.

   Be pleased to consider.

**Place**: Chennai

**Date**: 14-03-2023 **Counsel for the Respondent No.9**

**GOVERNMENT OF TELANGANA**
**IRRIGATION & CAD DEPARTMENT**

From,
K.Bansilal, B.E.,
Executive Engineer, I&CADD.,
Irrigation Division No.1,
Hyderabad

To,
M/s Phoenix Spaces Private Limited.,
Plot No. 1335, Road No.45, Jubilee Hills,
Hyderabad - 500033

**Lr.No. EE/Irrg.Divn No.1/DB/DEE-T/AEE/D3/2022-23/ 3242 Dt:13-03-2023.**

Gentleman,

**Sub:-** I & C.A.D- Gandipet (M) - Legal - Submission of plans for construction of box type storm water drain situated at the development site in Sy Nos. 285,286 and 287 of the Puppalguda Village, leading from the Existing Culvert to the Bulkapur Nala - Approved with certain condition - Reg.

**Ref:-** 1. Hon'ble NGT Original Application No.**39 of 2020**
2. The Hon'ble NGT Court (SZ), Chennai Order on Dt: 07.02.2023 & 22.02.2023
3. A/o M/s Phoenix Spaces Private Limited to the Executive Engineer, Irrigation Division No.1, Hyderabad on Dt: 20.02.2023
4. The Executive Engineer, Irrigation Division No.1, Hyderabad Endt No. EE/Irrg.Divn No.1/DE/DEE-T/AEE/D3/2022-23/3058, Dt: 01.03.2023
5. The Dy.Executive Engineer, irrigation Sub Division No.4, Hyderabad Lr No. DEE/ISD4/Hyd/AEE4/Gandipet Section/2022-23/44, Dt:09.03.2023

**********

Anent to the ref 2nd cited, the Hon'ble National Green Tribunal (SZ), Chennai passed orders on **22.02.2023** to the Respondent No.9 i.e., Phoenix Project proponents to prepare a plan replacing the Hume Pipes with box-type storm water drain and get the same approved by the appropriate authorities including the Irrigation Department.

Further, vide 3rd cited, M/s Phoenix Spaces Private Limited has submitted an application to this office duly submitting the plan of storm water drain from the existing culvert duly connecting to the Bulkapur Nala and requested to examine the proposals of design and alignment of Storm water drain duly considering the cloud burst situation.

In this regard, the undersigned has inspected the site on 10.03.2023 along with the Dy.Executive Engineer, Irrigation Sub Division No.4, Hyderabad and observed that, a natural 1st order stream is originating just before the project proponent and carrying the rain water to the Bulkapur Nala. The said stream is existed in Geological survey of India Toposheet No. **E44M7** (Copy Enclosed). There is a culvert over this stream was constructed while laying road earlier.

Collected the details of the said 1st order stream and arrived the catchment area is **0.0593 Square Miles** i.e., equivalent to the **1,53,586 Square Meters** from the GSI Toposheet No. **E44M7** (Copy Enclosed).

Further, **Rainfall with 100mm per hour** with peak runoff is categorized as cloud bursts. Catchment area is worked out & based on the above the discharge is arrived and correlate with

the proposed storm water drain from the existing culvert portion to the Bulkapur Nala. As you have proposed storm water drain with **1500mm x 1500mm is not sufficient to carry the water** in cloud bursts situation in present condition. Hence, the **M/s Phoenix Spaces Private Limited is instructed to construct a storm water drain with 2000mm x 2000mm** to accommodate the maximum flood discharge even in cloud bursts condition for the above mentioned stream from the existing Culvert to the Bulkapur Nala duly re-aligning the Nala from original to one end of the M/s Phoenix Spaces Ltd., land i.e., North- East side. Technically it is feasible to re-align the box-type storm water drain and connected into the Bulkapur Nala. The cross section of storm water drain is enclosed.

In this regards, the construction of box-type storm water drain work shall be taken up duly following the conditions:

a. Construction of box-type Storm water drain shall be carried out by the M/s Phoenix Spaces as accepted in the application with your own cost. Department will not bear the cost of Storm water drain.
b. Construction of box-type storm water drain activity shall not decrease the carrying capacity of the stream.
c. Construction of box-type storm water drain shall be taken as per Design & Drawings enclosed herewith.
d. Alteration or deviation of the alignment of storm water drain shall not be accepted.
e. No debris or wastage will be allowed in storm water drain area during & after the construction.
f. Construction of work shall be done under the supervision of I&CADD field officials.
g. Before, during and after construction photos shall be submitted to this office for taking further necessary action.
h. M/s Phoenix Spaces Pvt. Ltd., shall submit the progress of the work periodically to this office for informing to the higher authorities.
i. Any violation of the above conditions may leads to the cancel the permission now issued without prior notice.

Yours faithfully,

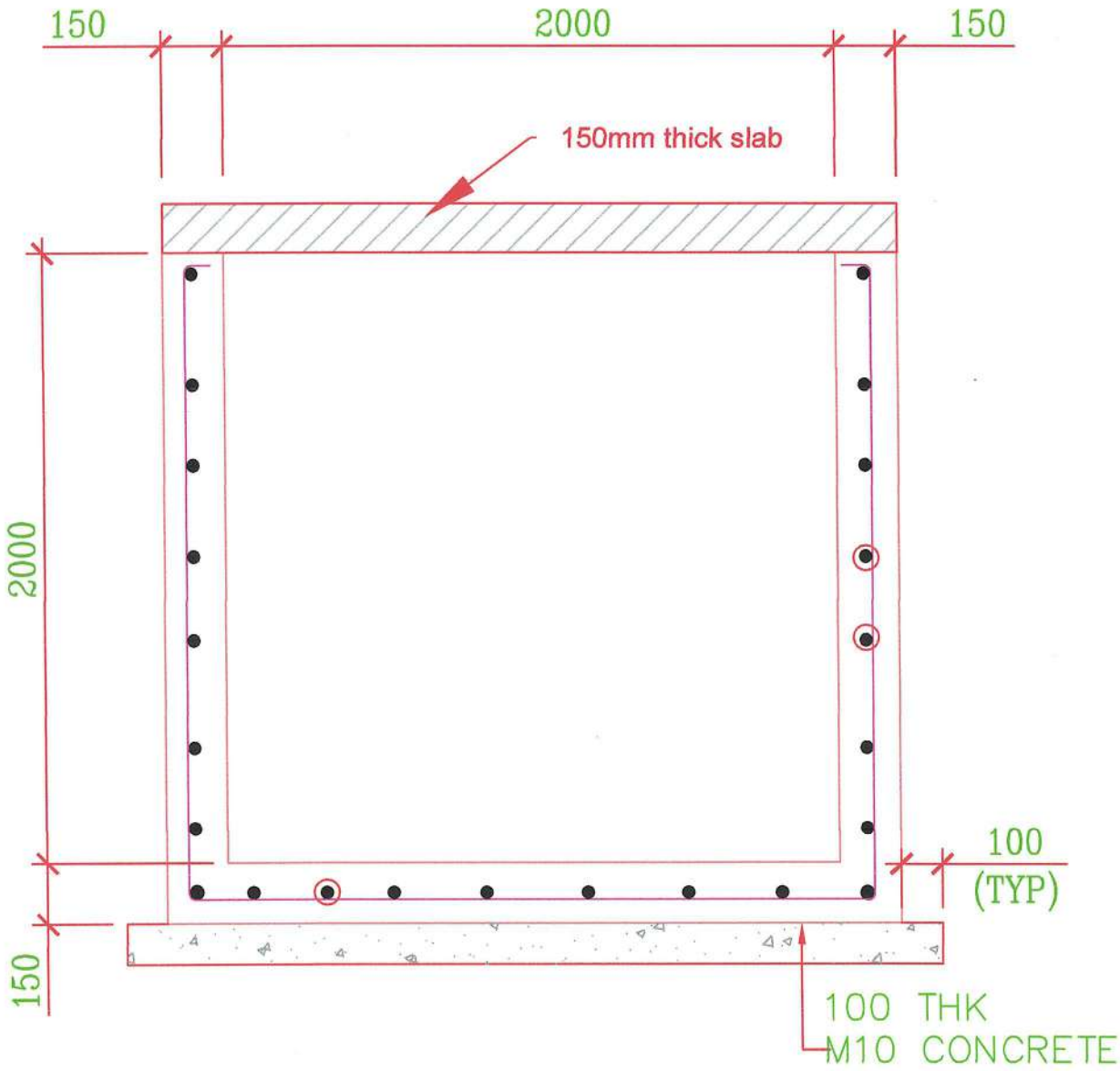
Encl: As above

Executive Engineer, I&CADD,
Irrigation Division No.1, Hyderabad

13/3/23

13/3/23

PROPOSED CROSS SECTION OF STORM WATER DRAIN FROM THE EXISTING CULVERT TO BULKAPUR NALA



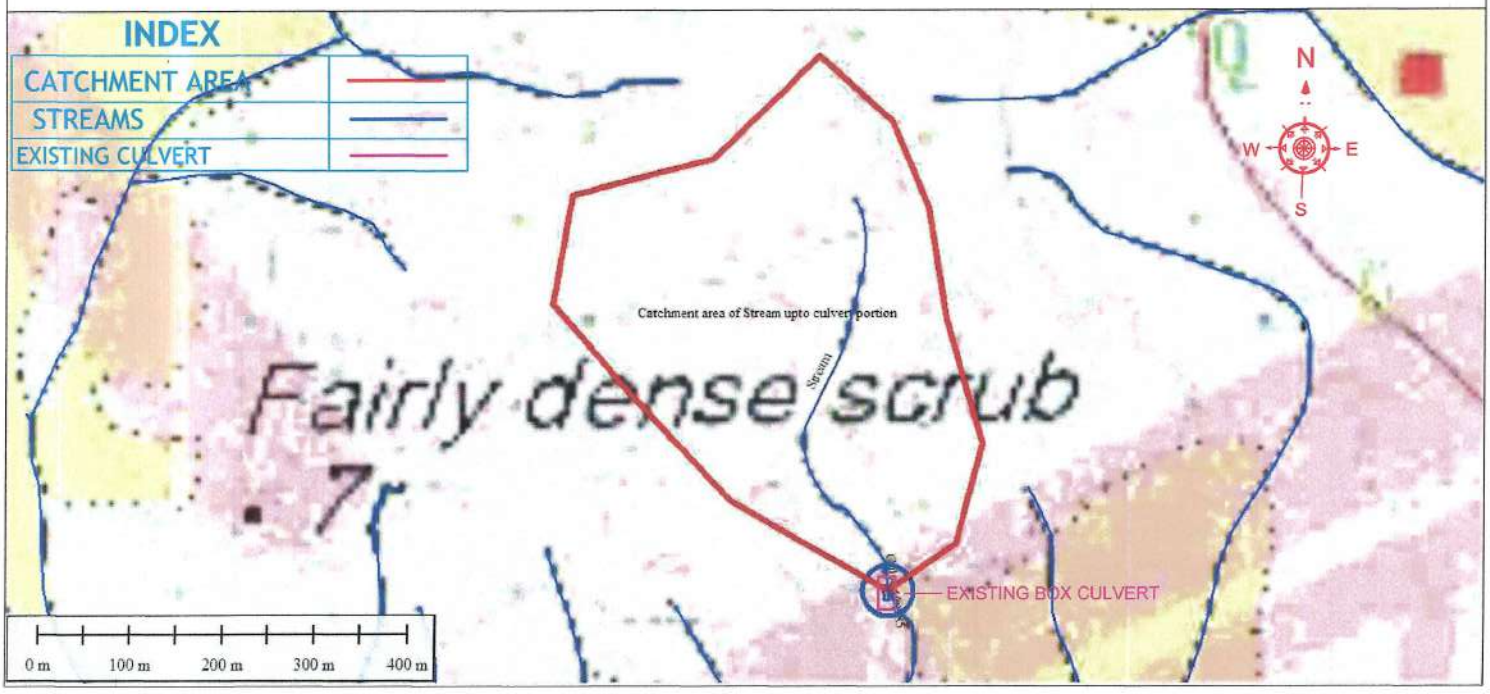

TYP. SECTION FOR STORM WATER DRAIN
(FOR DEPTH UPTO 2000 MM)

AEE

Dy. Executive Engineer I & CADD.,
Irrigation Sub Division No. 4, Hyderabad

Executive Engineer, I&CAD.,
Irrigation Division No. 1,
Red Hills, Hyderabad.

TOPO IMAGE SHOWING CATCHMENT AREA OF STREAM AT EXISTING BOX CULVERT NEAR SY NO.286 OF PUPPALGUDA




AEE

Dy. Executive Engineer I & CADD.,
Irrigation Sub Division No. 4, Hyderabad

Executive Engineer, I&CAD.
Irrigation Division No. 1,
Red Hills, Hyderabad.

**PROJECT : Project @ 285 by M/s Phoenix Global Spaces Ltd.,**
**DESIGN OF STORM WATER DRAIN**

**Rational formula for calculating runoff Q = (C I A)**

**Q**-Runoff in **m3/sec**

**C**- Co-efficient of **run off**

**I** - Intensity of rainfall in **mm/ hr.**

**A** - Drainage area in **sq.mtrs.**

**Run-off co-efficient for various types of surfaces**

Open grounds, unpaved street : 0.10 to 0.30

Parks,lawns, gardens : 0.10 to 0.25

Macadam roads, pavements : 0.25 to 0.70

Asphalt pavements : 0.85 to 0.90

Water tight roof surface : 0.90 to 0.95

Storm frequency

Intensity of precipitation.

Time of concentration

**Manning's formula for calculating the size of drain (Q= A x V)**

V = (1 x R2/3 x S1/2) / n

V = Velocity of flow in **m/sec.**

**n** = Co-efficient of friction, **0.013**

**R** = Hydraulic mean depth in mts. **R = A / P**

**A** = area of cross section in **m2**

(Top width + bottom width)/2xdepth of flow for trapezoidal Section

Bottom width x depth of flow for rectangular section

P = Wetted perimeter in meters

Bottom width + (2 x √2 x depth of flow) for trapezoidal section = B + 2 x √2 x D

Where D= depth of flow

Bottom width + 2 x depth of flow for rectangular section = B + 2D

S = Hydraulic bed slope.

Dy. Executive Engineer I & CADD,
Irrigation Sub Division No. 4, Hyderabad

Executive Engineer, I&CAD,
Irrigation Division No. 1,
Red Hills, Hyderabad.

**DESIGN**

| | | | |
|---|---|---|---|
| **Intensity of rainfall "I" (in Cloud bursts condition)** | | **100 mm/hr** | |
| "C" Run-off coefficient for Roof area | | 0.9 | |
| "C" Run-off coefficient for Hardscape area | | 0.7 | |
| "C" Run-off coefficient for Softscape area. | | 0.4 | |
| **TOTAL CATCHMENT AREA** | | **153586.0** | **Sq Mts** |
| **Total Plan/Roof Area** | | 1,47,444 sq.mtr. | |
| Discharge = K = C x I x A1 | | | |
| Hence, | | | |
| Discharge = K = 0.9 x 100 x 147444 | | 3.69 cum/sec | |
| Total Hardscape Area | | 1,535 sq.mtr | |
| Discharge = L = C x I x A2 | | | |
| Hence, | | | |
| Discharge = L = 0.7 x 100 x 1536 | | 0.039 cum/sec | |
| Total Softscape Area | | 4,748 sq.mtr | |
| Discharge = M = C x I x A2 | | | |
| Hence, | | | |
| Discharge = M= 0.4 x 100 x 4608 | | 0.12 cum/sec | |
| Actual total run off Q = K+L+M | | 3.849 cum/sec | |
| | **Actual =** | **3.90 cum/sec** | |
| Design of RCC drain Q = A x V | | | |
| Area of flow A = B x D | | | |
| Assume depth of flow for a rectangular drain ' D ' | 1.2 | **1.20** mtrs. | |
| Also assume breadth to depth ratio | | **1.5** | |
| So, breadth of drain = B = 1.50 D | 1.8 | **1.80** mtrs. | |
| Area of flow = A = 1.50 x 1.20 | 2.16 | 2.16 Sqm. | |
| Wetted perimeter = P = B + 2D | 4.2 | | |
| Perimeter = P = 1.80 + 2 x 1.20 | | 4.20 mtrs. | |
| Wetted Radius = R = A / P | 0.51 | | |
| Wetted Radius = R = 2.16 / 4.20 | | 0.51 mtrs. | |
| **Manning's formula for calculating the size of drain** | | | |
| Mannings Formulae = **Q = (A X R2/3 X S1/2) / n** Where, | | | |
| Slope of drain = S = 1 in 300 | | 300 | |
| Mannings constant (friction coefficient) " n " for RCC Drains | | 0.018 | |
| **Design Discharge** = 1.50 x (0.46)^(2/3) x (1 / 300) ^(1/2) / 0.018 ) | | **4.45 cum/sec** | |
| **Design Discharge** is **4.45 Cum/Sec > 3.90 Cum/Sec** | | **Hence Safe** | |

**Calculated size :-**

Width of drain is 1800 mm Depth of drain is 1800 mm (FSL : 1200 + Free Board: 600 mm)

| | | |
|---|---|---|
| **Hence, Proposed Section for Storm Water Drain is:** | | **2000mm X 2000mm** |
| | Velocity = V | **2.05 m/s** |

Asst.Executive Engineer,
Irrigation Section, Gandipet

Dy.Executive Engineer,
Irr Sub Div No.4, Hyderabad

Executive Engineer, I&CADD.,
Irrigation Division No.1, Hyderabad

Phoenix | Let's soar together

Date: 20-02-2023

To,
Executive Engineer,
Irrigation & CAD. Department,
Irrigation Division No. I,
Hyderabad.

Sir,

Sub: Submission of plans for construction of box type storm water drain, situated at the development site in Survey Nos. 285, 286 and 287 of the Puppalaguda Village, leading from the culvert to the Bulkapur Channel- Approval -reg

***

Please refer to the Order dt. 07-02-2023 of the National Green Tribunal Southern Zone, Chennai in Original Application No. 39 of 2020(SZ).

The Hon'ble tribunal has indicated that the existing system of diversion of the storm water through the 0.9 meter dual hume pipe have to be replaced by box-type storm water drain which would be more in terms of width for the unhindered flow of water which can be connected to the Bulkapur Channel and the plan should be approved by the appropriate authorities including the Irrigation Department.

In this regard, as per the directions of the Honourable NGT, we have prepared detailed plans for construction of box type storm water diversion system which are submitted herewith for your perusal and approval please.

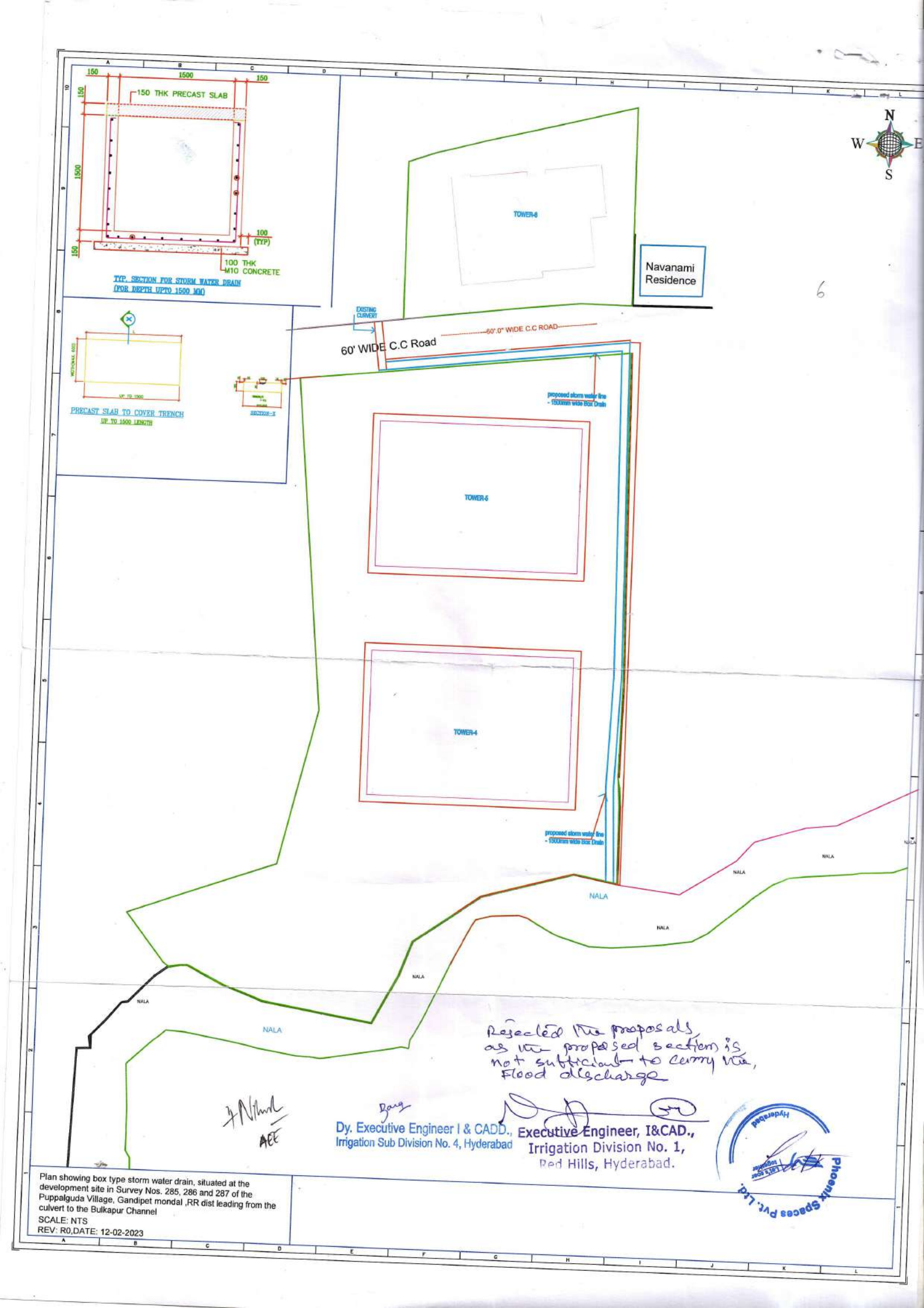
Thanking you,

Yours faithfully,

For M/s Phoenix Spaces Private Limited

Authorised Signatory

Encl: Enclosures as attached.




Plan showing box type storm water drain, situated at the development site in Survey Nos. 285, 286 and 287 of the Puppalguda Village, Gandipet mondal ,RR dist leading from the culvert to the Bulkapur Channel

SCALE: NTS

REV: R0,DATE: 12-02-2023