

MINISTRY OF RECONSTRUCTION & HOUSING
STATE CORPORATION OF ROADS & BRIDGES
DEPARTMENT OF DESIGN & PLANNING

No 1307

Date/ 26/ 12/ 2004

From :Mustafa Abdul Rahman < scrb_iraq@hotmail. Com >
TO: Toshio Takebayashi < takebayashit@pcitokyo.co.jp>

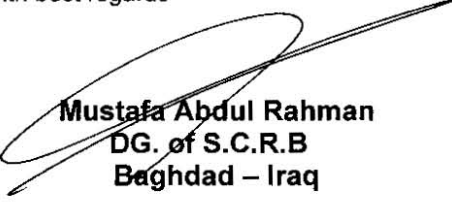
Subject : Re : Bridges in Iraq

Dear Takebayashi

Your last E-mail dated Dece., 23-2004 , we want to clarify the following :

1. We have no information about the American Company Contract International because this company did not deal with our commission for roads and bridges.
2. Samawah Governorate is very safe Governorate and we are ready to cooperate for security of project sites in the Governorate .
3. The Iraqi contractors themselves are responsible for their security of their projects by agreement with the local tribes .
4. At last SCRIB announces the project funded by the US grant aid after coordinating with (PCO- GRD) office and the operation is going well without troubles and we do not expect any troubles during implementation of these projects since they are serving Iraqi citizens who are very glad for these projects .
5. So we are also ready to announce the projects of the Japanes Grant Aid and supervise the implementation under Japanese pursuance and we hope that the security situation in Iraq will approved in near future
6. We hope that you will not be affected by the news on different media and we are ready for any help we can do

Tank you with best regards


Mustafa Abdul Rahman
DG. of S.C.R.B
Baghdad – Iraq

cc.
Planning and design department

Co-ordination Meeting on site

Minutes of meeting with Mr. Shuichi Takano of MOFA

Date : 4th Amy 2005

Time: 3:00Pm

Venue: Japanese Camp in Samawah.

Presents by:

- 1- Mr. Shuichi Takano of MOFA
- 2- architect Mustafa Jasim of Dar Iraq
- 3- Engineer Haider A. Ali of Dar Iraq
- 4- Mr. Takayuki Maeda of MOFA.

The meeting was started at 3:00pm and finished at 6:00 pm

Matters discussed was as listed below:

- 1- copy of road layout and drainage design was extended to MOFA for their reference
- 2- overall discussion for the existing drainage system as per drawing prepared by PCI and Dar Iraq.
- 3- detailed discussion of the design drawing as per new road alignment and both parties has agreed of the design layout and proposed solutions.
- 4- overall explanation of the project scope of work was discussed and clearly clarified for the whole project.
- 5- MOFA extended copy of proposed contractual guide line s following scope of work :
 - a- Drainage cleaning and repairing task.
 - b- new proposed drainage design task
 - c- new road alignment with sidewalk and road marking task
 - d- new street lighting.
 - e- planting and landscaping
- 6- at the end both parties has reach to the level of understanding the scope of work and packaging of the project to be discussed clearly with all related departments of Samawah Authority in the next day meeting.

Prepared by

Mr. Mustafa Jasim

Team leader – Dar Iraq.

Minutes of meeting with MOFA, GSDF and Related Departments of Samawah Authority

Date : 5th Amy 2005

Time: 9:00 AM

Venue: Japanese Camp in Samawah.

Agenda of meeting: Samawah promenade project- design of Cornish Street

Presented by:

- 1- Mr. Shuichi Takano of MOFA
- 2- architect Mustafa Jasim of Dar Iraq / JICA
- 3- Engineer Haider A. Ali of Dar Iraq /JICA
- 4- Mr. Takayuki Maeda of MOFA.
- 5- Mr. Hiroyasu Kobayashi of MOFA
- 6- Masatomo Sakurai of GSDF
- 7- Assel Ahmed of Dar Iraq / JICA.
- 8- Abdul Kereem Turkey head of the Sewerage department of Samawah.
- 9- Sarmed Hamuodi sewerage Engineer of Sewerage department of Samawa
- 10- Emmad Mohemmed Ali head of the municipality of Samawah
- 11- Engineer Abbas of Electrical department of Samawah.

The first meting was held at 9:30 with the sewerage department and the following matters was discussed:

- 1- copies of drainage design for Cornish street (A3 size drawing scale 1:500) was extended to all parties
- 2- detailed discussion of the design drawing for Cornish street for each 150 meter station as shown in the drawing and few comments and amendment was made on spot.
- 3- changing in some of the connecteted pipes diameter was sugussted in certain location to accommodate the flow as a new inlets added
- 4- explanation of the cleaning procedure was discussed and co-ordination of sewerage department was requested for the cleaning and repairing of t¥existing drainage pipes with manholes and inlets.
- 5- overall explanation of the project scope of work was discussed and clearly clarified with sewerage deparment.
- 6- Brief discussion and explanation from the sewerage department for the 87 million sewerage project for whole SAMAWAH CITY.
- 7- there is no clear information of that sewerage project status, as the sewerage department emphasis their doubt of the implementation of the project.

8- Mr. Hiroyasu Kobayashi of MOFA confirm that the sewerage project will be conducted soon based on the information from Mr. Abdul Sattar the head of planning department.

9- as per the discussion additional survey need to be conducted for the invert level of the existing manholes and inlets. technical solution will be proposed based on the result of new survey

10-

11- MOFA extended copy of proposed contractual guide line s following scope of work :

a- Drainage cleaning and repairing task.

b- new proposed drainage design task

c- new road alignment with sidewalk and road marking task

d- new street lighting.

e- planting and landscaping

6- at the end both parties has reach to the level of understanding the scope of work and packaging of the project to be discussed clearly with all related departments of Samawah Authority in the next day meeting.

The Second meting was held at 11:30 with the head of municipality of Samawah and the following matters was discussed:

A- Road and sidewalk design:

1- copies of Road and sidewalk design (A3 size drawing scale 1:500) was extended to all parties

1- over all agreement of the new road alignment with the following comments

a- the project did not provide sufficient car park for the tenants and users of the Cornish street. This point was clearly explained to Mr. Emmad that without reducing the width of the river side walk, it is impossible to provide additional parking. The scarifying of the river sidewalk was strongly rejected by Mr. Emmad.

b- solution of traffic jam at intersection to be reviewed.

c- median in certain portion of street need to be redesigned to accommodate the existing manholes also median design to be reviewed along the street.

2- Mr. Kobayashi of MOFA clearly stated that providing such parking will be indicated in the drawing but will be designed and constructed by others.

B- landscape design:

1- copies of **landscape design** (A3 size drawing scale 1:500) was extended to all parties

- 2- it was clearly informed that 40 NOS. of palm trees and 40 NOS. for Benches will be provided for Cornish street sidewalk .
- 3- other planting and shrubs can be proposed but will be provided by UNDP in co ordination with Municipality of Samawah
- 4- new Fountain design to added to the street near to the cafeteria area station 250 – 350 .

The Third meting was held at 11:30 with the Engineer Abbas of electrical department of Samawah and the following matters was discussed:

- 1- copies of **Electrical design** (A3 size drawing scale 1:500) was extended to all parties
- 2- over all discussion for the layout as well as the detail of the design and was agreed by all parties with no comments.
- 3- connections of power supply to be investigated on site.
- 4- MOFA was requested the Estimate Cost of the design from Dar Iraq to be provided as soon as possible.

General Notes:

- 1- Additional request for estimate cost of each scope of work for the Cornish street as per the contractual guide line distributed by MOFA at meeting.
- 2- Contractual packages need to be clarified as per the general policy from JICA.
- 3- new requests and comments need more time to be studied and design to be reviewed from all departments.
- 4- new required survey as per meeting comments will be conducted tomorrow by our Drainage and electrical engineer.

Prepared by

Mr. Mustafa Jasim

Team leader – Dar Iraq.

----- Original Message -----

From: [haider ali](#)

To: [Tanaka Heroshi](#) ; [Toshio Takebayashi](#) ; [Haruo Sakashita](#) ; [Nabil Haddad](#) ; [Ammar Abdul Rahman](#) ; [Mustafa Jasim](#) ; [Mustafa Jasim](#) ; [Ebata Ebata](#)

Sent: Sunday, June 05, 2005 5:01 AM

Subject: Minutes of Meetings in Samawah, Sat. 4-6-2005

Dear all

The following are the minutes of meeting for the the meeting that had hold today in the camp in Samawah in order to discuss the Cornish street development project. The meeting was between MOFA, represented by Mr. Ebata and Eng. Haider, Dar Iraq, represented by me; Transportation Eng. Haider Saad; and Electrical Eng. Asseel, Sewage Dept., represented by Eng. Sarmad, and Municipality Dept., represented by Eng. Emad the director. The meeting started at 11:00 A.M.

Main issues in the drainage system design:

1. Cancelling type-A as showing in the drawing No. (D-7) and only type-B, which is shown in the same drawing, will be used. Accordingly, the item no. 2.02.2 in the BOQ of the DRAINAGE WORKS will be canceled and the item 2.02.3 will be named as (catch basin) only without any indication for the type.
2. There is a new inlet in the middle of Cornish street between ST 1+250 and ST 1+260 as shown in the drawing no. (D-6).
3. The item 2.04 should be canceled because it is belong to the canceled portion of Cornish street.
4. Near ST 0+970 there is a MH that is damaged due to placing of concrete columns in vicinity or at this MH as shown in the drawing no. (D-4). Under the request of Sewage Dept. they proposed to place two manholes and inlets as a by pass for this damaged MH but I proposed only constructing new manhole almost a head of this damaged MH with new one inlet only and they accepted it. I had asked MOFA to submit this proposal to PCI first for approval but Mr. Ebata said that MOFA is very hurry to submit the tender for tendering within this week and accordingly he accepted this proposal and changed the BOQ instantaneously as following; a new MH will be constructed and the Qty of the item 2.02.1 will be (1) instead of (0), the no. of new inlets will be (12) instead of (11), and the total length of the 400mm diameter as shown in the item 2.01.2 will be (88m) instead of (38m).

5. The items (2.01.1) and (2.01.4) should be canceled because there are no 500mm and 200mm diameters, respectively, that will be used within Cornish street.

Main issues in the transportation and land scape design:

1. The quantity of the required new curbstones can be significantly reduced to about 500m instead of 2380m as shown in the item no. (1.08.1) in the BOQ of the ROAD WORK . This huge reduction is due to the fact that only new curbstones will be provided to the street portions that will be damaged due to new widening, while all other existing curbstones will be still the same and they only need painting.

2. From Station 1+070.00 to Station 1+220.00 the walkway of the river side will be developed by the UNDP as we informed from Mr. Emad and accordingly we can excluded the walkway of this part from our scope.

3. From the saved money that can be gained from applying the steps (1) and (2) above, the colored interlocking blocks should be provided along the walk way of the river side instead of using successive areas of these interlocking blocks and concrete pavement.

4. Providing about (40) traffic signs.

5. Providing additional (3-4) pedestrian crossing marking as shown in the drawing no. (E-1).

6. The paints that will be used for curbstones and marking should be of international protection specifications, i.e. high temperature resistance, ...etc.

7. The details of the new curbstones should follow the existing ones.

8. The type of the wood that will be used in the proposed benches as shown in the drawing no. (G-7) should be of the type locally named (Jawee).

9. It is proposed that instead of using granular base and sub-base layers for the details of the new road portions (widening) as shown in the drawing no. (B-1), a reinforced concrete layer with thickness 25cm should be sufficient.

10. The road intersection at the 20th revolution bridge (the intersection at the end of the Cornish street and the beginning of both Civil Defence and Hospital streets) need to be re-designed due to the daily traffic jam. Accordingly, the construction limit line is proposed to be at the end of Cornish street exactly (after ST 1+320 for Cornish street).

11. The municipality requested (20) palms and (17) trees similar to that one placed near the 20th revolution bridge. All these palms and trees should be of height not less than (3m).

12. The construction joints should be shown with details in the drawings wherever they used in the carriageway and the walkway.

Best Regards

Resident Coordinator

Haider A. Ali, Samawah

----- Original Message -----

From: [haider ali](#)

To: [Tanaka Heroshi](#)

Cc: [Toshio Takebayashi](#) ; [Haruo Sakashita](#) ; [Nabil Haddad](#) ; [Ammar Abdul Rahman](#) ; [Mustafa Jasim](#) ; [Mustafa Jasim](#) ; [Ebata Ebata](#)

Sent: Monday, June 06, 2005 3:51 AM

Subject: Minutes of Meeting in Samawah, Sunday 5-6-2005

Dear All

Today at 3:30 P.M. a meeting was held between MOFA, represented by Mr. Kobaiashi and Mr. Ebata, and Dar Iraq, represented by me; Electrical Eng. Asseel; and Transportation Eng. Haider Saad. The meeting had focused on explaining the proposal designs of CIVIL DEFENCE STREET, HOSPITAL STREET PACKAGE 1, AND HOSPITAL STREET PACKAGE 2 in addition to explaining the comments of the involved governorate administrations. The following are the results of this meeting:

- 1- CIVIL DEFENCE STREET: We explained the proposal design and the comments of the administrations to Mr. Kobaiashi and Mr. Ebata . MOFA and us believe that much money will be saved within this street.

- 2- HOSPITAL STREET (PACKAGE 1 & 2): We explained the proposal design and the comments of the administrations to Mr. Kobaiashi and Mr. Ebata. MOFA gave its necessary comments about providing parking lanes before the Hospital and cancelling the parking lanes indicated at the residential area according to the request of Municipality Dept. and deleting the idea of providing manhole for each two houses within the package 2 according to the request of Sewage Dept..

- 3- I asked MOFA about the part of Cornish street where Mr. Emad said that UNDP will be responsible for developing it, as I explained in the last E-mail, but MOFA explained that it is still waiting for confirm from UNDP before excluding this part from our scope.

- 4- Mr. Kobaiashi said that the available budgeted for whole this project is 3,000,000 \$ only but he think that the expensed budgeted will be less than this sum and accordingly any additional requirements can be also done according to the saved money and the priority of needs.

5- Mr. Ebata is asking PCI for the answers of the comments submitted by Mr. Emad during last meeting as soon as possible because MOFA had submitted the tenders of the electrical and drainage works today but it can not submit the tender of the roads and land scape works until any necessary changes and modifications are made by PCI.

6- Mr. Ebata asked for the time of finishing the design of the two remaining streets.

Dear Mr. Tanaka, the comments of the involved administrations about the CIVIL DEFENCE STREET, HOSPITAL STREET PACKAGE 1, AND HOSPITAL STREET PACKAGE 2 with the photos that had been taken for the meetings and the required surveys will be submitted to PCI after we return to Baghdad about two days latter because we need to explain these comments on the associated drawings.

Regards

Resident Coordinator

Haider A. Ali

----- Original Message -----

From: [haider ali](#)

To: [Tanaka Heroshi](#) ; [Toshio Takebayashi](#) ; [Haruo Sakashita](#) ; [Nabil Haddad](#) ; [Ammar Abdul Rahman](#) ; [Mustafa Jasim](#) ; [Mustafa Jasim](#) ; [Dar Baghdad Dar Iraq](#)

Sent: Wednesday, June 08, 2005 10:28 PM

Subject: Samawah Sewage Dept. Comments for Civil Defense Street

Dear Mr. Tanaka

Kindly regards the comments of Sewage Dept. about Civil Defense Street. These comments confirmed by formal paper from the Dept. as an answer for the changes suggested by our proposal according to the request of the director, Mr. Karim which is attached with this E-mail. This formal paper will be explained below:

- 1- Near ST 0+30 and ST 0+50 there are two inlets that will be removed due to the new layout of the road. These two inlets should be substituted by two new inlets according to the new layout.
- 2- The proposed new system near ST 0+710.78 to the end of the street, i.e. to ST 0+940 is not needed because this area is too high and the runoff water is speedily run to the connected streets.
- 3- As a note, the direction of the flow after the fountain is going toward the Al-Mualimeen PS until ST 0+460 and then the drainage pipe will go inside the street at the left (in the direction of the Al-Mualimeen PS) which is called (Haji Salman's Street).

Best Regards

Haider A. Ali.

Samawah Resident Coordinator

Drainage Designer Engineer

Dar Iraq, Baghdad

----- Original Message -----

From: [haider ali](#)

To: [Tanaka Heroshi](#)

Cc: [Toshio Takebayashi](#) ; [Haruo Sakashita](#) ; [Nabil Haddad](#) ; [Ammar Abdul Rahman](#) ; [Mustafa Jasim](#) ; [Mustafa Jasim](#) ; ['Dar Baghdad Dar Iraq](#)

Sent: Thursday, June 09, 2005 11:16 PM

Subject: Comments on Hospital Street–Package One

Dear Mr. Tanaka

Kindly regards the comments of Sewage Dept. about Hospital Street – Package (1). These comments confirmed also by formal paper from the Dept. as an answer for the changes suggested by our proposal design for the Hospital street with its two packages which is the same one sent in last E-mail, according to the request of the director Mr. Karim which is attached with this E-mail too. This formal paper will be explained below:

- 1- There are no comments about the proposed design from ST 0+00 until ST 0+720.
- 2- For the new proposed drainage pipe started from ST 0+910 toward ST 0+720, we can not connect this pipe with the manhole placing at the middle of the intersection, i.e. at ST 0+720, because the depth of this manhole is about (1m) according to my site investigation for the manholes' depths at Ammar street and Hospital street.

The manholes inside Ammar street which are placing at the median, are also not sufficient where the depth of the 1st manhole at the median is about (0.6m) and the 2nd insider one is less than (1m) and the 3rd insider one is about (1m) and so.

The manholes inside Hospital street starting from the intersection at ST 0+720 toward Cornish street, which are placing at the median, are also insufficient except the manhole placing at ST 0+520 because the depth of this manhole is about (2.2m). The depth of the other manholes is not sufficient where these depths, according to street surface level, until the indicated sufficient manholes are as following: 1st MH is about (1.20m), 2nd MH is about (1.25m), 3rd MH is about (1.30m), and 4th MH is about (1.35m).

If we consider longitudinal slope of (0.2%) and we started the depth of the 1st new MH which is indicated at the ST 0+910 then the invert level of the new drainage pipe will be equal to (1.38m) at the existing MH at ST 0+720 ,where its depth is mismatch with the calculated depth. And this invert level will be equal to (1.80m) at the sufficient existing MH placing at ST 0+520, therefore it is recommended to extend this new drainage pipe in vicinity to the existing pipe at the median from ST 0+700 to ST 0+520 until the sufficient

MH placing at ST 0+520 which its depth is about (2.2m) and this is the recommendation of Sewage Dept. too as explained in their formal paper.

- 3- The proposed open channel crossing the median for the new storm water system from ST 0+910 to ST 0+740, such as the one placing at ST 0+760, is completely refused by both Sewage and Municipality Depts. And they insist on placing inlet instead of it which is less expensive because placing channel crossing the median needs new curbstones and pavement for it which is relatively equal or more in expenses compared with using inlet.

Best Regards

Haider A. Ali.

Samawah Resident Co.Ordinator

Drainage Designer Engineer

Dar Iraq, Baghdad

資料 5 事業事前計画表

5. 事業事前計画表

事業事前計画表

1. 対象事業名
イラク国 サマーワ及び周辺地区道路・橋梁整備計画 概略設計調査
2. 我が国が援助することの必要性・妥当性（要請の背景）
<p>2003年のイラク戦争後、我が国政府は、イラクの再建に対する積極的な支援を表明し、「当面の支援」として総額15億ドルの無償資金協力の実施を発表するとともに、電力、教育、水・衛生、保健、雇用等、イラク国民の生活基盤の再建及び治安の改善に資する分野を重点支援分野と位置付けた。</p> <p>前政権時代、ムサンナー県を初めとしたイラク南部地域は経済発展から取り残されており、道路・橋梁を初めとした交通インフラの整備が遅れている。特に、バグダッドとバスラ、クウェートを結ぶイラク国最重要幹線道路である国道8号線はサマーワ市内にて深刻な交通渋滞のためボトルネックとなっており、増大する復興需要に十分対応できなくなるおそれがあると共に、国道8号線が市内を通過するサマーワ市では市民生活に多大なる影響を及ぼしている。また・サマーワ市内では十分な道路維持管理が実施されず・市内道路の損傷も著しい。また、ムサンナー県では県内を東西に流れるユーフラテス河沿いに人口と産業（農業）が集中しており、県内の主要な道路の多くはユーフラテス河沿いに位置し、多くの橋梁がユーフラテス河にかかっている。これらの橋梁は地域住民の生活物資の運搬を初め、生活を維持するための必要不可欠なものであるものの、多くの橋梁が損傷もしくは浮橋等の仮橋の状態であり・白衛隊の給水活動への障害ともなり、地域住民にとってBHN確立への大きな支障となっている。</p> <p>サマーワ市を中心としたムサンナー県の戦後復興に当たって障害となるこれらの状況を改善するため、イラク政府は、サマーワ市及びその周辺地区における道路・橋梁の建設・補修を無償資金協力にて実施することをわが国に要請した。</p> <p>上記要請を受け、日本国政府はJICAに本件調査の実施を指示した。JICAは2004年9月、11月に調査団をクウェート/アンマンに派遣し、その現地調査結果に基づき、概算事業費並びに橋梁整備の優先順位に関する中間報告を2005年2月8日に外務省に提出した。その後、整備実施対象橋梁が未決定である。</p> <p>一方、JICAは日本国政府の指示を受け、2004年12月に草の根無償案件として取り扱うことを前提にサマーワ市内の散歩道整備計画も対象として概略設計調査に新たに加えた。JICAは2005年3月、4月、5月に調査団をクウェート/アンマンに派遣し、その現地調査結果に基づき、2005年6月21日に図面を含む概略設計結果を外務省に提出した。</p>
3. 事業の目的
(1) サマーワ市及びその周辺地区における道路・橋梁を建設することにより、国道8号線を利用する広域交通機能及びサマーワ周辺の道路網機能を改善し、地域経済の活性化及び復興活動の効率化を図ることを目的とする。

(2) サマーワ市内 3 街路につき、都市計画・景観設計的視点から整備コンセプト計画及び概略設計を行い、草の根無償案件としての実施に供する。

4. 事業の内容

(1) 5 橋梁の建設

(a) 対象橋梁

サマーワ北橋、マジッド橋、ヒラール橋、ダラージ橋、マーディ橋

(b) 概要

単純 PC 橋、橋長 192～270m、幅員 12～13m

(c) 総事業費

各橋梁個別に建設の場合：約 161 億円（1 橋当たり約 30～36 億円）

全 5 橋梁段階建設の場合：約 139 億円

(d) スケジュール

1 橋当たり工期：約 24 ヶ月

全 5 橋段階建設の場合の工期：33 ヶ月

(e) 実施体制

主管官庁：イラク国 建設住宅省（MOCH）

実施機関：イラク国 建設住宅省（MOCH）道路橋梁局（SCRB）

調達代理人：日本国政府機関

(2) サマーワ散歩道

(a) 対象街路

河岸通り、女子校前通り、病院前通り

(b) 概要

河岸通り（870m）、女子校前通り（890m）、病院前通り（(1)890m、(2)470m）における交差点改良、道路拡幅舗装整備、排水系統整備、街路灯整備、歩道舗装整備、ベンチ設置、植栽帯整備、植栽（ナツメヤシ）整備

(c) 総事業費

河岸通り、女子校前通り、病院前通り(1)、病院前通り(2)の各 1 億円を上限とする。

(d) スケジュール

発注手続き期間（約 2 ヶ月）を含め約 12 ヶ月の工期を予定

(e) 実施体制

草の根無償

主管官庁：イラク国サマーワ市民生局、ムサンナー県下水道局・電力局

5. プロジェクトの成果

(1) 5 橋梁

裨益人口 — サマーワ北橋：約 300,000 人、マジッド橋：約 20,000 人、
ヒラール橋：約 15,000 人、ダラージ橋：約 40,000 人、
マーディ橋：約 300,000 人

<p>(2) サマーワ散歩道 裨益人口 約 300,000 人</p>
<p>6. 外部要因リスク</p>
<p>(1) 5 橋梁</p> <ul style="list-style-type: none"> (a) 地雷・不発弾が存在する。 <ul style="list-style-type: none"> － 十分な事前調査を行う。 (b) 本プロジェクトを直接又は間接に狙ったテロ攻撃が発生する。 <ul style="list-style-type: none"> － 事業の仕組みの中にテロ攻撃の可能性を組み込む。 (c) 邦人の現場立入が困難であるため適切な施工管理がなされない。 <ul style="list-style-type: none"> － 邦人の現場立入が無い前提で工事管理計画を作成する。 (d) 適切な工事保険の付保が出来ない。 <ul style="list-style-type: none"> － 通常の保険に代わる仕組み（発注者自家保険）を作り上げる。 <p>(2) サマーワ散歩道 草の根無償案件としてはやや複雑なプロジェクトであり、施工管理に不備が発生する。 － 概略設計成果物の内容に配慮する。</p>
<p>7. 今後の評価計画</p>
<p>(1) 事後評価に用いる成果指標 5 橋梁：車種別の日平均交通量、サマーワ散歩道：サマーワ市民の反応（満足度）</p> <p>(2) 評価のタイミング 5 橋梁、サマーワ散歩道とも</p> <ul style="list-style-type: none"> ① 事業終了時の全体の事後評価 ② 施設供用開始後 5 年後を目処に再度全体の事後評価

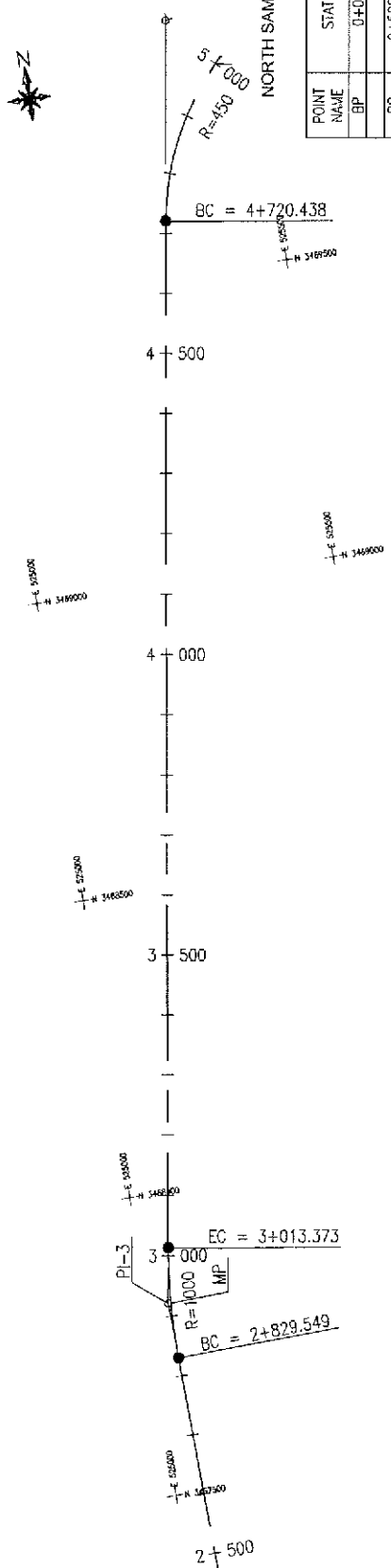
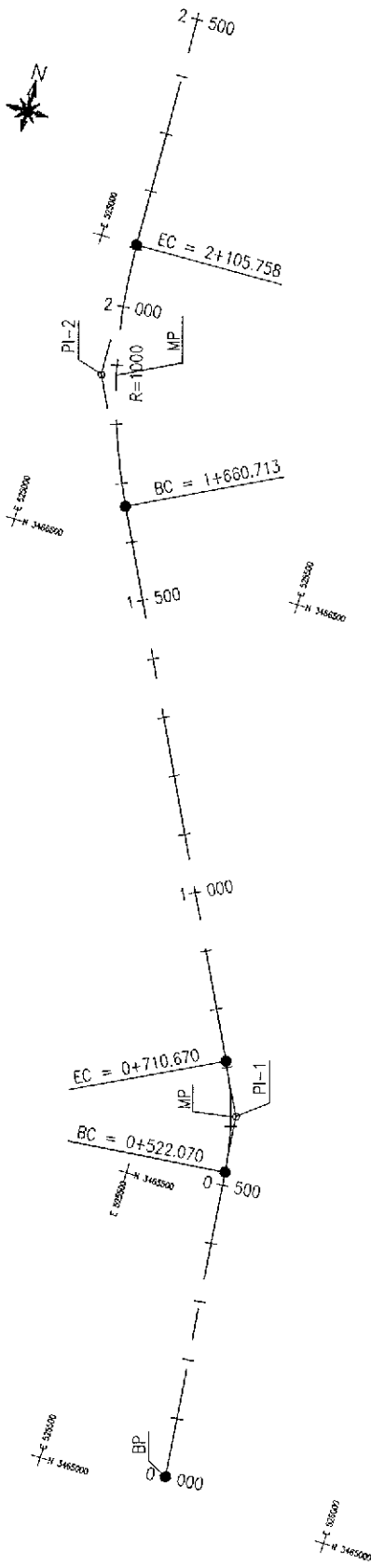
資料 6 参考資料／入手資料リスト

6. 参考資料／入手資料リスト

- (1) “Law of Main General Roads (Legal Translation)”, 2002
- (2) “Conditions of Contract for Civil Engineering Works” 1987, Republic of Iraq, Ministry of Planning, Legal Department
- (3) “Standard Specification for Roads & Bridges” 1983, Republic of Iraq, Ministry of Housing & Construction, State Organization of Roads & Bridges, Department of Design & Studies
- (4) “Iraq Standard Specifications for Road Bridges” 1978, Republic of Iraq, Ministry of Housing & Construction, State Organization of Roads and Bridges
- (5) “United Nations/World Bank Joint Iraq Needs Assessment” October 2003, United Nations/World Bank
- (6) “Working Paper, IRAQ United Nations/World Bank Joint Needs Assessment, Transportation & Telecommunication” October 2003, United Nations/World Bank
- (7) “Interim Strategy Note of the World Bank Group for Iraq” January 14, 2004, World Bank
- (8) “Reconstructing IRAQ, Working Paper Series, Executive Summary” October 1, 2004, World Bank
- (9) “Iraq Weekly Status Report”, Department of State, USA
- (10) “Reconstruction Weekly Update”, USAID
- (11) “One Year Anniversary of HOC 2003-2004”, Humanitarian Operations Center

資料 7 その他の資料・情報

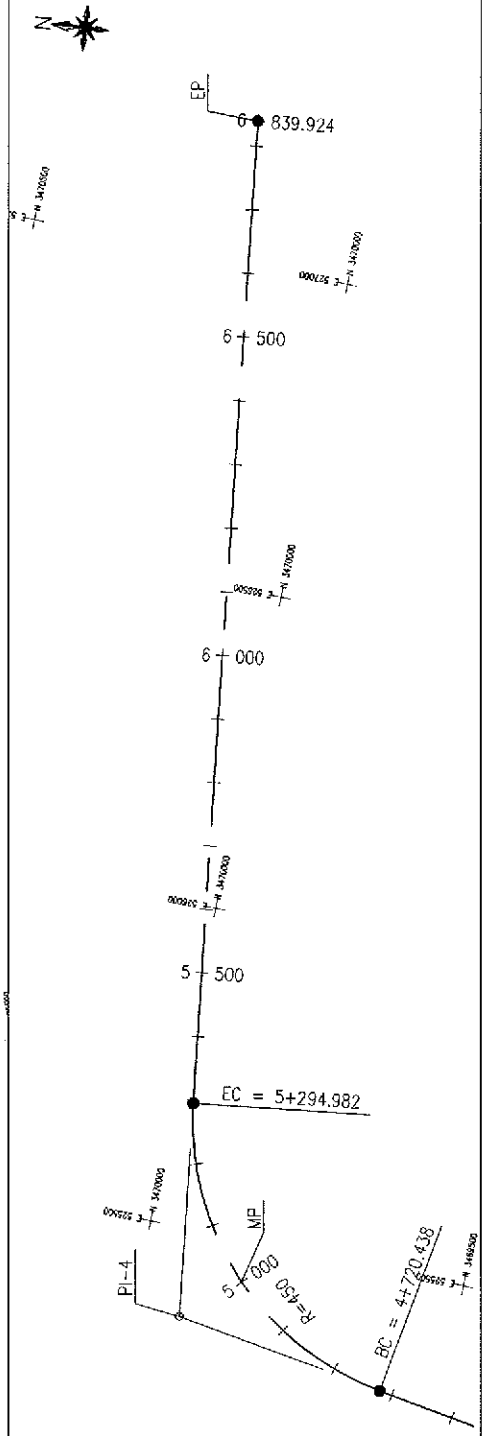
資料 7-1 測量結果



COORDINATE OF
NORTH SAMAWAH BRIDGE WITH APPROACHES
(UTM, WGS 84 Datum)

POINT NAME	STATION	X (NORTH)	Y (EAST)
BP	0+000	3465030.0806	525711.4727
BC	0+522.070	3465543.6257	525680.1929
MP	0+616.370	3465642.0438	525642.1618
PI-1	-	3465644.5887	525650.8189
EC	0+710.670	3465729.4425	525607.1235
BC	1+660.713	3466574.0552	525172.1359
MP	1+683.236	3466781.5435	525093.0140
PI-2	-	3466775.2143	525068.5398
EC	2+105.758	3467001.3781	525061.6307
BC	2+829.549	3467724.8313	525039.5300
MP	2+921.461	3467816.7005	525040.9465
PI-3	-	3467816.9804	525036.7156
EC	3+013.373	3467908.0518	525050.7890
BC	4+720.438	3468595.1007	525311.4336
MP	5+007.710	3468846.5789	525439.9604
PI-4	-	3468925.1001	525362.4176
EC	5+294.982	3469971.9423	525695.0304
EP	6+839.924	3470186.6696	527222.6951

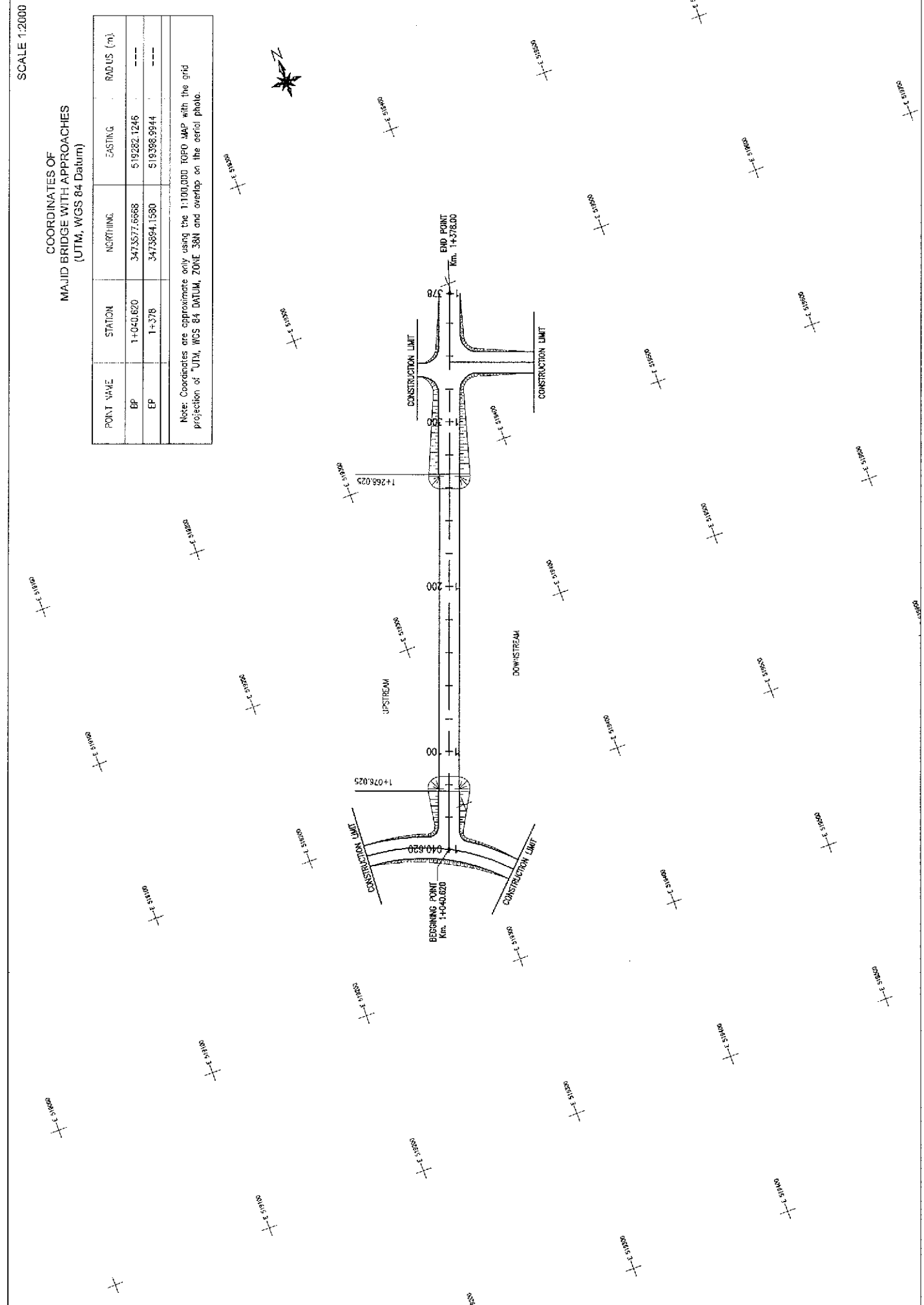
Note: Coordinates are approximate only using the 1:100,000 TOPO MAP with the grid projection of UTM, WGS 84 DATUM, ZONE 38N and overlap on the aerial photo.



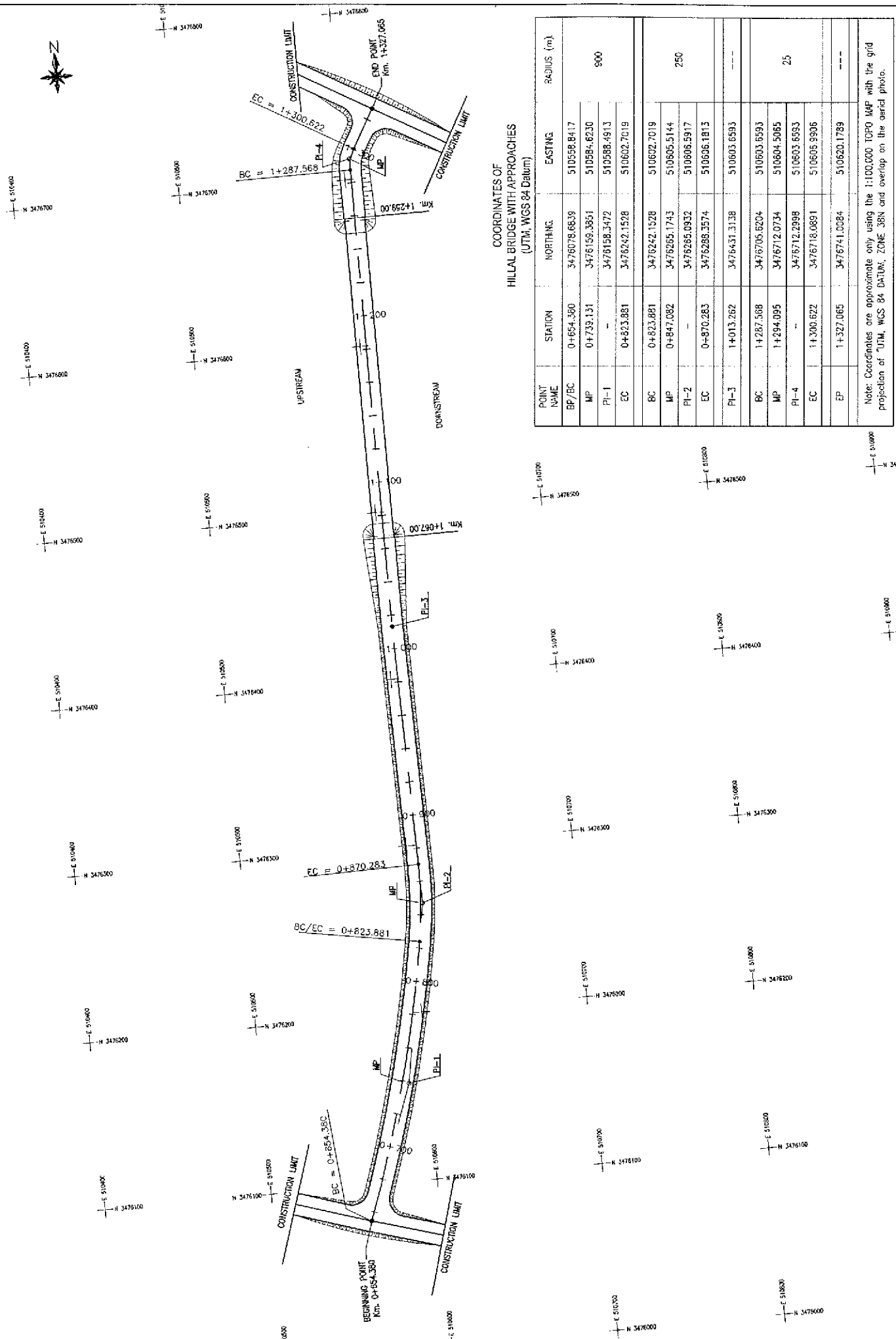
COORDINATES OF
MAJID BRIDGE WITH APPROACHES
(UTM, WGS 84 Datum)

POINT NAME	STATION	NORTHING	EASTING	RADIUS (m)
BP	1+040.620	3473577.6688	519282.1246	---
EP	1+378	3473884.1980	519388.9944	---

Note: Coordinates are approximate only using the 1:100,000 TOPO MAP with the grid projection of UTM, WGS 84 DATUM, ZONE 38N and overlap on the aerial photo.

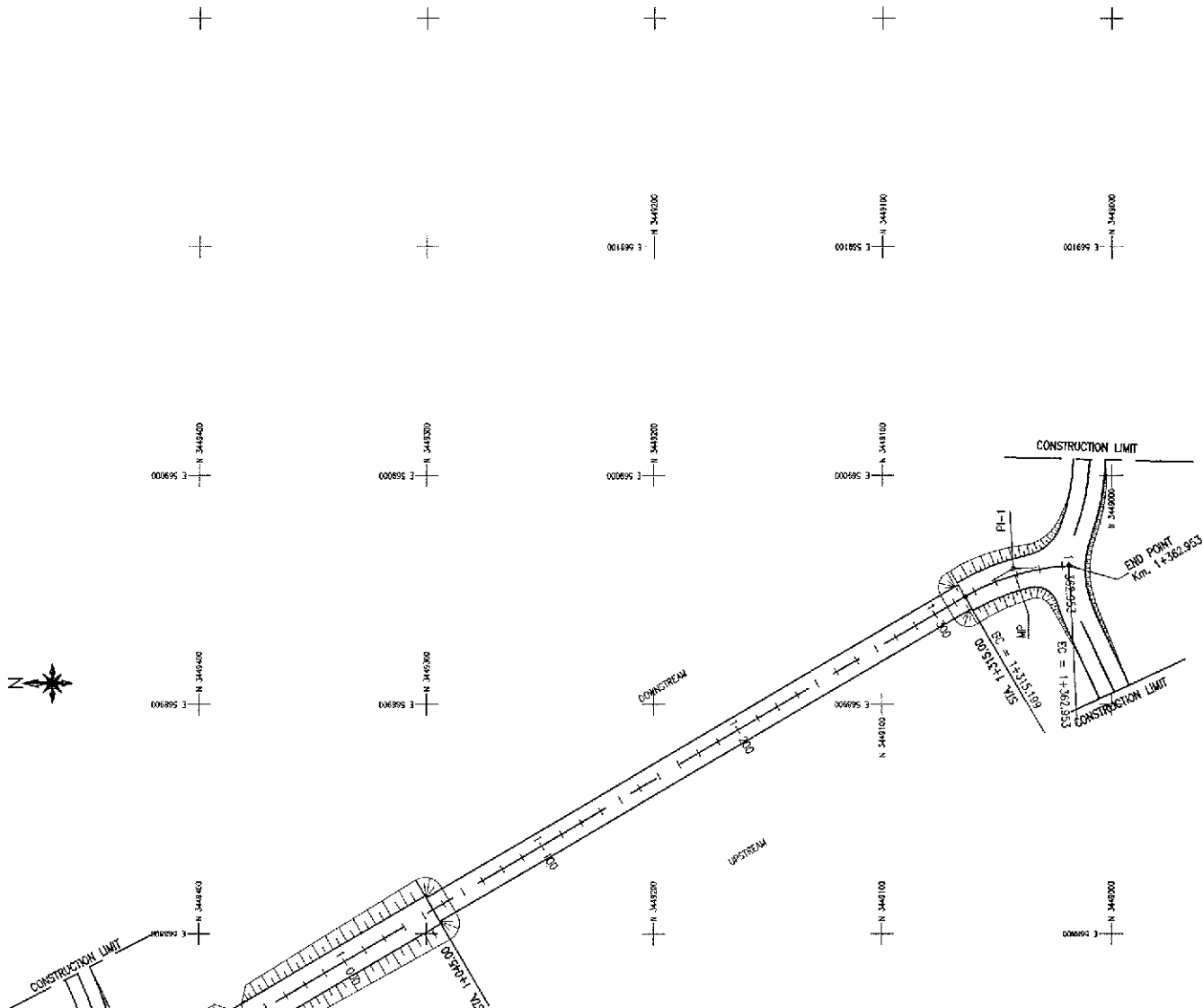


SCALE 1:2000



POINT NAME	STATION	NORTHING	EASTING	RADIUS (m)
BP/BC	0+654.380	3476078.6639	5105598.8417	
MP	0+733.131	3476159.3851	5105864.6230	900
PI-1		3476158.3472	5105888.4913	
EC	0+823.881	3476242.1528	5106022.7019	
BC	0+823.881	3476242.1528	5106022.7019	250
MP	0+847.082	3476265.1743	5106055.5144	
PI-2		3476265.0932	5106061.5917	
EC	0+870.283	3476288.3574	5106036.1813	
PI-3	1+013.262	3476431.3138	5106003.6993	
BC	1+287.568	3476705.6204	5106003.6993	
MP	1+294.095	3476712.0734	5106045.0665	25
PI-4		3476712.2998	5106003.6993	
EC	1+300.622	3476718.0891	5106005.9906	
EP	1+327.065	3476741.0084	5106020.1789	

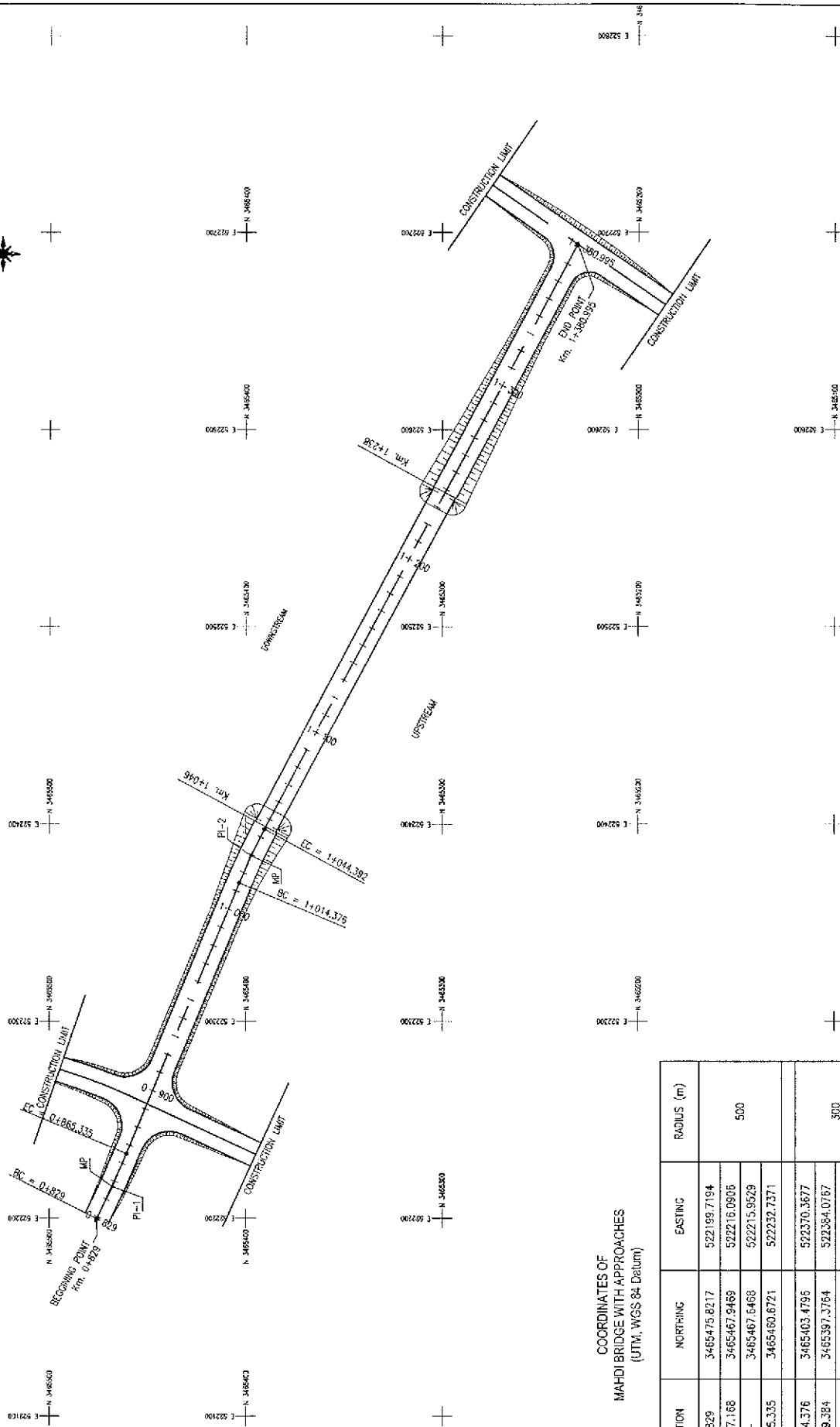
Note: Coordinates are approximate only using the 1:100,000 TOPO MAP with the grid projection of UTM, WGS 84 DATUM, ZONE 38N and overlap on the aerial photo.



COORDINATES OF
DARAJI BRIDGE WITH APPROACHES
(UTM, WGS 84 Datum)

POINT NAME	STATION	NORTHING	EASTING	RADIUS (m)
BP	0+685.440	344894.354585	568729.6832	---
BC	1+315.199	3448063.5767	568947.0532	100
MP	1+339.078	3448041.7284	568956.5385	
PL-1	-	3448042.5619	568958.3363	
EC/EP	1+362.953	3448018.2527	568960.5870	---

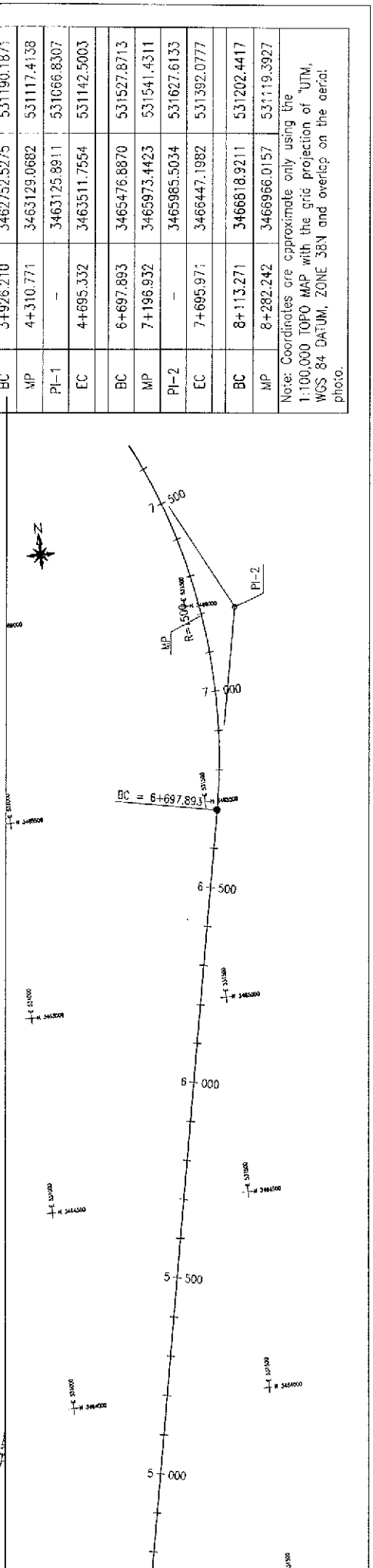
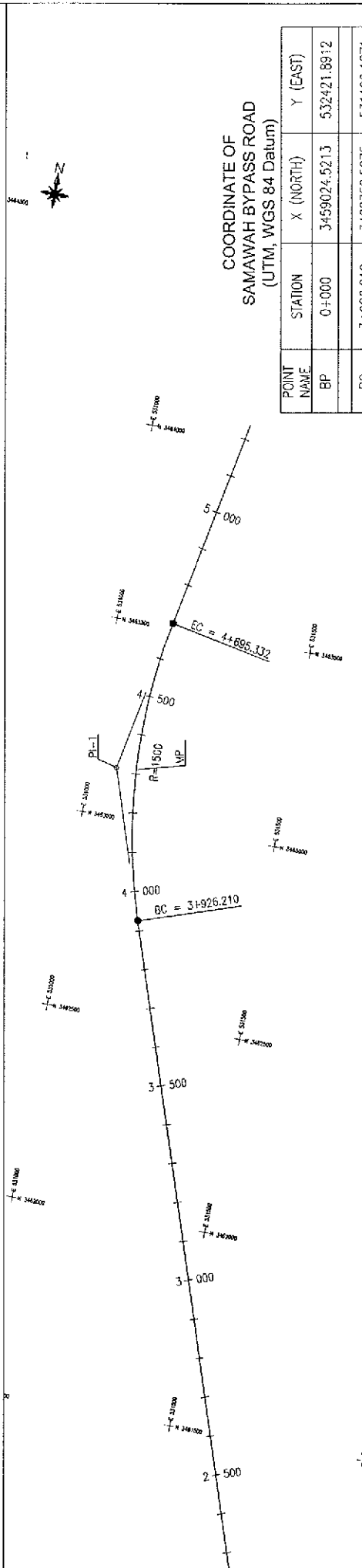
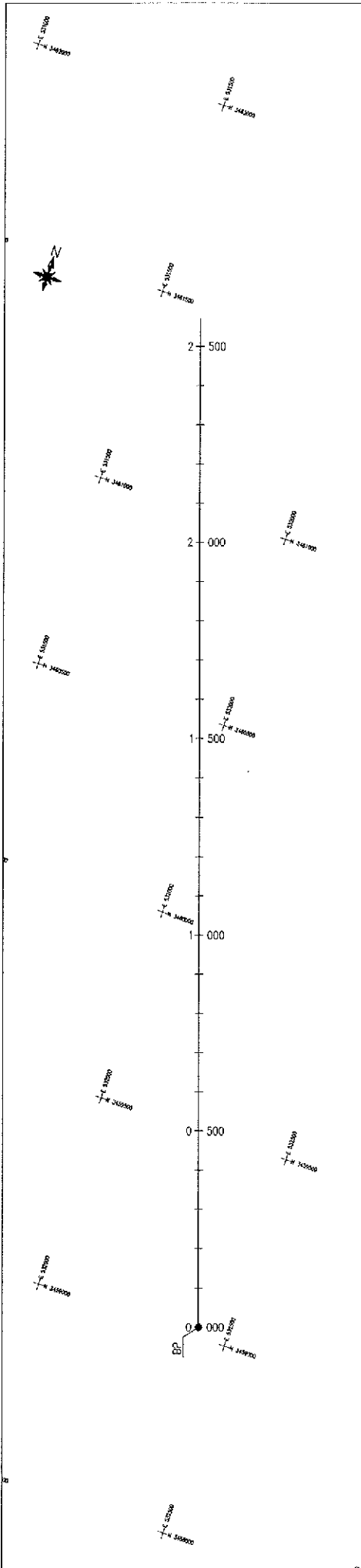
Note: Coordinates are approximate only using the 1:100,000 TOPO MAP with the grid projection of UTM, WGS 84 DATUM, ZONE 38N and overlap on the aerial photo.



COORDINATES OF MAHDI BRIDGE WITH APPROACHES (UTM, WGS 84 Datum)

POINT NAME	STATION	NORTHING	EASTING	RADIUS (m)
BP/SC	0+829	3465475.8217	522169.7194	
MP	0+847.168	3465467.9469	522216.0906	500
PI-1	-	3465467.6468	522215.9529	
EC	0+865.335	3465460.8721	522232.7371	
BC	1+014.376	3465403.4796	522370.3677	
MP	1+029.384	3465397.3764	522384.0767	300
PI-2	-	3465397.7157	522384.2381	
EC	1+044.392	3465390.5953	522397.4633	
EP	1+380.995	3465231.0265	522693.8411	---

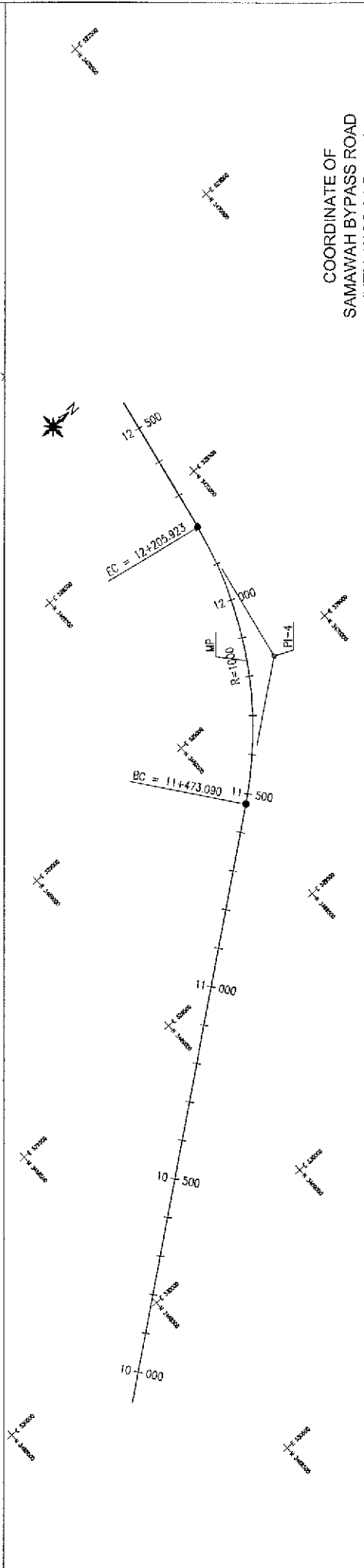
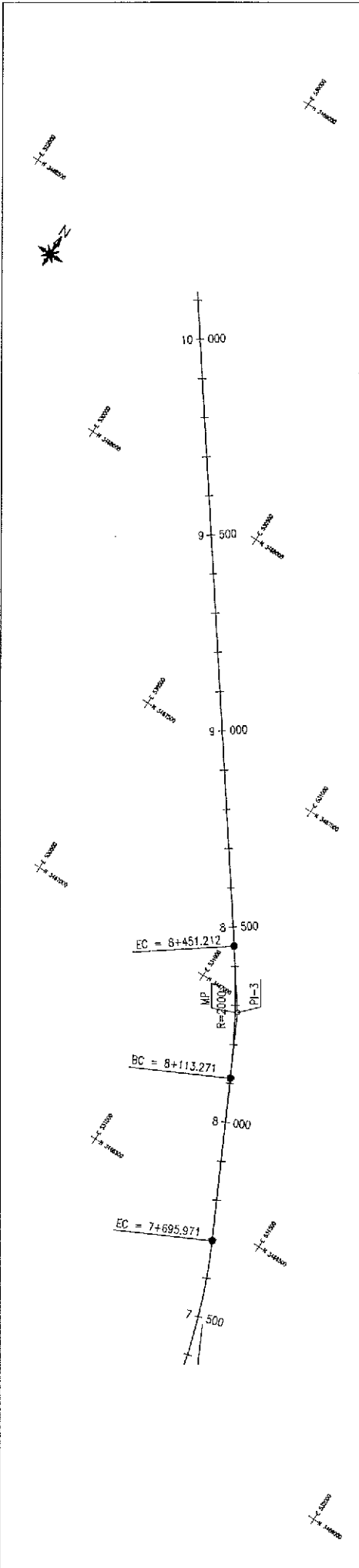
Note: Coordinates are approximate only using the 1:100,000 TOPO MAP with the grid projection of UTM, WGS 84 DATUM, ZONE 38N and overlap on the aerial photo.



**COORDINATE OF
SAMAWAH BYPASS ROAD
(UTM, WGS 84 Datum)**

POINT NAME	STATION	X (NORTH)	Y (EAST)
BP	0+000	3459024.5213	532421.8912
BC	3+926.210	3462752.5275	531190.1871
MP	4+310.771	3463129.0682	531117.4138
PI-1	-	3463125.8911	531066.8307
EC	4+695.332	3463511.7554	531142.5003
BC	6+697.893	3465476.8870	531527.8713
MP	7+196.932	3465973.4423	531541.4311
PI-2	-	3465985.5034	531627.6133
EC	7+695.971	3466447.1982	531392.0777
BC	8+113.271	3466818.9211	531202.4417
MP	8+282.242	3466966.0157	531119.3927

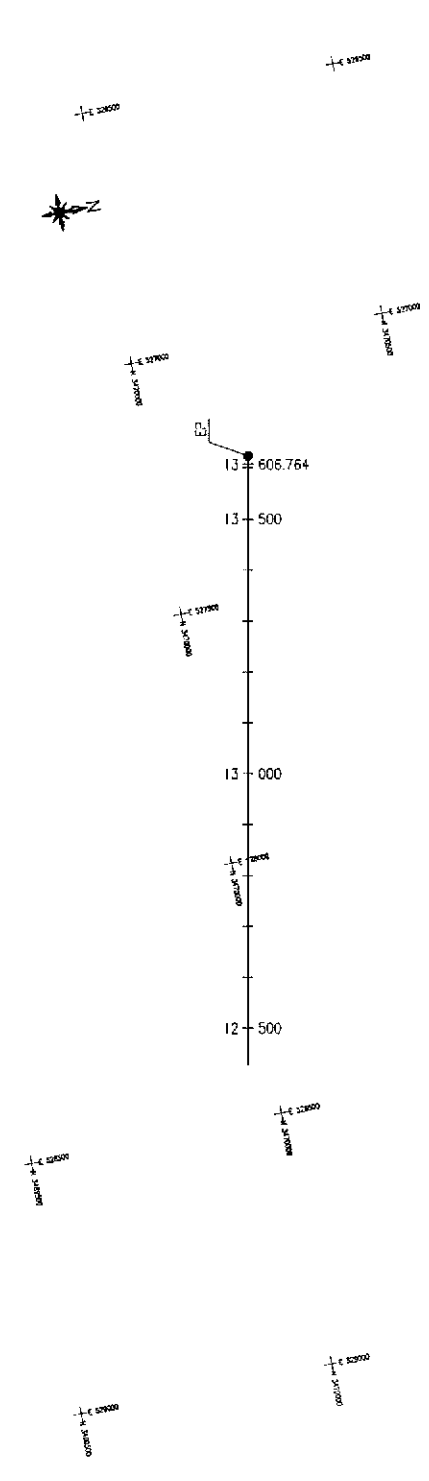
Note: Coordinates are approximate only using the 1:100,000 TOPO MAP with the grid projection of UTM, WGS 84 DATUM, ZONE 38N and overlap on the aerial photo.



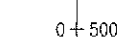
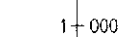
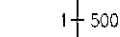
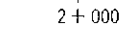
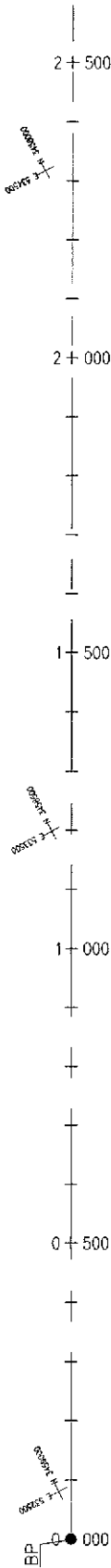
**COORDINATE OF
SAMAWAH BYPASS ROAD
(UTM, WGS 84 Datum)**

POINT NAME	STATION	X (NORTH)	Y (EAST)
PI-3	-	3466968.7955	531125.4725
EC	8+451.212	3467105.5775	531024.2273
BC	11+473.090	3469528.1343	529217.8594
MP	11+839.507	3469775.6702	528950.4800
PI-4	-	3469835.7734	528988.4698
EC	12+205.923	3469910.9793	528612.1648
EP	13+606.764	3470185.5132	527238.4886

Note: Coordinates are approximate only using the 1:100,000 TOPO MAP with the grid projection of UTM, WGS 84 DATUM, ZONE 38N and overlap on the aerial photo.



SCALE 1:8000



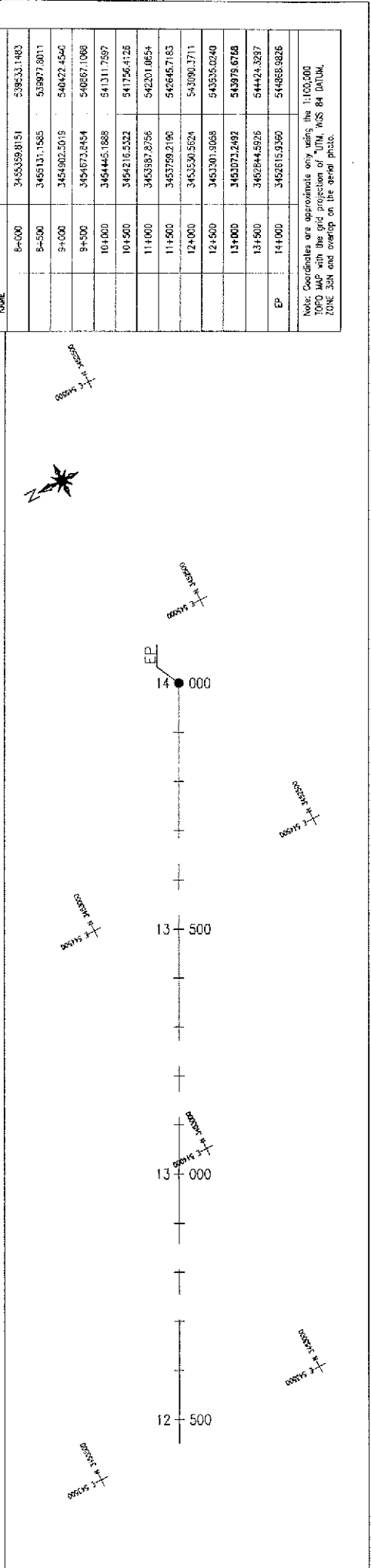
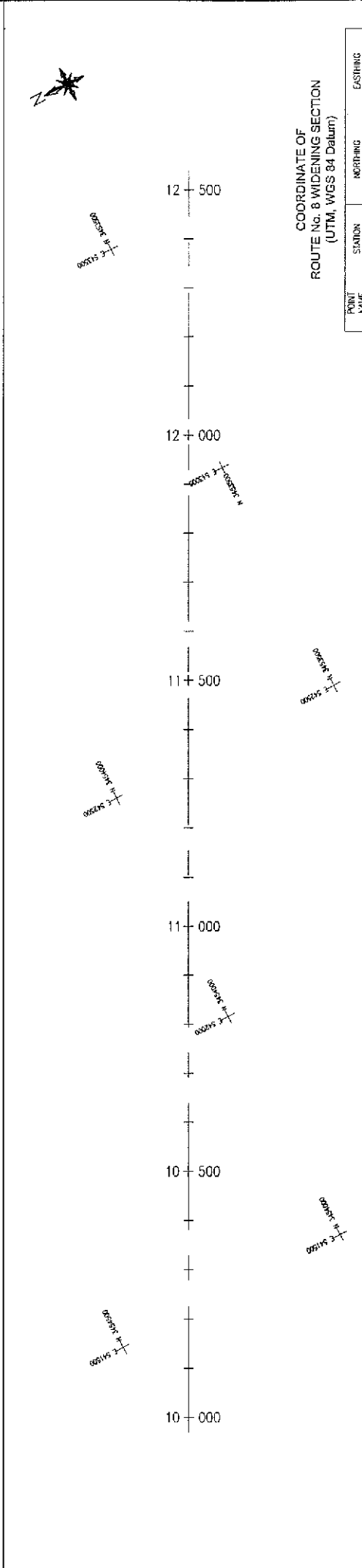
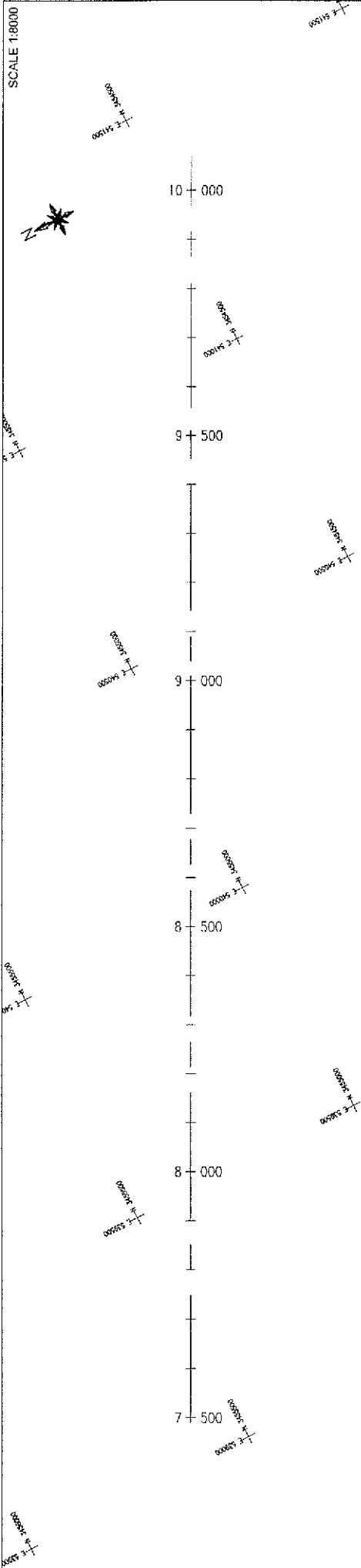
COORDINATE OF
ROUTE No. 8 WIDENING SECTION
(UTM, WGS 84 Datum)

POINT NAME	STATION	NORTHING	EASTING
BP	0+000	348218.2205	532418.7025
	0+500	348788.1640	532963.3554
	1+000	348856.0074	533308.0083
	1+500	348932.3508	533752.6611
	2+000	3489103.6942	534187.3140
	2+500	3487975.0376	53464.3668
	3+000	3457646.3810	530086.6197
	3+500	3457417.7244	530531.2725
	4+000	3457189.6678	530975.9254
	4+500	3456960.4113	531620.5783
	5+000	3456731.7547	532265.2311
	5+500	3456503.0981	532910.8840
	6+000	3456274.4415	533794.5368
	6+500	3456045.7849	534892.1897
	7+000	3455817.1283	535864.8425
	7+500	3455588.4717	536908.4954

Note: Coordinates are approximate only using the 1:100,000
TOPD MAP with the grid projection of UTM, WGS 84 DATUM,
ZONE 38N and overlaid on the aerial photo.



SCALE 1:8000



COORDINATE OF
ROUTE No. 8 WIDENING SECTION
(UTM, WGS 84 Datum)

POINT NAME	STATION	NORTHING	EASTING
	8+000	3455359.8151	539533.1483
	8+500	3455131.1585	539977.8013
	9+000	3454902.5015	540422.4540
	9+500	3454673.2454	540867.1088
	10+000	3454445.1888	541311.7597
	10+500	3454216.5322	541756.4126
	11+000	3453987.8756	542201.0654
	11+500	3453759.2190	542645.7183
	12+000	3453530.5624	543090.3711
	12+500	3453301.9058	543535.0240
	13+000	3453073.2492	543979.6768
	13+500	3452844.5926	544424.3297
EP	14+000	3452615.9360	544868.9826

Note: Coordinates are approximate only using the 1:100,000 TOPO MAP with the grid projection of UTM, WGS 84 DATUM, ZONE 35N and overlap on the aerial photo.

Elevation Survey Data (2): Samawah by pass (New road section)

Station	Elevation			Remark
	L	CL	R	
10+650	9.500	9.485	9.446	
10+700	9.645	9.574	9.545	
10+750	9.726	9.785	9.765	
10+800	9.785	9.819	9.795	
10+850	9.905	9.895	9.917	
10+900	10.091	10.103	9.998	
10+950	10.060	10.065	10.014	
11+000	10.070	10.082	10.005	
11+050	10.085	10.070	10.042	
11+100	9.939	10.038	10.013	
11+150	9.852	9.775	9.837	
11+200	9.973	9.528	9.214	
11+250	10.003	9.998	10.079	
11+300	10.012	10.105	9.924	
11+350	9.925	9.986	9.889	
11+400	9.402	9.462	9.442	
11+450	9.312	9.132	9.342	
11+500	9.252	9.320	9.302	
11+550	9.195	9.192	9.212	
11+600	9.162	9.162	9.172	
11+650	9.132	9.112	9.152	
11+700	9.161	9.152	9.158	
11+750	9.332	9.412	9.342	
11+800	9.482	9.462	9.472	
11+850	9.652	9.532	9.542	
11+900	9.712	9.712	9.712	
11+950	9.887	9.930	9.925	
12+000	9.672	9.672	9.652	
12+050	9.595	9.572	9.605	
12+100	9.562	9.522	9.572	
12+150	9.587	9.545	9.593	
12+200	9.480	9.508	9.500	
12+250	9.573	9.585	9.599	
12+300	9.730	9.727	9.715	
12+350	9.790	9.790	9.780	
12+400	9.960	9.940	9.910	
12+450	9.840	9.820	9.813	
12+500	9.831	9.810	9.815	
12+550	9.702	9.673	9.725	
12+600	9.477	9.504	9.485	
12+650	9.605	9.628	9.603	
12+700	9.771	9.786	9.769	
12+750	9.748	9.775	9.770	
12+800	9.715	9.745	9.745	
12+850	9.736	9.724	9.684	
12+900	8.699	8.719	8.720	
12+950	8.574	8.589	8.565	
13+000	8.532	8.545	8.548	
13+050	8.585	8.595	8.574	
13+100	8.201	8.217	8.198	
13+150	8.210	8.205	8.248	
13+200	8.182	8.177	8.149	
13+250	7.895	7.907	7.921	
13+285	11.752	11.767	11.739	

Elevation Survey Data (1): Samawah by pass (Road widening section)

Station	Elevation			Remark	Station	Elevation			Remark	Station	Elevation			Remark
	L	CL	R			L	CL	R			L	CL	R	
0+000	10.465	10.140	9.840		3+600	8.820	8.208	7.298		7+200	9.481	8.891	8.281	
0+050	10.420	10.310	8.815		3+650	8.792	8.192	7.165		7+250	9.372	8.768	7.915	
0+100	10.235	10.287	9.790		3+700	8.810	8.187	7.190		7+300	9.396	8.716	7.891	
0+150	10.425	10.350	10.307		3+750	8.831	8.202	7.252		7+350	9.335	8.616	7.821	
0+200	10.615	10.505	10.315		3+800	8.787	8.227	7.357		7+400	9.341	8.651	7.851	
0+250	10.670	10.590	10.475		3+850	8.772	8.276	7.335		7+450	9.361	8.632	7.862	
0+300	10.676	10.520	10.535		3+900	8.826	8.343	7.345		7+500	9.386	8.641	7.851	
0+350	10.620	10.230	9.880		3+950	8.800	8.178	7.361		7+550	9.352	8.571	7.793	
0+400	10.635	10.205	10.095		4+000	8.803	8.097	7.283		7+600	9.341	8.546	7.781	
0+450	10.640	10.150	9.815		4+050	8.132	8.162	7.342		7+650	9.384	8.566	7.814	
0+500	10.617	10.120	9.500		4+100	8.825	8.242	7.343		7+700	9.371	8.531	7.851	
0+550	10.645	10.130	9.370		4+150	8.861	8.156	7.335		7+750	9.362	8.622	7.872	
0+600	10.620	10.150	10.000		4+200	8.806	8.073	7.325		7+800	9.371	8.721	7.961	
0+650	10.660	10.120	9.280		4+250	8.817	8.092	7.361		7+850	9.385	8.707	7.922	
0+700	10.640	10.081	9.180		4+300	8.838	8.206	7.396		7+900	9.391	8.671	7.986	
0+750	10.690	10.130	9.245		4+350	8.841	8.211	7.379		7+950	9.357	8.765	7.951	
0+800	10.670	10.200	9.260		4+400	8.826	8.146	7.428		8+000	9.371	8.841	7.961	
0+850	10.635	10.025	9.005		4+450	8.867	8.321	7.421		8+050	9.405	8.820	7.860	
0+900	10.683	10.127	9.245		4+500	8.884	8.403	7.431		8+100	9.416	8.846	7.771	
0+950	10.675	10.115	9.290		4+550	8.841	8.361	7.442		8+150	9.422	8.814	7.741	
1+000	10.645	10.085	9.290		4+600	8.801	8.218	7.467		8+200	9.421	8.801	7.651	
1+050	10.645	10.059	9.275		4+650	8.830	8.262	7.526		8+250	9.271	8.723	7.606	
1+100	10.665	10.075	9.165		4+700	8.829	8.379	7.742		8+300	9.170	8.665	7.527	
1+150	10.665	10.305	9.125		4+750	8.779	8.307	7.621		8+350	9.162	8.505	7.663	
1+200	10.655	10.045	9.125		4+800	8.781	8.237	7.487		8+400	9.127	8.417	7.417	
1+250	10.680	10.062	9.015		4+850	8.853	8.193	7.397		8+450	9.200	8.612	7.510	
1+300	10.680	9.995	8.970		4+900	8.831	8.211	7.591		8+500	9.112	8.732	7.889	
1+350	10.685	9.960	8.955		4+950	8.865	8.253	7.551		8+550	9.151	8.546	7.461	
1+400	10.705	10.080	8.905		5+000	8.981	8.271	7.501		8+600	9.087	8.487	7.327	
1+450	10.690	10.425	10.405		5+050	9.338	8.293	7.541		8+650	9.075	8.464	7.391	
1+500	10.650	10.420	8.935		5+100	9.256	8.391	7.606		8+700	8.945	8.474	7.419	
1+550	10.705	10.075	8.920		5+150	9.197	8.513	7.667		8+750	8.879	8.321	7.300	
1+600	10.685	10.035	8.905		5+200	9.281	8.411	7.721		8+800	9.007	8.217	7.292	
1+650	10.680	9.965	8.845		5+250	9.357	8.512	7.688		8+850	9.178	8.407	7.351	
1+700	10.695	9.970	8.790		5+300	9.356	8.546	7.631		8+900	9.130	8.637	7.547	
1+750	10.640	9.905	8.785		5+350	9.362	8.537	7.421		8+950	9.226	8.511	7.421	
1+800	10.575	10.007	8.676		5+400	9.346	8.516	7.391		9+000	9.312	8.487	7.312	
1+850	10.535	10.105	9.030		5+450	9.317	8.601	7.561		9+050	9.402	8.761	7.630	
1+900	10.475	9.725	8.720		5+500	9.311	8.496	7.696		9+100	9.452	9.079	7.902	
1+950	10.420	9.725	8.790		5+550	9.309	8.521	7.669		9+150	9.517	8.980	7.750	
2+000	10.370	9.375	8.475		5+600	9.311	8.641	7.771		9+200	9.532	8.892	7.532	
2+050	10.297	9.476	8.298		5+650	9.325	8.634	7.931		9+250	9.641	9.122	7.617	
2+100	10.248	9.619	8.347		5+700	9.331	8.668	8.041		9+300	9.719	9.222	7.977	
2+150	10.233	9.806	8.810		5+750	9.355	8.592	8.101		9+350	9.708	9.202	7.879	
2+200	10.163	9.563	8.980		5+800	9.321	8.621	8.036		9+400	9.877	9.180	7.947	
2+250	10.098	9.515	8.493		5+850	9.346	8.612	8.000		9+450	10.103	9.270	8.110	
2+300	10.060	9.387	8.456		5+900	9.336	8.516	7.836		9+500	10.002	9.492	8.327	
2+350	10.007	9.566	8.323		5+950	9.299	8.523	7.801		9+550	10.112	9.502	8.420	
2+400	9.963	9.537	8.833		6+000	9.286	8.546	7.716		9+600	10.157	9.367	8.502	
2+450	9.901	9.297	9.097		6+050	9.346	8.549	7.731		9+650	10.213	9.691	8.610	
2+500	9.833	9.061	8.856		6+100	9.336	8.566	7.766		9+700	10.259	9.764	8.592	
2+550	9.793	9.236	8.646		6+150	9.387	8.478	7.752		9+750	10.351	9.721	8.589	
2+600	9.773	9.243	8.683		6+200	9.361	8.396	7.706		9+800	10.332	9.772	8.752	
2+650	9.731	9.352	8.803		6+250	9.446	8.347	7.721		9+850	10.356	9.921	8.919	
2+700	9.689	9.196	7.994		6+300	9.563	8.366	7.766		9+900	10.378	10.087	9.002	
2+750	9.646	9.129	7.969		6+350	9.763	8.508	7.903		9+950	10.336	10.060	8.920	
2+800	9.582	9.009	7.982		6+400	10.166	9.236	8.156		10+000	10.367	10.012	8.822	
2+850	9.549	9.161	7.997		6+450	10.353	9.522	8.452		10+050	10.401	10.051	9.060	
2+900	9.502	8.901	7.961		6+500	10.781	9.766	8.856		10+100	10.390	9.947	9.007	
2+950	9.420	8.792	8.061		6+550	10.568	9.891	9.210		10+150	10.411	9.892	8.880	
3+000	9.373	8.821	7.941		6+600	10.656	10.396	10.326		10+200	10.402	9.982	8.732	
3+050	9.343	8.793	8.373		6+650	10.479	9.792	9.172		10+250	10.410	9.851	8.665	
3+100	9.273	8.502	7.893		6+700	10.461	9.586	9.236		10+300	10.403	9.752	8.694	
3+150	9.206	8.623	7.876		6+750	10.166	9.603	9.115		10+350	10.401	9.920	8.572	
3+200	8.808	8.663	7.793		6+800	10.201	9.691	9.021		10+400	10.472	10.132	9.007	
3+250	8.812	8.721	7.621		6+850	10.171	9.651	9.025		10+450	10.416	10.115	8.951	
3+300	8.818	8.821	7.400		6+900	10.011	9.756	8.961		10+500	10.477	9.965	8.877	
3+350	8.813	8.461	7.372		6+950	9.871	9.431	8.905		10+550	10.432	9.950	8.890	
3+400	8.808	8.218	7.338		7+000	9.866	9.501	8.871		10+600	10.427	10.067	8.907	
3+450	8.822	8.236	7.354		7+050	9.568	9.317	8.661		10+650	10.361	9.831	9.000	
3+500	8.840	8.262	7.322		7+100	9.686	9.121	8.706		10+700	10.307	9.797	8.902	
3+550	8.811	8.253	7.317		7+150	9.491	9.030	8.415		10+750	10.206	9.301	8.501	

Elevation Survey Data (2): Samawah by pass (Road widening section)

Station	Elevation			Remark
	L	CL	R	
10+800	10.147	8.662	8.237	
10+850	9.842	9.000	8.301	
10+900	9.717	9.167	8.367	
10+950	9.626	9.152	8.211	
11+000	9.559	9.202	8.029	
11+050	9.199	8.922	8.000	
11+100	9.287	8.857	7.977	
11+150	9.127	8.702	7.891	
11+200	9.107	8.687	7.862	
11+250	9.100	8.622	7.832	
11+300	9.002	8.587	7.717	
11+350	9.021	8.516	7.654	
11+400	9.067	8.562	7.662	
11+450	9.106	8.378	7.610	
11+500	8.987	8.477	7.622	
11+550	9.137	8.452	7.450	
11+600	9.220	8.407	7.627	
11+650	9.135	8.448	7.421	
11+700	9.002	8.477	8.352	
11+750	9.070	8.387	7.540	
11+800	9.082	8.377	7.652	
11+850	9.041	8.471	7.710	
11+900	9.067	8.512	7.742	
11+950	9.039	8.600	7.672	
12+000	9.047	8.637	7.717	
12+050	9.056	8.615	7.711	
12+100	9.026	8.697	7.742	
12+150	9.031	8.497	7.731	
12+200	9.080	8.527	7.712	
12+250	9.065	8.503	7.621	
12+300	9.072	8.512	7.592	
12+350	9.106	8.616	7.654	
12+400	9.142	8.777	7.797	
12+450	9.135	8.733	7.767	
12+500	9.112	8.787	7.887	
12+550	9.155	8.751	7.731	
12+600	9.187	8.897	7.727	
12+650	9.168	8.912	7.921	
12+700	9.167	8.937	8.397	
12+750	9.151	8.841	8.305	
12+800	9.184	8.860	8.272	
12+850	9.172	8.805	8.107	
12+900	9.182	8.822	8.042	
12+950	9.202	8.841	8.021	
13+000	9.242	8.938	7.922	
13+050	9.321	8.799	8.010	
13+100	9.417	8.847	8.047	
13+150	9.551	8.958	8.331	
13+200	9.697	9.142	8.527	
13+250	9.723	9.337	8.621	
13+300	9.962	9.502	8.847	
13+350	9.979	9.685	8.761	
13+400	10.169	9.792	8.795	
13+450	10.121	9.761	8.621	
13+500	10.127	9.672	8.517	
13+550	10.010	9.541	8.505	
13+600	9.992	9.487	8.547	
13+650	9.791	9.366	8.431	
13+700	9.872	9.447	8.457	
13+750	9.692	9.253	8.321	
13+800	9.728	9.095	8.265	
13+850	9.635	8.951	8.207	
13+900	9.540	8.955	8.145	
13+950	9.490	9.145	9.935	
14+000	9.463	8.770	7.875	
14+050	9.530	9.020	7.885	
14+100	9.680	8.935	7.995	
14+150	9.705	9.055	7.940	
14+200	9.707	9.058	8.102	
14+250	9.720	9.240	8.470	
14+300	9.655	9.215	8.315	

Station	Elevation			Remark
	L	CL	R	
14+350	9.575	9.080	8.445	
14+400	9.460	8.725	7.725	
14+450	9.430	8.940	7.595	
14+500	9.280	8.855	7.660	
14+550	9.186	8.691	7.696	
14+600	9.136	8.571	7.741	
14+650	9.161	8.811	7.736	
14+700	9.236	8.636	7.656	
14+750	9.336	8.761	7.791	
14+800	9.481	8.981	7.916	
14+850	9.561	8.871	8.211	
14+900	9.656	8.941	8.141	
14+950	9.684	9.211	8.441	
15+000	9.731	9.131	8.291	

Elevation Survey Data (1): Access road to Samawah North bridge

Station	Elevation			Remark	Station	Elevation			Remark
	L	CL	R			L	CL	R	
0+000	10.570	10.720	10.550		3+450	9.173	9.198	9.248	
0+050	10.587	10.684	10.538		3+500	8.897	9.060	9.062	
0+100	10.554	10.575	10.515		3+550	8.963	8.968	8.978	
0+150	10.643	10.090	10.434		3+600	8.975	9.158	8.952	
0+200	10.995	10.651	10.736		3+650	8.983	9.238	9.038	
0+250	10.712	10.800	10.562		3+700	8.836	8.935	8.930	
0+300	10.564	10.605	10.488		3+750	8.778	8.888	8.778	
0+350	10.541	10.543	10.447		3+800	8.853	8.956	8.851	
0+400	10.730	10.743	10.630		3+850	8.903	9.106	8.872	
0+450	10.606	10.618	10.621		3+900	9.256	9.112	9.217	
0+500	10.810	10.796	10.895		3+950	9.197	9.005	9.600	
0+550	11.117	10.937	11.047		4+000	9.673	9.976	10.733	
0+600	10.707	10.747	10.662		4+050	9.463	9.634	10.152	
0+650	10.629	10.713	10.585		4+100	9.343	9.423	9.563	
0+700	10.648	10.605	10.633		4+150	9.377	9.416	9.533	
0+750	10.677	10.677	10.747		4+200	9.463	9.493	9.523	
0+800	11.172	10.977	10.972		4+250	9.515	9.463	9.417	
0+850	11.097	11.025	10.994		4+300	9.593	9.453	9.453	
0+900	12.832	12.902	12.820		4+350	9.707	9.567	9.617	
0+950					4+400	9.823	9.753	9.778	
1+000	River				4+450	9.756	9.662	9.692	
1+050					4+500	9.673	9.673	9.673	
1+100	10.676	10.627	10.773		4+550	9.636	9.659	9.669	
1+150	10.710	10.731	10.806		4+600	9.688	9.678	9.663	
1+200	10.726	10.717	10.837		4+650	9.697	9.726	9.712	
1+250	10.839	10.827	10.897		4+700	9.803	9.848	9.753	
1+300	10.853	10.799	10.911		4+750	9.738	9.831	9.821	
1+350	10.860	10.876	10.926		4+800	9.858	9.828	9.858	
1+400	10.726	10.726	10.761		4+850	9.617	9.707	9.713	
1+450	10.226	10.226	10.276		4+900	9.768	9.688	9.678	
1+500	10.476	10.466	10.466		4+950	9.588	9.578	9.598	
1+550	10.146	10.106	10.026		5+000	9.413	9.358	9.313	
1+600	10.051	9.956	9.926		5+050	9.423	9.453	9.363	
1+650	9.966	9.660	9.876		5+100	9.693	9.483	9.443	
1+700	10.051	9.986	9.946		5+150	9.998	9.758	9.818	
1+750	10.086	9.926	9.936		5+200	10.118	10.068	9.598	
1+800	10.596	10.516	9.810		5+250	9.728	9.748	9.768	
1+850	10.537	10.435	10.189		5+300	9.788	9.716	9.722	
1+900	10.501	10.331	10.416		5+350	9.868	9.658	9.798	
1+950	10.506	10.266	10.336		5+400	9.856	9.822	9.749	
2+000	10.566	10.256	10.391		5+450	9.958	9.978	9.638	
2+050	10.466	10.276	10.401		5+500	10.213	10.111	9.751	
2+100	10.441	10.366	10.401		5+550	10.318	10.168	10.108	
2+150	10.506	10.366	10.426		5+600	10.146	9.856	9.627	
2+200	10.476	10.366	10.531		5+650	9.723	9.648	9.698	
2+250	10.426	10.326	10.456		5+700	9.519	9.421	9.555	
2+300	10.463	10.268	10.428		5+750	9.418	9.388	9.408	
2+350	10.548	10.358	10.473		5+800	9.478	9.446	9.493	
2+400	10.488	10.448	10.478		5+850	9.513	9.523	9.553	
2+450	10.418	10.123	10.448		5+900	9.593	9.615	9.726	
2+500	10.518	10.268	10.438		5+950	9.703	9.673	9.903	
2+550	10.488	10.368	10.416		6+000	9.704	9.726	9.696	
2+600	10.432	10.272	10.323		6+050	9.693	9.855	9.623	
2+650	10.538	10.188	10.378		6+100	9.725	9.827	9.752	
2+700	10.502	10.147	10.361		6+150	9.817	9.861	9.791	
2+750	10.413	10.163	10.393		6+200	9.863	9.873	9.838	
2+800	10.327	10.106	10.210		6+250	9.893	9.898	9.973	
2+850	10.238	10.038	10.138		6+300	9.932	9.915	9.931	
2+900	9.033	9.078	9.033		6+350	10.043	10.063	10.053	
2+950	8.903	8.913	8.963		6+400	10.000	9.872	9.952	
3+000	9.001	8.934	8.892		6+450	9.812	9.787	9.725	
3+050	8.968	8.988	8.978		6+500	9.673	9.648	9.513	
3+100	9.000	9.070	9.021		6+550	9.424	9.415	9.415	
3+150	9.050	9.098	9.108		6+600	9.208	9.103	9.303	
3+200	9.227	9.116	9.162		6+650	9.121	9.126	9.212	
3+250	9.318	9.273	9.263		6+700	8.993	9.133	9.173	
3+300	9.138	9.126	9.151		6+750	9.218	9.637	9.521	
3+350	8.998	8.998	9.098		6+800	10.583	10.723	10.633	
3+400	9.070	9.143	9.136		6+820	11.705	11.731	11.72	

Cross Section Level Survey of Samawah City Roads

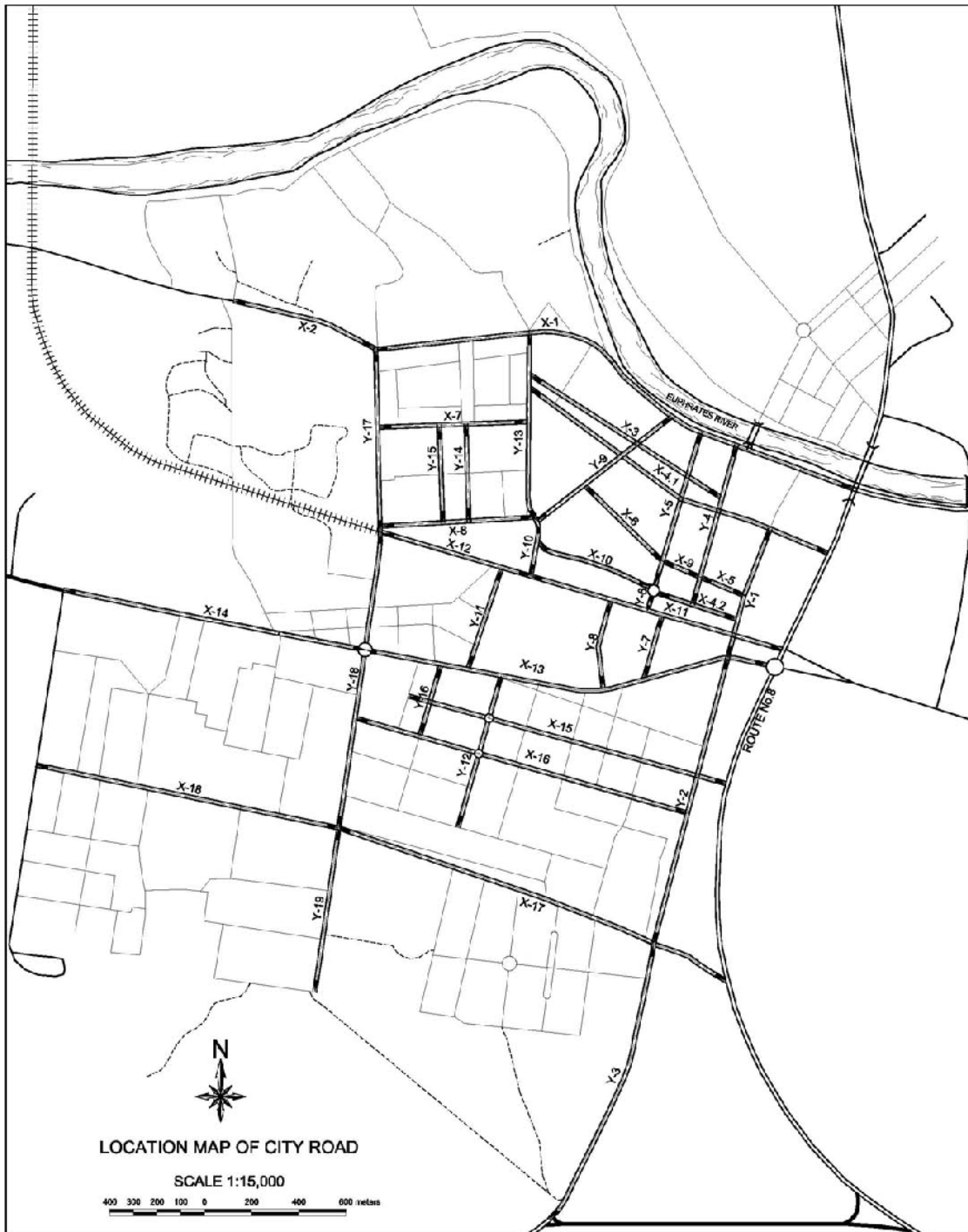
November 2004

Location Map of City Roads Survey

Legend:

X-1: Horizontal axis of Samawah city road location

Y-1: Longitudinal axis of Samawah city road location



Road No. X-1		Road Length:		Road Type: A	
Road W: 23.5 - 41.5m		2,250m		Median W: 0 -5.8m	
Left Shoulder W: 3.75 - 15.1m				Right Shoulder W: 2.0 - 9.0m	
Station	Left Elevation	Centerline Elevation	Right Elevation	Remarks	
0+00	11.154	10.814	10.945		
0+50	11.103	10.895	11.083		
0+100	11.147	10.937	11.207		
0+150	11.146	10.946	11.294		
0+200	11.149	10.967	11.347		
0+250	11.299	11.067	11.267		
0+300	11.334	11.083	11.278		
0+350	11.367	11.115	11.282		
0+400	11.413	11.132	11.322		
0+450	11.445	11.135	11.337		
0+500	11.362	11.347	11.421		
0+550	11.355	11.401	11.65		
0+600	11.352	11.462	11.681		
0+650	11.425	11.405	11.685		
0+700	11.592	11.445	11.717		
0+750	11.63	11.516	11.767		
0+800	11.675	11.592	11.822		
0+850	11.696	11.673	11.772		
0+900	11.933	11.808	11.898		
0+950	12.078	11.896	12.098		
1+000	12.146	11.741	11.885		
1+50	12.133	11.732	11.788		
1+100	12.13	11.728	11.709		
1+150	12.018	11.618	11.812		
1+200	11.717	11.663	11.912		
1+250	11.982	11.873	12.147		
1+300	12.042	11.838	12.129		
1+350	11.964	11.763	12.111		
1+400	11.961	11.712	12.114		
1+450	11.86	11.681	12.113		
1+500	11.798	11.525	11.855		
1+550	11.773	11.366	11.412		
1+600	11.72	11.416	11.472		
1+650	11.656	11.432	11.513		
1+700	11.649	11.356	11.548		
1+750	11.633	11.356	11.469		
1+800	11.633	11.363	11.548		
1+850	11.631	11.379	11.607		
1+900	11.595	11.286	11.578		
1+950	11.575	11.273	11.49		
2+000	11.469	11.178	11.435		
2+50	11.415	11.13	11.461		
2+100	11.403	11.17	11.445		
2+150	11.407	11.146	11.411		
2+200	11.393	10.959	11.345		
2+250	11.231	10.379	11.387		

Road No. X-2		Road Length:		Road Type: B	
Road W: 7 m		300 m		Median Width:	
Left Shoulder W: 4 m				Right Shoulder W: 4 m	
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks	
0+00	10.667	10.647	10.537		
0+50	10.649	10.632	10.517		
0+100	10.678	10.695	10.742		
0+150	10.69	10.623	10.586		
0+200	10.675	10.566	10.496		
0+250	10.637	10.552	10.527		
0+300	10.537	10.556	10.452		

Road No. X-3		Road Length:		Road Type: B	
Road W: 8 m		930 m		Median Width:	
Left Shoulder W: 3 m				Right Shoulder W: 3m	
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks	
0+00	10.210	10.207	10.255		
0+50	10.394	10.304	10.364		
0+100	10.585	10.415	10.485		
0+150	10.866	10.636	10.758		
0+200	10.787	10.512	10.667		
0+250	10.767	10.570	10.710		
0+300	10.784	10.687	10.747		
0+350	11.016	10.848	10.958		
0+400	11.005	10.793	10.908		
0+450	11.014	10.886	11.020		
0+500	11.035	10.965	11.145		
0+550	11.278	11.156	11.274		
0+600	11.230	11.055	11.140		
0+650	11.133	10.943	11.058		
0+700	11.045	10.910	10.965		
0+750	10.745	10.567	10.663		
0+800	10.840	10.685	10.800		
0+850	10.759	10.579	10.809		
0+900	10.685	10.549	10.827		
0+930	10.801	10.602	10.789		

Road No. X-4.1		Road Length:		Road Type: A	
Road W: 10.50m		1470 m		Median Width:	
Left Shoulder W: 4.20 m				Right Shoulder W: 5.20 m	
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks	
0+00	9.813	9.748	9.771		
0+50	9.836	9.77	9.957		
0+100	10.123	9.808	9.853		
0+150	9.926	9.917	10.16		
0+200	9.915	9.883	10.055		
0+250	9.966	9.652	10.041		
0+300	10.003	9.913	10.033		
0+350	10.206	9.873	10.252		
0+400	10.154	10.023	10.224		
0+450	10.131	10.062	10.246		
0+500	10.103	10.133	10.263		
0+550	10.167	10.082	10.236		
0+600	10.109	10.027	10.202		
0+650	10.052	9.957	10.15		
0+700	9.759	9.701	9.899		
0+750	9.862	9.818	10.041		
0+800	9.95	9.74	9.955		
0+850	9.814	9.668	9.842		
0+900	9.895	9.81	9.954		
0+950	10.03	9.855	9.97		
1+00	10.329	10.227	10.287		
1+50	10.186	10.188	10.198		
1+100	10.196	10.158	10.175		
1+150	10.081	10.115	10.001		
1+200	10.045	9.93	9.992		
1+250	9.983	9.885	10.072		
1+300	10.014	9.911	10.103		
1+350	9.922	9.904	10.062		
1+400	9.902	9.962	10.081		
1+450	9.959	9.944	10.104		
1+470	10.196	9.967	9.852		

Road No. X-4.2		Road Length:	Road Type: A	
Road W: 10.20 m		375 m	Median Width:	
Left Shoulder W: 5.0 m		Right Shoulder W: 1.8 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	9.506	9.494	9.478	
0+50	9.434	9.419	9.428	
0+100	9.386	9.394	9.413	
0+150	9.511	9.534	9.47	
0+200	9.631	9.63	9.589	
0+250	9.751	9.651	9.711	
0+300	9.893	9.683	9.783	
0+350	9.685	9.642	9.568	
0+375	9.642	9.463	9.659	

Road No. X-8		Road Length:	Road Type: B	
Road Width: 9.3 m		650 m	Median W:	
Left Shoulder Width: 1.5 m		Right Shoulder W: 1.5 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	10.298	10.288	10.243	
0+50	10.418	10.397	10.395	
0+100	10.536	10.548	10.578	
0+150	10.728	10.714	10.762	
0+200	10.545	10.553	10.625	
0+250	10.316	10.347	10.413	
0+300	10.115	10.18	10.19	
0+350	9.767	9.882	9.767	
0+400	10.12	10.09	10.105	
0+450	10.168	10.118	10.051	
0+500	10.23	10.19	10	
0+550	10.558	10.513	10.398	
0+600	10.508	10.465	10.415	
0+650	10.497	10.455	10.399	

Road No. X-5		Road Length:	Road Type: B	
Road W: 6.20 m		450 m	Median W:	
Left Shoulder W: 1.0 m		Right Shoulder W: .30 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	9.398	9.482	9.603	
0+50	9.541	9.654	9.526	
0+100	9.521	9.489	9.488	
0+150	9.398	9.618	9.521	
0+200	9.609	9.413	9.456	
0+250	9.409	9.436	9.542	
0+300	9.601	9.485	9.602	
0+350	9.431	9.556	9.398	
0+400	9.399	9.516	9.542	
0+450	9.426	9.487	9.399	

Road No. X-9		Road Length:	Road Type: B	
Road W: 6.20 m		180 m	Median W:	
Left Shoulder W: 1.0 m		Right Shoulder W: .30 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	9.591	9.566	9.741	
0+50	9.559	9.564	9.695	
0+100	9.521	9.571	9.666	
0+150	9.592	9.551	9.584	
0+180	9.716	9.531	9.521	

Road No. X-6		Road Length:	Road Type: A	
Road W: 7.20m		470 m	Median W: 1.80 m	
Left Shoulder W: 1.50 m		Right Shoulder W: 1.50 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	9.727	9.503	9.694	
0+50	9.762	9.528	9.674	
0+100	9.805	9.576	9.645	
0+150	9.861	9.644	9.796	
0+200	9.815	9.625	9.79	
0+250	9.873	9.668	9.834	
0+300	9.951	9.705	9.868	
0+350	10.05	9.836	9.994	
0+400	10.014	9.813	9.963	
0+450	10.026	9.889	10.008	
0+470	10.051	9.926	10.028	

Road No. X-10		Road Length:	Road Type: A	
Road W: 10.20 m		600 m	Median W:	
Left Shoulder W: 2.20 m		Right Shoulder W: 2.50 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	9.903	9.682	9.725	
0+50	9.914	9.641	9.753	
0+100	9.935	9.693	9.79	
0+150	9.887	9.762	9.845	
0+200	9.943	9.839	9.878	
0+250	9.93	9.817	9.857	
0+300	10.043	9.848	9.895	
0+350	10.05	9.885	9.975	
0+400	10.177	10.077	10.183	
0+450	10.121	10.082	10.242	
0+500	10.168	10.112	10.271	
0+550	10.229	10.068	10.169	
0+600	10.183	9.999	10.278	

Road No. X-7		Road Length:	Road Type: B	
Road W: 10 m		650 m	Median W:	
Left Shoulder W: 3 m		Right Shoulder W: 3 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	10.925	10.567	10.972	
0+50	11.149	10.899	10.975	
0+100	11.146	10.878	10.992	
0+150	10.999	10.808	10.977	
0+200	10.846	10.726	10.946	
0+250	10.809	10.557	10.727	
0+300	10.976	10.588	10.713	
0+350	10.862	10.596	10.701	
0+400	10.749	10.629	10.67	
0+450	10.661	10.601	10.686	
0+500	10.695	10.657	10.817	
0+550	10.784	10.687	10.811	
0+600	10.871	10.728	10.795	
0+650	10.998	10.83	10.931	

Road No. X-11		Road Length:	Road Type: A		
Road W: 11.60 m		1130 m	Median Width: .80 m		
Left Shoulder W: 5.40 m		Right Shoulder W: 5.40 m			
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks	
0+00	11.707	11.516	11.696		
0+50	11.722	11.531	11.724		
0+100	11.736	11.538	11.751		
0+150	11.761	11.629	11.78		
0+200	11.773	11.701	11.786		
0+250	11.715	11.755	11.814		
0+300	11.801	11.701	11.796		
0+350	11.724	11.618	11.846		
0+400	11.841	10.679	11.806		
0+450	11.861	11.612	11.872		
0+500	11.796	11.636	11.876		
0+550	11.836	11.716	11.885		
0+600	11.986	11.616	11.861		
0+650	11.894	11.755	11.996		
0+700	11.884	11.776	11.936		
0+750	11.869	11.696	12.009		
0+800	11.926	11.691	11.926		
0+850	11.885	11.695	11.885		
0+900	11.909	11.805	11.894		
0+950	11.806	11.734	11.905		
1+00	11.874	11.783	11.935		
1+50	11.892	11.756	11.909		
1+100	11.906	11.807	11.896		
1+130	11.927	11.696	11.892		

Road No. X-13		Road Length:	Road Type: A		
Road W: 9 m		1750 m	Median W: 2 m		
Left Shoulder W: 4.6 m		Right Shoulder W: 4.6 m			
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks	
0+00	11.744	11.461	11.612		
0+50	11.758	11.459	11.6		
0+100	11.768	11.453	11.588		
0+150	11.739	11.473	11.596		
0+200	11.607	11.385	11.498		
0+250	11.65	11.392	11.518		
0+300	11.692	11.402	11.535		
0+350	11.677	11.379	11.547		
0+400	11.66	11.345	11.552		
0+450	11.676	11.377	11.559		
0+500	11.684	11.41	11.562		
0+550	11.934	11.679	11.828		
0+600	11.78	11.54	11.695		
0+650	11.888	11.609	11.772		
0+700	11.99	11.67	11.847		
0+750	12.042	11.747	11.89		
0+800	12.095	11.82	11.929		
0+850	12.126	11.852	11.958		
0+900	12.134	11.864	11.969		
0+950	12.132	11.832	11.963		
1+00	12.127	11.797	11.958		
1+50	12.049	11.718	11.931		
1+100	11.979	11.644	11.858		
1+150	11.907	11.567	11.761		
1+200	11.898	11.526	11.733		
1+250	11.879	11.489	11.699		
1+300	11.728	11.361	11.557		
1+350	11.749	11.414	11.639		
1+400	11.727	11.409	11.612		
1+450	11.719	11.384	11.589		
1+500	11.838	11.585	11.627		
1+550	11.949	11.579	11.579		
1+600	11.933	11.528	11.662		
1+650	11.914	11.539	11.735		
1+700	12.073	11.795	11.914		
1+750	12.155	11.905	12.022		

Road No. X-12		Road Length:	Road Type: A		
Road W: 11.60 m		650 m	Median W: 80 m		
Left Shoulder W: 5.40 m		Right Shoulder W: 5.40 m			
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks	
0+00	11.713	11.555	11.738		
0+50	11.693	11.505	11.725		
0+100	11.716	11.587	11.775		
0+150	11.745	11.566	11.738		
0+200	11.74	11.548	11.73		
0+250	11.73	11.555	11.708		
0+300	11.678	11.553	11.716		
0+350	11.698	11.503	11.767		
0+400	11.706	11.491	11.743		
0+450	11.703	11.493	11.723		
0+500	11.7	11.51	11.702		
0+550	11.668	11.51	11.788		
0+600	11.543	11.323	11.442		
0+650	11.422	11.135	11.08		

Road No. X-14		Road Length:	Road Type: A	
Road W: 9.3 m		1350 m	Median W: 1.7m	
Left Shoulder W: 4.6 m		Right Shoulder W: 4.6 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	12.558	12.578	12.46	
0+50	12.661	12.519	12.507	
0+100	12.748	12.458	12.583	
0+150	12.671	12.396	12.451	
0+200	12.588	12.335	12.313	
0+250	12.485	12.255	12.316	
0+300	12.478	12.26	12.403	
0+350	12.703	12.251	12.565	
0+400	12.478	12.193	12.303	
0+450	12.58	12.447	12.345	
0+500	12.564	12.429	12.362	
0+550	12.55	12.422	12.38	
0+600	12.595	12.439	12.405	
0+650	12.612	12.437	12.399	
0+700	12.48	12.341	12.33	
0+750	12.364	12.262	12.262	
0+800	12.426	12.359	12.327	
0+850	12.476	12.418	12.368	
0+900	12.425	12.387	12.321	
0+950	12.389	12.373	12.275	
1+00	12.368	12.308	12.268	
1+50	12.28	12.234	12.185	
1+100	12.366	12.353	12.286	
1+150	12.356	12.339	12.262	
1+200	12.338	12.326	12.243	
1+250	12.338	12.303	12.293	
1+300	12.331	12.212	12.316	
1+350	11.724	12.226	12.118	

Road No. X-16		Road Length:	Road Type: A	
Road W: 10 m		1450 m	Median W:	
Left Shoulder W: 3.2 m		Right Shoulder W: 3 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	11.171	11.159	11.299	
0+50	11.257	11.187	11.402	
0+100	11.321	11.204	11.413	
0+150	11.348	11.248	11.452	
0+200	11.388	11.309	11.479	
0+250	11.509	11.387	11.571	
0+300	11.517	11.372	11.569	
0+350	11.517	11.407	11.611	
0+400	11.534	11.424	11.674	
0+450	11.786	11.671	11.895	
0+500	11.654	11.514	11.729	
0+550	11.72	11.6	11.788	
0+600	11.796	11.701	11.834	
0+650	11.77	11.72	11.778	
0+700	11.691	11.643	11.626	
0+750	11.644	11.571	11.618	
0+800	11.589	11.537	11.657	
0+850	11.338	11.287	11.41	
0+900	11.502	11.459	11.582	
0+950	11.441	11.38	11.551	
1+00	11.394	11.312	11.512	
1+50	11.273	11.255	11.4	
1+100	11.262	11.287	11.393	
1+150	11.095	11.085	11.206	
1+200	11.188	11.189	11.318	
1+250	11.031	11.039	11.184	
1+300	10.881	10.911	11.045	
1+350	10.721	10.74	10.772	
1+400	10.858	10.868	10.958	
1+450	10.983	10.803	10.833	

Road No. X-15		Road Length:	Road Type: B	
Road W: 7.8 m		1450 m	Median W: 4.8 m	
Left Shoulder W: 3.2 m		Right Shoulder W: 3.2 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	10.918	10.948	11.161	
0+50	10.927	10.931	11.076	
0+100	10.938	10.908	11.013	
0+150	10.941	10.866	11.007	
0+200	10.926	10.838	11.018	
0+250	10.977	10.920	11.159	
0+300	10.870	10.856	11.196	
0+350	10.899	10.779	10.980	
0+400	10.941	10.714	10.841	
0+450	10.892	10.671	10.769	
0+500	11.069	10.859	10.928	
0+550	10.962	10.810	10.955	
0+600	10.874	10.779	10.974	
0+650	10.931	10.851	11.032	
0+700	10.908	10.824	11.021	
0+750	10.905	10.866	11.036	
0+800	10.889	10.904	11.044	
0+850	10.842	10.807	10.926	
0+900	10.854	10.754	10.854	
0+950	10.793	10.736	10.887	
1+00	10.744	10.704	10.912	
1+50	10.637	10.613	10.790	
1+100	10.767	10.732	10.937	
1+150	10.730	10.671	10.930	
1+200	10.712	10.662	10.928	
1+250	10.695	10.607	10.856	
1+300	10.706	10.556	10.828	
1+350	10.925	10.820	11.178	
1+400	11.158	11.063	11.348	
1+450	11.308	11.205	11.478	

Road No. X-17		Road Length:	Road Type: B	
Road W: 7 m		1750 m	Median W:	
Left Shoulder W: 2 m		Right Shoulder W: 4.2 m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	11.012	10.997	11.053	
0+50	10.891	10.905	10.960	
0+100	10.780	10.869	10.872	
0+150	10.775	10.861	10.880	
0+200	10.777	10.865	10.894	
0+250	10.769	10.825	10.862	
0+300	10.779	10.795	10.847	
0+350	10.735	10.752	10.902	
0+400	10.679	10.727	10.908	
0+450	10.726	10.767	10.867	
0+500	10.755	10.785	10.966	
0+550	10.824	10.866	11.011	
0+600	10.806	10.866	10.990	
0+650	10.794	10.868	10.944	
0+700	10.803	10.865	10.915	
0+750	10.840	10.861	10.874	
0+800	10.857	10.857	10.854	
0+850	10.659	10.654	10.735	
0+900	10.791	10.789	10.739	
0+950	10.782	10.719	10.669	
1+00	10.774	10.786	10.691	
1+50	11.034	10.924	11.064	
1+100	10.790	10.787	10.683	
1+150	10.828	10.744	10.834	
1+200	10.762	10.760	10.718	
1+250	10.716	10.629	10.807	
1+300	10.678	10.663	10.656	
1+350	10.623	10.696	10.731	
1+400	10.628	10.639	10.648	
1+450	10.611	10.670	10.690	
1+500	10.590	10.606	10.690	
1+550	10.578	10.647	10.689	
1+600	10.505	10.563	10.563	
1+650	10.552	10.512	10.672	
1+700	10.564	10.648	10.643	
1+750	11.573	11.533	11.553	

Road No. X-18		Road Length:	Road Type: A	
Road W: 7.4m		1850 m	Median W: 4.2m	
Left Shoulder W: 3m		Right Shoulder W: 3m		
Stations	Left Elevation	Centerline Elevation	Right Elevation	Remarks
0+00	11.218	11.041	11.191	
0+50	11.214	10.999	11.158	
0+100	11.232	10.940	11.106	
0+150	11.330	11.010	11.179	
0+200	11.429	11.091	11.267	
0+250	11.419	11.119	11.258	
0+300	11.414	11.154	11.266	
0+350	11.425	11.189	11.284	
0+400	11.419	11.130	11.291	
0+450	11.340	11.143	11.292	
0+500	11.276	11.192	11.312	
0+550	11.255	11.068	11.248	
0+600	11.552	11.205	11.338	
0+650	11.603	11.261	11.342	
0+700	11.657	11.327	11.372	
0+750	11.606	11.345	11.366	
0+800	11.695	11.372	11.378	
0+850	11.754	11.426	11.473	
0+900	11.668	11.330	11.398	
0+950	11.644	11.319	11.411	
1+00	11.636	10.686	11.398	
1+50	11.587	11.267	11.371	
1+100	11.595	11.301	11.363	
1+150	11.661	11.310	11.369	
1+200	11.705	11.315	11.370	
1+250	11.638	11.319	11.408	
1+300	11.670	11.313	11.355	
1+350	11.671	11.333	11.436	
1+400	11.620	11.277	11.379	
1+450	11.629	11.323	11.418	
1+500	11.568	11.287	11.368	
1+550	11.579	11.323	11.503	
1+600	11.641	11.421	11.349	
1+650	11.558	11.299	11.389	
1+700	11.621	11.297	11.507	
1+750	11.609	11.408	11.521	
1+800	11.541	11.209	11.408	
1+850	11.476	11.178	11.433	

Road No. Y1		Road Length:	Road Type: A	
Road W: 9 m		550m	Median W: 2 m	
Left Shoulder W: 3.5 m		Right Shoulder W:4.5m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	10.745	10.924	11.115	
0+50	10.81	10.901	10.934	
0+100	10.8	10.93	11.148	
0+150	10.782	10.83	10.9	
0+200	10.82	11.014	10.915	
0+250	10.766	10.902	10.988	
0+300	10.744	10.878	10.928	
0+350	10.655	10.816	10.936	
0+400	11.078	11.004	10.99	
0+450	11.014	10.926	11.115	
0+500	10.905	10.903	11.113	
0+550	11.07	10.96	11.118	

Road No. Y2		Road Length:	Road Type: A	
Road Width: 8.10 m		1250 m	Median W: 4.60 m	
Left Shoulder W: 6.10 m		Right Shoulder W: 6.10 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	11.05	10.75	10.625	
0+50	11.009	10.849	10.959	
0+100	10.98	11.01	11.015	
0+150	11.059	10.868	10.953	
0+200	10.845	10.865	10.902	
0+250	10.692	10.903	10.782	
0+300	10.677	10.737	10.782	
0+350	10.651	10.715	10.843	
0+400	10.602	10.652	10.702	
0+450	10.587	10.481	10.585	
0+500	10.523	10.533	10.578	
0+550	10.681	10.601	10.692	
0+600	10.722	10.679	10.697	
0+650	10.757	10.695	10.528	
0+700	10.642	10.685	10.807	
0+750	10.736	10.695	10.826	
0+800	10.967	10.777	10.647	
0+850	10.651	10.766	10.826	
0+900	10.685	10.754	10.855	
0+950	10.704	10.826	10.93	
1+000	10.713	10.802	10.912	
1+50	10.925	10.997	11.089	
1+100	10.812	10.902	11.002	
1+150	10.895	10.921	11.136	
1+200	10.985	11.023	11.15	
1+250	11.148	11.071	10.998	

Road No. Y3		Road Length:	Road Type:B	
Road W: 7.5 m		950m	Median W: 4 m	
Left Shoulder W: 3 m		Right Shoulder W: 3m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	10.81	10.83	10.805	
0+50	10.726	10.799	10.75	
0+100	10.665	10.708	10.688	
0+150	10.763	10.808	10.792	
0+200	10.858	10.9	10.883	
0+250	10.9	10.978	10.868	
0+300	10.844	10.882	10.74	
0+350	10.784	10.806	10.636	
0+400	10.745	10.826	10.667	
0+450	10.678	10.828	10.708	
0+500	10.653	10.752	10.566	
0+550	10.728	10.748	10.528	
0+600	10.765	10.786	10.654	
0+650	10.788	10.808	10.683	
0+700	10.829	10.846	10.7	
0+750	10.843	10.873	10.723	
0+800	10.815	10.84	10.725	
0+850	10.783	10.808	10.723	
0+900	10.63	10.658	10.528	
0+950	10.493	10.523	10.363	

Road No. Y4		Road Length:	Road Type: A	
Road W: 10.10 m		700 m	Median W:	
Left Shoulder W: 2.50 m		Right Shoulder W:1.5 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	10.298	10.071	10.088	
0+50	10.258	10.056	10.127	
0+100	10.228	10.055	10.178	
0+150	10.117	9.98	10.105	
0+200	10.028	9.898	10.035	
0+250	9.999	9.874	10.004	
0+300	9.955	9.855	9.985	
0+350	9.88	9.732	9.846	
0+400	9.835	9.635	9.705	
0+450	9.815	9.634	9.727	
0+500	9.777	9.622	9.732	
0+550	9.717	9.637	9.687	
0+600	9.598	9.498	9.582	
0+650	9.485	9.402	9.485	
0+700	9.41	9.348	9.348	

Road No. Y5		Road Length:	Road Type: A	
Road W: 10.20 m		680 m	Median W:	
Left Shoulder W: 5 m		Right Shoulder W: 5 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	9.599	9.65	9.645	
0+50	9.598	9.631	9.647	
0+100	9.597	9.609	9.651	
0+150	9.754	9.715	9.723	
0+200	9.833	9.813	9.768	
0+250	9.898	9.828	9.874	
0+300	9.933	9.853	9.971	
0+350	9.999	9.945	10.015	
0+400	10.061	10.021	10.051	
0+450	10.196	10.164	10.171	
0+500	10.394	10.304	10.456	
0+550	10.555	10.425	10.665	
0+600	10.598	10.46	10.705	
0+650	10.712	10.501	10.813	
0+680	10.735	10.555	10.915	

Road No. Y9		Road Length:	Road Type: A		
Road W:		700 m	Median Width:		
Left Shoulder W:		Right Shoulder W:			
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	12.421	12.111	12.351		
0+50	12.358	12.158	12.291		
0+100	12.298	12.088	12.209		
0+150	12.178	12.028	12.148		
0+200	12.113	11.913	12.051		
0+250	11.897	11.809	11.954		
0+300	11.819	11.674	11.838		
0+350	11.808	11.641	11.756		
0+400	11.731	11.566	11.696		
0+450	11.518	11.491	11.611		
0+500	11.708	11.559	11.601		
0+550	11.728	11.623	11.701		
0+600	11.766	11.633	11.761		
0+650	11.823	11.683	11.813		
0+700	11.812	11.673	11.793		

Road No. Y6		Road Length:	Road Type: B	
Road W: 9.50 m		100 m	Median W:	
Left Shoulder W: 1.5 m		Right Shoulder W: 1 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	9.502	9.534	9.609	
0+50	9.705	9.754	9.784	
0+100	9.921	9.996	9.974	

Road No. Y10		Road Length:	Road Type: A		
Road W:		250m	Median W:		
Left Shoulder W:		Right Shoulder W:			
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	11.733	11.701	11.933		
0+50	11.842	11.708	11.987		
0+100	11.941	11.711	12.045		
0+150	12.111	11.768	12.065		
0+200	11.728	11.657	11.955		
0+250	11.713	11.533	11.711		

Road No. Y7		Road Length:	Road Type: A	
Road W: 19.60 m		270 m	Median W:	
Left Shoulder W: 2.40 m		Right Shoulder W: 2.4m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	11.924	11.624	11.874	
0+50	11.817	11.581	11.782	
0+100	11.715	11.543	11.713	
0+150	11.735	11.582	11.765	
0+200	11.756	11.637	11.809	
0+250	11.804	11.674	11.843	
0+270	11.889	11.719	11.899	

Road No. Y11		Road Length:	Road Type: A		
Road W: 10 m		450 m	Median W:		
Left Shoulder W: 2 m		Right Shoulder W: 2m			
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	11.358	11.333	11.498		
0+50	11.392	11.343	12.534		
0+100	11.433	11.373	11.577		
0+150	11.498	11.429	11.582		
0+200	11.557	11.499	11.589		
0+250	11.625	11.567	11.652		
0+300	11.697	11.657	11.737		
0+350	11.74	11.723	11.838		
0+400	11.777	11.787	11.935		
0+450	11.947	11.812	11.937		

Road No. Y8		Road Length:	Road Type: A	
Road W: 20 m		380 m	Median W:	
Left Shoulder W: 3.70m		Right Shoulder W: 3.7m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	12.024	11.856	11.653	
0+50	12.122	11.88	11.652	
0+100	12.2	11.916	11.651	
0+150	12.184	11.936	11.86	
0+200	12.176	11.966	12.083	
0+250	12.338	12.087	12.254	
0+300	12.187	11.911	12.128	
0+350	12.109	11.868	12.066	
0+380	12.051	11.817	12.014	

Road No. Y12		Road Length:		Road Type: A	
Road W: 7.60 m		620 m		Median W: 7.40 m	
Left Shoulder W: 2.90 m			Right Shoulder W: 2.90 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	11.571	11.502	11.548		
0+50	11.511	11.43	11.47		
0+100	11.443	11.336	11.413		
0+150	11.419	11.299	11.349		
0+200	11.398	11.261	11.258		
0+250	11.675	11.526	11.581		
0+300	11.797	11.638	11.717		
0+350	11.963	11.826	11.969		
0+400	11.941	11.831	11.915		
0+450	11.743	11.704	11.729		
0+500	11.721	11.616	11.623		
0+550	11.709	11.51	11.534		
0+600	11.493	11.29	11.317		
0+620	11.343	11.149	11.189		

Road No. Y13		Road Length:		Road Type:A	
Road W: 9m		800 m		Median W: 3.30 m	
Left Shoulder W: 2 m			Right Shoulder W: 2 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	10.44	10.42	10.24		
0+50	10.103	10.018	9.952		
0+100	10.19	10.005	10.06		
0+150	10.153	9.927	10.017		
0+200	10.099	9.87	9.993		
0+250	10.064	9.877	9.964		
0+300	10.166	10.006	10.076		
0+350	10.185	9.989	10.084		
0+400	10.244	9.961	10.086		
0+450	10.374	10.147	10.27		
0+500	10.295	10.095	10.221		
0+550	10.292	10.094	10.207		
0+600	10.29	10.135	10.175		
0+650	10.363	10.178	10.187		
0+700	10.425	10.215	10.195		
0+750	10.406	10.202	10.207		
0+800	10.405	10.185	10.215		

Road No. Y14		Road Length:		Road Type:A	
Road W: 9.10 m		380 m		Median W:	
Left Shoulder W: 1.40 m			Right Shoulder W:1.40 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	10.845	10.563	10.674		
0+50	10.769	10.58	10.617		
0+100	10.724	10.6	10.57		
0+150	10.752	10.625	10.61		
0+200	10.76	10.66	10.661		
0+250	10.784	10.666	10.681		
0+300	10.8	10.671	10.7		
0+350	10.809	10.685	10.701		
0+380	10.83	10.7	10.705		

Road No. Y15		Road Length:		Road Type:A	
Road W: 9.30 m		380 m		Median W:	
Left Shoulder W: 2.60 m			Right Shoulder W:2.60 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	10.864	10.555	10.695		
0+50	10.762	10.572	10.644		
0+100	10.708	10.56	10.57		
0+150	10.778	10.619	10.704		
0+200	10.781	10.64	10.702		
0+250	10.805	10.659	10.708		
0+300	10.816	10.662	10.702		
0+350	10.834	10.706	10.713		
0+380	10.854	10.752	10.761		

Road No. Y16		Road Length:		Road Type: A	
Road W: 9m		280m		Median W:	
Left Shoulder W:4.5 m			Right Shoulder W:3.5 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	11.529	11.533	11.642		
0+50	11.742	11.604	11.409		
0+100	11.318	11.233	11.308		
0+150	11.271	11.173	11.304		
0+200	11.218	11.103	11.298		
0+250	11.173	10.978	11.036		
0+280	11.133	10.893	10.808		

Road No. Y17		Road Length:		Road Type: A	
Road W:10.90 m		750 m		Median W: 9 m	
Left Shoulder W:1.5 m			Right Shoulder W:1.5 m		
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks	
0+00	11.373	11.153	11.433		
0+50	11.327	10.972	11.276		
0+100	11.333	10.948	11.218		
0+150	11.223	10.898	11.147		
0+200	11.182	10.856	11.084		
0+250	11.156	10.813	11.073		
0+300	11.129	10.789	11.008		
0+350	11.119	10.751	11.009		
0+400	11.099	10.699	10.902		
0+450	11.065	10.669	10.893		
0+500	11.34	10.654	10.889		
0+550	10.997	10.635	10.855		
0+600	10.998	10.607	10.853		
0+650	10.941	10.602	10.846		
0+700	10.927	10.606	10.822		
0+750	10.993	10.586	10.782		

Road No. Y18		Road Length:	Road Type:A	
Road W: 7 m		1270 m	Median W: 5.5 m	
Left Shoulder W: 2m			Right Shoulder W: 2 m	
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	11.453	11.202	11.489	
0+50	11.399	11.141	11.362	
0+100	11.346	11.088	11.274	
0+150	11.338	11.063	11.26	
0+200	11.346	11.035	11.222	
0+250	11.353	11.006	11.19	
0+300	11.324	11.009	11.214	
0+350	11.306	11.014	11.248	
0+400	11.343	11.000	11.24	
0+450	11.35	11.071	11.33	
0+500	11.416	11.114	11.376	
0+550	11.484	11.154	11.42	
0+600	11.446	11.12	11.366	
0+650	11.41	11.088	11.317	
0+700	11.324	11.041	11.352	
0+750	11.235	10.991	11.393	
0+800	11.194	10.915	11.247	
0+850	11.149	10.843	11.102	
0+900	11.19	10.889	11.121	
0+950	11.016	10.702	10.914	
1+000	11.14	10.76	10.997	
1+50	11.324	10.945	11.181	
1+100	11.494	11.118	11.362	
1+150	11.585	11.215	11.454	
1+200	11.686	11.282	11.552	
1+250	11.601	11.245	11.499	
1+270	11.519	11.192	11.442	

Road No. Y19		Road Length:	Road Type: B	
Road W: 8 m		680m	Median W:	
Left Shoulder W: 3.5m			Right Shoulder W:3.5m	
Stations	Left Elevation	Center Elevation	Right Elevation	Remarks
0+00	11.047	11.006	11.048	
0+50	10.915	10.913	10.866	
0+100	10.784	10.822	10.69	
0+150	10.84	10.832	10.738	
0+200	10.897	10.85	10.792	
0+250	10.875	10.881	10.864	
0+300	10.852	10.912	10.932	
0+350	10.86	10.915	10.951	
0+400	10.862	10.923	10.97	
0+450	10.911	10.967	11.026	
0+500	11.099	11.012	10.957	
0+550	11.07	11.049	11.186	
0+600	11.189	11.09	11.273	
0+650	11.252	11.108	11.251	
0+680	11.325	11.141	11.233	

SAMAWAH PROMENADE DEVELOPMENT PROJECT BENCH MARKS DETAILS

1. Location:

The locations of the two B.M.'s are decided in coordination and approval of Mr. Abdul Sahib Abdul Kareem, the director of Roads and Bridges Directorate in Samawah as follows:

1. The location of the first B.M. is in vicinity with Al-Shuhadaa Bridge within the limit of Cornish Street.
2. The location of the second B.M. is in vicinity of Samawah hospital's fence within the hospital boundary. This B.M. is at a distance of about 31.5m measured from the gate at the end of the Hospital Street.

2. Specifications:

The two B.M.'s are fixed on the locations specified above using concrete with square section of 200mm * 200mm and total depth of 800mm (700mm beneath NGL and 100mm over NGL). The steel section indicating the exact level of the B.M. is fixed 50mm above the face of concrete.

3. Levels:

Based on Mr. Abdul Sahib Abdul Kareem instruction, to use the level of the scale role of Samawah Water Recourses Department placed at 20th Revolution Bridge, as the reference level to the project, the following levels were indicated knowing that the level of the scale role is (10m).

- 3.1 The level at the top of the first B.M. is (11.099m).
- 3.2 The level at the top of the second B.M. is (9.695m).

4. Coordinates:

4.1 UTM system:

- | | | |
|----------------------------|----------|-----------|
| 4.1.1 For the first B.M.: | N 525579 | E 3465800 |
| 4.1.2 For the second B.M.: | N 526023 | E 3465057 |

4.2 DMS system:

4.2.1 For the first BM:

N 31 Degree 18 Minute 45.0 Second
E 45 Degree 17 Minute 52.0 Second

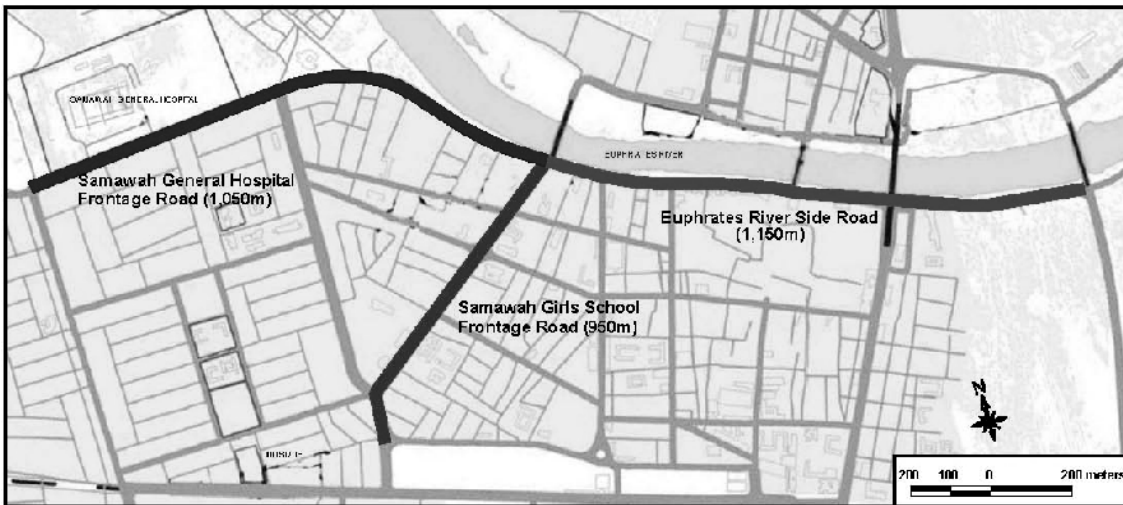
4.2.2 For the second BM:

N 31 Degree 19 Minute 08.7 Second
E 45 Degree 16 Minute 24.6 Second

Alignment and Cross Section survey of Samawah Promenade

April 2005

Location Map of Samawah Promenade Survey



Bench Mark Details for Survey

1. Location:

The locations of the two B.M.'s are decided in coordination and approval of Mr. Abdul Sahib Abdul Kareem, the director of Roads and Bridges Directorate in Samawah as follows:

The location of the first B.M. is in vicinity with Al-Shuhadaa Bridge within the limit of Cornish Street. The location of the second B.M. is in vicinity of Samawah hospital's fence within the hospital boundary. This B.M. is at a distance of about 31.5m measured from the gate at the end of the Hospital Street.

2. Specifications:

The two B.M.'s are fixed on the locations specified above using concrete with square section of 200mm * 200mm and total depth of 800mm (700mm beneath NGL and 100mm over NGL). The steel section indicating the exact level of the B.M. is fixed 50mm above the face of concrete.

3. Levels:

Based on Mr. Abdul Sahib Abdul Kareem instruction, to use the level of the scale role of Samawah Water Recourses Department placed at 20th Revolution Bridge, as the reference level to the project, the following levels were indicated knowing that the level of the scale role is (10m).

3.1 The level at the top of the first B.M. is (11.099m).

3.2 The level at the top of the second B.M. is (9.695m).

4. Coordinates:

4.1 UTM system:

The first B.M.:	N	525579	E	3465800
The second B.M.:	N	526023	E	3465057

4.2 DMS system:

The first BM:	N	31 Degree 18 Minute 45.0 Second
	E	45 Degree 17 Minute 52.0 Second
The second BM:	N	31 Degree 19 Minute 08.7 Second
	E	45 Degree 16 Minute 24.6 Second

Center Line Coordinate of Cornish Street

Station	U.T.M system		D.M.S System	
	North	East	North	East
0+000	528252	3464369	31°18'48".0	45°17'48.8"
0+010	528240	3464376	31°18'48".5	45°17'48.6"
0+020	528231	3464382	31°18'48".5	45°17'48.1"
0+030	528222	3464382	31°18'48".5	45°17'47.7"
0+040	528210	3464386	31°18'48".5	45°17'47.4"
0+050	528202	3464386	31°18'48".6	45°17'47.0"
0+060	528190	3464386	31°18'48".76	45°17'46.6"
0+070	521879	3464387	31°18'48".7	45°17'46.2"
0+080	528171	3463389	31°18'48".8	45°17'45.8"
0+090	528160	3464391	31°18'48".8	45°17'45.4"
0+100	528152	3464391	31°18'48".8	45°17'45.1"
0+110	528142	3464392	31°18'48".7	45°17'44.7"
0+120	528133	3464395	31°18'48".8	45°17'44.3"
0+130	528122	3463396	31°18'48".9	45°17'43.9"
0+140	528112	3464398	31°18'49".0	45°17'43.6"
0+150	528102	3464399	31°18'49".0	45°17'43.2"
0+160	528093	3464399	31°18'49".0	45°17'42.8"
0+170	528084	3464399	31°18'49".3	45°17'42.5"
0+180	528073	3464399	31°18'49".2	45°17'42.1"
0+190	528063	3463400	31°18'49".1	45°17'41.7"
0+200	528023	3464401	31°18'49".3	45°17'41.3"
0+210	528042	3464403	31°18'49".2	45°17'40.9"
0+220	528031	3464403	31°18'49".2	45°17'40.6"
0+230	528022	3464405	31°18'49".3	45°17'40.2"
0+240	528012	3464407	31°18'49".5	45°17'39.8"
0+250	528002	3464409	31°18'49".4	45°17'39.4"
0+260	527994	3464411	31°18'49".5	45°17'39.0"
0+270	527983	3464412	31°18'49".5	45°17'38.7"
0+280	527974	3464415	31°18'49".7	45°17'38.3"
0+290	527964	3464420	31°18'49".7	45°17'38.0"
0+300	527954	3464423	31°18'49".8	45°17'37.2"
0+310	527944	3464426	31°18'49".9	45°17'37.2"
0+320	527934	3464429	31°18'50".1	45°17'36.9"
0+330	527926	3464433	31°18'50".2	45°17'36.5"
0+340	527914	3464434	31°18'50".2	45°17'36.1"
0+350	527906	3464437	31°18'50".3	45°17'35.8"
0+360	527897	3464439	31°18'50".4	45°17'35.5"
0+370	527887	3464443	31°18'50".5	45°17'35.1"
0+380	527878	3464446	31°18'50".7	45°17'34.7"
0+390	527868	3464447	31°18'50".7	45°17'34.4"
0+400	527849	3464453	31°18'50".9	45°17'34.0"
0+410	527849	3464455	31°18'50".9	45°17'33.6"
0+420	527839	3464463	31°18'51".2	45°17'33.2"
0+430	527828	3464462	31°18'51".21	45°17'32.9"
0+440	527821	3464465	31°18'51".2	45°17'32.6"
0+450	527812	3464470	31°18'51".45	45°17'32.2"
0+460	527802	3464473	31°18'51".5	45°17'31.9"
0+470	527794	3464476	31°18'51".6	45°17'31.5"
0+480			Ander the bridge	
0+490	527760	3464482	31°18'51".8	45°17'30.6"
0+500	527760	3464482	31°18'51".7	45°17'30.3"
0+510	527754	346483	31°18'51".8	45°17'30.1"
0+520	527745	3464486	31°18'51".9	45°17'29.1"
0+530	527736	3464488	31°18'52".1	45°17'29.3"
0+540	527725	3464492	31°18'52".4	45°17'28.8"
0+550	527716	3464496	31°18'52".4	45°17'28.6"
0+560	527706	3464501	31°18'52".4	45°17'28.0"
0+570	527699	3464502	31°18'52".5	45°17'27.9"
0+580	527687	3464508	31°18'52".6	45°17'27.6"
0+590	527678	3464514	31°18'52".8	45°17'27.1"
0+600	527670	3464513	31°18'52".8	45°17'26.9"
0+610	527663	3464518	31°18'53".1	45°17'26.7"
0+620	527652	3464521	31°18'53".1	45°17'26.1"
0+630	527645	3464657	31°18'53".3	45°17'25.9"
0+640	527633	3464529	31°18'53".3	45°17'25.5"
0+650	527624	3464533	31°18'53".4	45°17'25.0"
0+660	527613	346437	31°18'53".56	45°17'24.9"
0+670	527604	3464542	31°18'53".5	45°17'24.4"

Station	U.T.M system		D.M.S System	
	North	East	North	East
0+680	527594	3464544	31°18'53".8	45°17'23.9"
0+690	527585	3464550	31°18'54".0	45°17'23.7"
0+700	527576	3464556	31°18'54".2	45°17'23.3"
0+710	527565	3464559	31°18'54".3	45°17'22.9"
0+720	527558	3464563	31°18'54".63	45°17'22.7"
0+730	527548	3464568	31°18'54".7	45°17'22.3"
0+740	527540	3454572	31°18'54".8	45°17'21.9"
0+750	527530	3464577	31°18'54".9	45°17'21.6"
0+760	527523	3464578	31°18'54".9	45°17'21.3"
0+770	527513	3464583	31°18'55".0	45°17'20.9"
0+780	527502	3464586	31°18'55".2	45°17'20.5"
0+790	527494	346590	31°18'55".3	45°17'20.2"
0+800	527482	3464593	31°18'55".3	45°17'19.8"
0+810	527473	3464590	31°18'55".5	45°17'19.5"
0+820	527465	3464600	31°18'55".7	45°17'19.1"
0+830	527456	3464602	31°18'55".8	45°17'18.7"
0+840	527446	3464605	31°18'55".9	45°17'18.3"
0+850	527436	3464610	31°18'56".0	45°17'18.0"
0+860	527427	3464615	31°18'56".1	45°17'17.8"
0+870	527419	3464617	31°18'56".2	45°17'17.3"
0+880	527409	3464620	31°18'56".3	45°17'17.0"
0+890	527402	3464622	31°18'56".4	45°17'16.8"
0+900	527391	3464625	31°18'56".6	45°17'16.6"
0+910	527381	3464627	31°18'56".7	45°17'16.2"
0+920	527371	3464629	31°18'56".7	45°17'15.6"
0+930	527362	3464633	31°18'56".8	45°17'15.3"
0+940	527353	3464638	31°18'56".9	45°17'14.9"
0+950	527345	3464639	31°18'57".0	45°17'14.6"
0+960	527334	3464642	31°18'57".0	45°17'14.2"
0+970	527322	3464647	31°18'57".1	45°17'13.7"
0+980	527312	3464650	31°18'57".1	45°17'13.4"
0+990	527303	3464653	31°18'57".3	45°17'13.0"
1+000	527294	3464654	31°18'57".5	45°17'12.7"
1+010	527286	3464657	31°18'57".6	45°17'12.5"
1+020	527275	3464660	31°18'57".6	45°17'12.1"
1+030	527267	3464665	31°18'57".8	45°17'11.7"
1+040	527258	3464667	31°18'57".9	45°17'11.3"
1+050	527251	3464673	31°18'58".0	45°17'11.0"
1+060	527240	3464675	31°18'58".1	45°17'10.6"
1+070	527229	3464678	31°18'58".2	45°17'10.2"
1+080	527221	3464681	31°18'58".4	45°17'09.8"
1+090	527211	3464684	31°18'58".4	45°17'09.5"
1+100	527199	3464689	31°18'58".6	45°17'09.2"
1+110	527193	3464692	31°18'58".7	45°17'09.8"
1+120	5271183	3464695	31°18'58".8	45°17'09.5"
1+130	527174	3464698	31°18'58".9	45°17'08.2"
1+140	527165	6470234	31°18'59".0	45°17'07.8"
1+150	527155	3464707	31°18'59".1	45°17'07.3"
1+160	527144	3464712	31°18'59".3	45°17'07.0"
1+170	527135	3464716	31°18'59".4	45°17'06.6"
1+180	527127	3464717	31°18'59".6	45°17'06.3"
1+190	527118	3464721	31°18'59".6	45°17'06.1"
1+200	527109	3464726	31°18'59".8	45°17'05.7"
1+210	527098	3464731	31°18'59".9	45°17'05.3"
1+220	527089	3463736	31°19'00".1	45°17'04.9"
1+230	527082	3464740	31°19'00".2	45°17'04.7"
1+240	527073	3464745	31°19'00".4	45°17'04.3"
1+250	527065	3464750	31°19'00".6	45°17'03.9"
1+260	527056	3464757	31°19'00".8	45°17'03.7"
1+270	527048	3464762	31°19'00".9	45°17'03.3"
1+280	527037	3464768	31°19'01".2	45°17'03.0"
1+290	527029	3464771	31°19'01".3	45°17'02.8"
1+300	527021	3464779	31°19'01".14	45°17'02.3"
1+310	527013	3464782	31°19'01".7	45°17'02.1"
1+320	527004	3464789	31°19'01".96	45°17'01.7"
1+330	526995	3464797	31°19'01".9	45°17'01.3"
1+340	526987	3464799	31°19'02".2	45°17'01.1"

Center Line Coordinate of Girls School Street

Station	U.T.M system		D.M.S system	
	North	East	North	East
0+000	526985	3464791	31°19' 01.9"	45°17' 01.0"
0+010	526978	3464785	31°19' 01.7"	45°17' 01.8"
0+020	526472	3464778	31°19' 01.5"	45°17' 00.5"
0+030	526961	3464772	31°19' 01.3"	45°16' 81.3"
0+040	526954	3464766	31°19' 01.2"	45°16' 59.8"
0+050	526945	3464760	31°19' 00.9"	45°16' 59.5"
0+060	526935	3464754	31°19' 00.9"	45°16' 59.1"
0+070	526931	3464747	31°19' 00.5"	45°16' 58.8"
0+080	526926	3464741	31°19' 81.0"	45°16' 58.6"
0+090	526916	3464735	31°18' 81.0"	45°16' 58.4"
0+100	526907	3464730	31°18' 59.9"	45°16' 58.1"
0+110	526900	3464724	31°18' 59.7"	45°16' 57.8"
0+120	526892	3464719	31°18' 59.6"	45°16' 57.5"
0+130	526884	3463711	31°18' 81.6"	45°16' 59.8"
0+140	526876	3464704	31°18' 59.6"	45°16' 59.8"
0+150	526870	3464700	31°18' 58.9"	45°16' 59.6"
0+160	526862	3464694	31°18' 58.7"	45°16' 59.3"
0+170	526855	3464689	31°18' 58.5"	45°16' 59.1"
0+180	526848	3464684	31°18' 58.4"	45°16' 55.8"
0+190	526439	3464676	31°18' 81.58"	45°16' 55.1"
0+200	526830	3464669	31°18' 58.0"	45°16' 54.3"
0+210	526820	3464663	31°19' 57.8"	45°16' 54.3"
0+220	526813	3464657	31°18' 57.6"	45°16' 54.5"
0+230	526806	3464650	31°19' 57.4"	45°16' 54.2"
0+240	526800	3464644	31°18' 57.2"	45°16' 53.9"
0+250	526789	3464638	31°18' 57.1"	45°16' 52.3"
0+260	526771	3464630	31°18' 56.9"	45°16' 52.9"
0+270	526769	3464625	31°18' 56.7"	45°16' 52.8"
0+280	526765	3464621	31°18' 56.5"	45°16' 52.7"
0+290	526761	3464615	31°18' 56.3"	45°16' 52.4"
0+300	526753	3464609	31°18' 56.0"	45°16' 52.2"
0+310	5267544	3464661	31°18' 56.3"	45°16' 81.3"
0+320	526736	3464694	31°18' 55.6"	45°16' 51.5"
0+330	526727	3464589	31°18' 55.4"	45°16' 51.2"
0+340	526719	3464583	31°18' 55.2"	45°16' 50.9"
0+350	526711	3464577	31°18' 55.0"	45°16' 50.5"
0+360	526705	3464571	31°18' 54.8"	45°16' 50.4"
0+370	526794	3464565	31°18' 54.6"	45°16' 50.0"
0+380	526687	3464559	31°18' 54.4"	45°16' 49.7"
0+390	526680	3464553	31°18' 54.2"	45°16' 49.4"
0+400	526673	3464548	31°18' 54.1"	45°16' 81.1" 49
0+410	526665	3464542	31°18' 53.9"	45°16' 48.8"
0+420	526657	3464536	31°18' 53.5"	45°16' 48.5"
0+430	526650	3464530	31°18' 53.4"	45°16' 48.3"
0+440	526643	3464524	31°18' 53.2"	45°16' 48.0"
0+450	526635	3464517	31°18' 53.0"	45°16' 47.7"
0+460	526626	3464510	31°18' 52.8"	45°16' 47.4"
0+470	526618	3464505	31°18' 52.6"	45°16' 47.0"

Station	U.T.M system		D.M.S system	
	North	East	North	East
0+480	526610	3464500	31°18' 52.4"	45°16' 46.7"
0+490	526602	3464494	31°18' 52.2"	45°16' 46.1"
0+500	526594	3464486	31°18' 52.0"	45°16' 46.2"
0+510	526582	3464481	31°18' 51.8"	45°16' 45.8"
0+520	526578	3464475	31°18' 51.6"	45°16' 45.5"
0+530	526570	3464468	31°18' 51.4"	45°16' 45.3"
0+540	526562	3464462	31°18' 51.2"	45°16' 45.0"
0+550	526555	3464456	31°18' 51.1"	45°16' 44.7"
0+560	526547	3464450	31°18' 50.9"	45°16' 44.4"
0+570	526539	3464442	31°18' 50.7"	45°16' 44.1"
0+580	526530	3464438	31°18' 50.5"	45°16' 43.8"
0+590	526522	3464432	31°18' 50.3"	45°16' 43.5"
0+600	520515	3464425	31°18' 50.1"	45°16' 43.2"
0+610	526508	3464420	31°18' 49.9"	45°16' 42.9"
0+620	526501	3464415	31°18' 49.7"	45°16' 42.6"
0+630	526491	3464408	31°18' 49.5"	45°16' 42.4"
0+640	526484	3464401	31°18' 48.2"	45°16' 42.13"
0+650	526476	3464394	31°18' 49.0"	45°16' 41.7"
0+660	526468	3464387	31°18' 48.9"	45°16' 41.4"
0+670	526460	3464382	31°18' 48.7"	45°16' 41.1"
0+680	526453	3464376	31°18' 48.5"	45°16' 40.8"
0+690	526449	3464368	31°18' 48.2"	45°16' 40.6"
0+700	526439	3464362	31°18' 48.0"	45°16' 40.3"
0+710	526432	3464357	31°18' 47.8"	45°16' 40.0"
0+720	526429	3464347	31°18' 47.5"	45°16' 39.9"
0+730	526426	3464336	31°18' 47.2"	45°16' 39.9"
0+740	526425	3464323	31°18' 47.2"	45°16' 39.9"
0+750	526425	3464313	31°18' 46.9"	45°16' 39.9"
0+760	526425	3464303	31°18' 46.5"	45°16' 39.8"
0+770	526423	3464290	31°18' 45.8"	45°16' 39.7"
0+780	526423	3464283	31°18' 45.4"	45°16' 39.7"
0+790	526423	3464270	31°18' 45.1"	45°16' 39.7"
0+800	526423	3464263	31°18' 44.8"	45°16' 39.7"
0+810	526423	3464252	31°18' 44.5"	45°16' 39.7"
0+820	526422	3464242	31°18' 44.2"	45°16' 39.6"
0+830	526421	3464233	31°18' 43.9"	45°16' 39.5"
0+840	526418	2464225	31°18' 43.6"	45°16' 39.5"
0+850	526415	3464216	31°18' 43.3"	45°16' 39.4"
0+860	526413	3464207	31°18' 42.9"	45°16' 39.3"
0+870	526411	3464197	31°18' 42.9"	45°16' 39.3"
0+880	526410	3464190	31°18' 42.3"	45°16' 39.2"
0+890	526407	3464179	31°18' 42.0"	45°16' 41.7"
0+900	526404	3464168	31°18' 38.3"	45°16' 39.0"
0+910	526402	3464158	31°18' 41.3"	45°16' 38.9"
0+920	526400	3464148	31°18' 41.00"	45°16' 38.9"
0+930	526397	3464138	31°18' 40.7"	45°16' 38.8"
0+940	526395	2464128	31°18' 40.3"	45°16' 38.7"
0+942.4	526394	3464124	31°18' 40.3"	45°16' 38.7"

Center Line Coordinate of Hospital Street

Station	U.T.M system		D.M.S system	
	North	East	North	East
0+000	526987	3465799	31°19'02.2"	45°17'01".1
0+010	526976	3464802	31°19'02.3"	45°17'00".2
0+020	526970	3464808	31°19'02.5"	45°17'00".4
0+030	526961	3464813	31°19'0.06"	45°17'01".1
0+040	526954	3464818	31°19'02.8"	45°16'59".8
0+050	526947	3464825	31°19'03.0"	45°16'59".5
0+060	526937	3464830	31°19'03.2"	45°16'59".2
0+070	526929	3464835	31°19'03.4"	45°16'58".8
0+080	526919	3464841	31°19'03.6"	45°16'58".5
0+090	526910	3464848	31°19'03.7"	45°16'58".2
0+100	526903	3464853	31°19'03.9"	45°16'57".9
0+110	526893	3464857	31°19'04.9"	45°16'57".5
0+120	526886	3464864	31°19'04.3"	45°16'57".2
0+130	526878	3464871	31°19'04.6"	45°16'57".0
0+140	526871	3464876	31°19'04.7"	45°16'56".8
0+150	526856	3464884	31°19'04.9"	45°16'56".5
0+160	526857	3464891	31°19'05.2"	45°16'56".1
0+170	526849	3464899	31°19'05.4"	45°16'55".8
0+180	526842	3464904	31°19'05.4"	45°16'55".7
0+190	526833	3464913	31°19'05.9"	45°16'55".3
0+200	526826	3464920	31°19'06.0"	45°16'55".1
0+210	526821	3464926	31°19'06.3"	45°16'54".8
0+220	526813	3464934	31°19'06.5"	45°16'54".4
0+230	526806	3464942	31°19'06.3"	45°16'54".2
0+240	526800	3464950	31°19'07.1"	45°16'54".0
0+250	526793	3464956	31°19'07.3"	45°16'53".7
0+260	526786	3464965	31°19'07.6"	45°16'53".5
0+270	526779	3464970	31°19'07.8"	45°16'53".3
0+280	526773	3464979	31°19'08.0"	45°16'53".1
0+290	526766	3464985	31°19'08.3"	45°16'52".8
0+300	526761	3464993	31°19'08.5"	45°16'52".5
0+310	526745	3465004	31°19'08.8"	45°16'52".3
0+320	526745	3465014	31°19'08.9"	45°16'52".9
0+330	526748	3465018	31°19'09.3"	45°16'51".8
0+340	526733	3465024	31°19'09.2"	45°16'51".5
0+350	526728	3465033	31°19'09.7"	45°16'51".3
0+360	526722	3465039	31°19'10.1"	45°16'51".0
0+370	526709	3465045	31°19'10.3"	45°16'50".7
0+380	526707	3465055	31°19'10.10.5"	45°16'50".5
0+390	526702	3465061	31°19'10.9"	45°16'50".3
0+400	526696	3465070	31°19'10.9"	45°16'50".2
0+410	526687	3465073	31°19'11.1"	45°16'49".8
0+420	526680	3465080	31°19'11.2"	45°16'49".4
0+430	526675	3465084	31°19'11.5"	45°16'49".2
0+440	526664	3465089	31°19'11.6"	45°16'48".9
0+450	526653	3465095	31°19'11.8"	45°16'48".6
0+460	526646	3465100	31°19'12.1"	45°16'48".4
0+470	526640	3465101	31°19'12.1"	45°16'48".0
0+480	526632	3465107	31°19'12.3"	45°16'48".5
0+490	526625	3465112	31°19'12.3"	45°16'47".4
0+500	526616	3465114	31°19'12.4"	45°16'48".9
0+510	526607	3465118	31°19'12.7"	45°16'46".6
0+520	526596	3465119	31°19'12.7"	45°16'46".3
0+530	526589	3465124	31°19'12.8"	45°16'46".0
0+540	526579	3465127	31°19'12.9"	45°16'45".7
0+550	526573	3465131	31°19'13.0"	45°16'45".4
0+560	526562	3465123	31°19'13.0"	45°16'45".1
0+570	526553	3465133	31°19'13.0"	45°16'44".6
0+580	526543	3465136	31°19'13.0"	45°16'44".3
0+590	526532	3465136	31°19'13.0"	45°16'43".8
0+600	526523	3465140	31°19'13.0"	45°16'43".7
0+610	526513	3465140	31°19'13.0"	45°16'43".2
0+620	526501	3465141	31°19'13.0"	45°16'42".7
0+630	526494	3465143	31°19'13.0"	45°16'42".5
0+640	526481	3465144	31°19'13.0"	45°16'42".0
0+650	526475	3465145	31°19'13.0"	45°16'41".8
0+660	526464	3465145	31°19'13.0"	45°16'41".3
0+670	526451	3465142	31°19'13.0"	45°16'41".0
0+680	526443	3465146	31°19'13.0"	45°16'40".6

Station	U.T.M system		D.M.S system	
	North	East	North	East
0+690	526434	3465146	31°19'13.0"	45°16'40".1
0+700	526427	3465145	31°19'13.0"	45°16'40".0
0+710	526417	3465144	31°19'13.0"	45°16'39".6
0+720	526407	3465143	31°19'13.0"	45°16'39".3
0+730	526397	3465142	31°19'13.0"	45°16'39".9
0+740	526387	3465141	31°19'13.3"	45°16'38".6
0+750	526377	3465140	31°19'13.2"	45°16'38".2
0+760	526367	3465136	31°19'13.1"	45°16'37".7
0+770	526375	3465138	31°19'13.1"	45°16'37".3
0+780	526347	3465137	31°19'13.0"	45°16'37".1
0+790	526337	3465136	31°19'13.0"	45°16'36".7
0+800	526327	3465125	31°19'13.0"	45°16'36".3
0+810	526318	4365133	31°19'12.9"	45°16'35".8
0+820	526308	3465132	31°19'12.9"	45°16'35".4
0+830	526298	3465131	31°19'12.9"	45°16'35".1
0+840	526288	3465129	31°19'12.9"	45°16'34".8
0+850	526278	3465128	31°19'12.9"	45°16'34".4
0+860	526268	3465127	31°19'12.9"	45°16'33".9
0+870	526258	3465126	31°19'12.9"	45°16'33".5
0+880	526248	3465125	31°19'12.9"	45°16'33".1
0+890	526238	3465124	31°19'12.9"	45°16'32".7
0+900	526228	3465123	31°19'12.9"	45°16'32".3
0+910	526218	346521	31°19'12.9"	45°16'32".0
0+920	526209	3465120	31°19'12.9"	45°16'31".6
0+930	526199	3465119	31°19'12.8"	45°16'31".2
0+940	526189	3465118	31°19'12.5"	45°16'30".8
0+950	526179	3465117	31°19'12.5"	45°16'30".5
0+960	526169	3465116	31°19'12.4"	45°16'30".1
0+970	526159	3465115	31°19'12.4"	45°16'29".8
0+980	526149	3465114	31°19'12.4"	45°16'29".4
0+990	526139	3465113	31°19'12.4"	45°16'29".0
1+000	526129	3465112	31°19'12.3"	45°16'28".6
1+010	526120	3465110	31°19'12.3"	45°16'28".3
1+020	526110	3465109	31°19'12.3"	45°16'27".9
1+030	526100	3465106	31°19'12.2"	45°16'27".5
1+040	526090	3465107	31°19'12.2"	45°16'27".1
1+050	526080	3465106	31°19'12.2"	45°16'27".7
1+060	526070	3465104	31°19'12.1"	45°16'26".3
1+070	526060	3465103	31°19'12.1"	45°16'26".0
1+080	526050	3465102	31°19'12.1"	45°16'25".6
1+090	526040	3465101	31°19'12.0"	45°16'25".2
1+100	526030	3465100	31°19'12.0"	45°16'24".8
1+110	526021	3465099	31°19'12.0"	45°16'24".5
1+120	526011	3465098	31°19'11.9"	45°16'24".1
1+130	526001	3465097	31°19'11.9"	45°16'23".7
1+140	525991	3465096	31°19'11.9"	45°16'23".3
1+150	525981	3465094	31°19'11.8"	45°16'23".9
1+160	525971	3465093	31°19'11.8"	45°16'22".6
1+170	525961	3465092	31°19'11.8"	45°16'22".2
1+180	525951	3465091	31°19'11.7"	45°16'21".8
1+190	525941	3465090	31°19'11.7"	45°16'21".4
1+200	525931	3465089	31°19'11.7"	45°16'21".1
1+210	525922	3465087	31°19'11.6"	45°16'20".7
1+220	525912	3465086	31°19'11.6"	45°16'20".4
1+230	525902	3465085	31°19'11.6"	45°16'20".0
1+240	525892	3465084	31°19'11.5"	45°16'19".7
1+250	525882	3465083	31°19'11.5"	45°16'19".3
1+260	525872	3465082	31°19'11.5"	45°16'18".9
1+270	525862	3465081	31°19'11.4"	45°16'18".6
1+280	525852	3465080	31°19'11.4"	45°16'18".3
1+290	525842	3465079	31°19'11.4"	45°16'18".0
1+300	525832	3465078	31°19'11.3"	45°16'17".4
1+310	525822	3465077	31°19'11.3"	45°16'16".8
1+320	525812	3465075	31°19'11.3"	45°16'17".4
1+330	525802	3465074	31°19'11.2"	45°16'17".1
1+340	525792	3465073	31°19'11.2"	45°16'16".7
1+350	525782	3465072	31°19'11.2"	45°16'16".3
1+360	525772	3465072	31°19'11.2"	45°16'15".1
1+370	525762	3465071	31°19'11.2"	45°16'14".6

Elevation of Cross Section along Cornish Street-(1)

Station	Curb. L	L1	CL	L2	Curb. R	Fenece		Remark
0+000	Non	11.618	11.698	11.921	Non			
0+010	11.983	11.625	11.628	11.696	Non			
0+020	Non	11.741	11.653	11.685	12.011			
0+030	11.979	11.699	11.568	11.600	11.951			
0+040	12.005	11.745	11.605	11.599	11.923			
0+050	12.004	11.745	11.638	11.596	11.856			
0+060	12.021	11.801	11.568	11.500	11.838			
0+070	12.027	11.753	11.555	11.455	11.798			
0+080	12.011	11.725	11.565	11.518	11.823			
0+090	12.000	11.763	11.555	11.503	11.783			
0+100	12.035	11.745	11.563	11.518	11.818			
0+110	12.053	11.751	11.571	11.482	11.811			
0+120	12.048	11.733	11.596	11.546	11.828			
0+130	12.030	11.703	11.646	11.568	11.856			
0+140	11.978	11.713	11.693	11.624	11.937			
0+150	12.103	11.751	11.732	11.697	12.028			
0+160	12.141	11.825	11.693	11.768	12.106			
0+170	12.156	11.881	11.804	11.832	12.128			
0+180	12.159	11.896	11.839	11.805	12.151			
0+190	12.148	11.877	11.816	11.826	12.151			
0+200	12.135	11.853	11.805	11.816	12.129			
0+210	12.176	11.908	11.813	11.815	12.080			
0+220	12.231	11.954	11.808	11.818	12.064			
0+230	12.210	11.973	11.819	11.779	12.048			
0+240	12.180	11.915	11.807	11.813	12.064			
0+250	12.157	11.890	11.759	11.748	12.068			
0+260	12.111	11.826	11.686	11.696	12.010			
0+270	12.012	11.748	11.605	11.642	11.980			
0+280	Non	11.512	11.512	11.560	11.885			
0+290	11.714	11.512	11.412	11.408	11.737			
9+300	11.601	11.414	11.323	11.282	11.583			
0+310	11.520	11.319	11.241	11.192	11.500			
0+320	11.419	11.212	11.204	11.204	11.472			
0+330	11.325	11.136	11.140	11.080	11.477			
0+340	11.307	11.105	11.070	11.005	Non	11.226		
0+350	Non	11.043	11.023	10.952	11.228	11.265		
0+360	11.120	11.995	10.932	10.862	11.140	11.226		
0+370	Non	10.930	10.848	10.786	10.065	11.230		
0+380	11.233	10.863	10.848	10.762	10.037	Non		
0+390	11.222	10.878	10.837	10.795	10.995	11.215		
0+400	11.175	10.819	10.750	10.735	10.964	11.215		
0+410	11.964	10.734	10.713	10.715	10.948	11.215		
0+420	11.980	10.728	10.720	10.640	10.948	11.218		
0+430	Non	10.687	10.711	10.692	10.908	11.217		
0+440	10.911	10.609	10.680	10.565	10.948	11.229		
0+450	10.814	10.442	10.295	10.181	10.940	11.217		
0+460	10.660	10.320	10.138	9.995	10.888	11.225		
0+470	10.458	10.095	9.972	9.746	10.800	10.226		
0+480	10.422	10.022	9.982	9.711	10.786	11.226		
0+490	10.426	9.958	9.850	9.774	10.763	11.222		

Station	Curb. L	L1	L2	C.L	R2	R1	Curb. R	Fenece	Remark
0+500	Non	Non	Non	10.995	Non	9.891	10.791	11.226	End of con. bridge
0+510	10.801	10.765	10.483	11.002	10.685	10.103	10.840	10.946	
0+520	10.784	10.761	Non	10.599 pav	Non	10.454	10.866	11.208	
0+530	10.931	10.791	10.688	10.906	10.651	10.681	10.981	11.227	
0+540	10.928	10.728	10.634	10.920	10.653	10.733	10.944	11.471	
0+550	10.926	10.726	10.629	10.905	10.638	10.741	10.944	11.471	
0+560	10.936	10.738	10.682	10.923	10.651	10.766	10.976	11.535	
0+570	10.944	10.772	10.677	10.905	10.663	10.751	10.968	11.538	
0+580	10.991	10.796	10.644	10.908	10.638	10.763	10.965	11.509	
0+590	10.997	10.767	Non	10.601	Non	10.784	10.983	11.504	
0+600	10.997	10.758	Non	10.646	Non	10.775	10.971	11.546	
0+610	10.969	10.691	10.681	10.907	10.652	10.786	10.968	11.511	
0+620	10.994	10.719	10.651	10.894	10.717	10.759	10.998	11.534	
0+630	10.991	10.740	10.660	10.902	10.686	10.747	10.947	11.479	
0+640	10.974	10.779	10.656	10.909	10.684	10.794	10.979	11.499	
0+650	10.947	10.754	10.671	10.905	10.683	10.784	10.988	11.499	
0+660	10.956	10.759	10.691	10.944	10.751	10.705	11.001	11.504	
0+670	10.016	10.755	10.724	10.954	10.694	10.758	10.948	11.503	

Elevation of Cross Section along Cornish Street-(2)

Station	Curb. L	L1	CL	R1	Curb. R	Fence		Remark
0+680	10.954	10.749	10.699	10.757	10.944	11.502		
0+690	11.120	10.725	10.726	10.760	11.006	11.524		
0+700	11.111	10.800	10.824	10.869	11.050	11.529		
0+710	11.061	10.849	10.876	10.929	11.112	11.539		
0+720	11.052	10.829	10.891	10.961	11.143	11.576		
0+730	Non	10.813	10.884	10.942	11.142	11.464		
0+740	11.048	10.861	10.903	10.961	11.191	11.471		
0+750	11.032	10.838	10.893	10.962	11.168	11.426		
0+760	11.032	11.838	10.902	10.968	11.125	11.370		
0+770	11.039	10.828	10.905	10.967	11.138	11.323		
0+780	11.041	10.828	10.881	10.966	11.145	11.270		
0+790	11.022	10.818	10.876	10.976	11.170	11.280		
0+800	11.005	11.790	10.912	10.960	11.153	11.290		
0+810	11.005	10.823	10.931	10.936	11.147	Non		
0+820	11.055	10.848	10.953	10.937	11.162	Non		
0+830	11.070	10.858	10.963	10.991	11.212	11.351		
0+840	11.078	10.848	10.986	11.043	11.238	11.358		
0+850	11.078	10.848	10.988	11.040	11.208	11.348		
0+860	11.038	10.807	10.978	11.031	11.198	11.307		
0+870	11.038	10.817	10.960	10.978	11.168	11.305		
0+880	11.013	10.838	10.953	10.983	11.173	11.303		
0+890	11.013	10.813	10.873	10.963	11.203	11.303		
0+900	11.003	10.823	11.883	10.903	11.183	11.333		
0+910	11.003	10.777	10.883	10.908	11.188	11.333		
0+920	11.063	10.833	10.913	10.943	11.211	11.335		
0+930	10.113	10.843	10.903	10.975	11.211	11.353		
0+940	11.051	10.861	10.904	10.945	11.213	11.320		
0+950	11.001	10.881	10.901	10.955	11.203	11.300		
0+960	10.963	10.807	10.878	10.953	11.213	11.340		
0+970	10.941	10.765	10.893	10.975	11.238	11.305		
0+980	10.922	10.763	10.883	10.003	11.283	11.310		
0+990	10.933	10.735	10.884	10.983	11.231	11.314		
1+000	10.940	10.772	10.857	10.971	11.251	11.314		
1+010	10.918	10.738	10.858	10.943	11.203	11.261		
1+020	Non	10.735	10.820	10.968	11.188	11.277		
1+030	Non	10.753	10.781	10.878	11.213	11.283		
1+040	11.073	10.843	10.797	10.891	11.210	11.290		
1+050	10.976	10.830	10.758	10.785	11.165	11.277		
1+060	11.198	10.883	10.766	10.738	11.141	11.282		
1+070	11.180	10.841	10.763	10.745	11.143	11.341		
1+080	Non	10.898	10.760	10.738	10.943	11.340		
1+090	10.965	10.975	10.825	10.765	11.095	Non		
1+100	11.005	10.915	10.765	10.675	11.075	Non		
1+110	11.075	10.935	10.795	10.740	11.045	11.335		
1+120	11.025	10.925	10.765	10.715	10.045	11.310		
1+130	11.095	10.945	10.795	10.715	11.045	11.296		
1+140	11.140	10.945	10.805	10.855	11.050	11.288		
1+150	11.080	10.975	10.785	10.795	11.070	11.286		
1+160	11.105	10.975	10.790	10.765	11.105	11.280		
1+170	11.107	10.950	10.800	10.765	11.080	11.278		
1+180	11.270	10.945	10.825	10.755	11.100	11.273		
1+190	11.203	10.910	10.830	10.771	10.065	Non		
1+200	Non	10.900	10.820	10.800	11.078	Non		
1+210	11.237	10.950	10.845	10.795	11.140	Non		
1+220	Non	10.940	10.830	10.775	11.085	11.230		

Station	Side Walk	Curb. L	L1	C.L	R1	Curb. R	Side Walk	Fence	Remark
1+230	11.090	11.235	10.990	10.850	10.755	10.956	11.107	11.221	
1+240	11.170	11.239	10.985	10.855	10.755	10.957	11.100	11.228	
1+250	11.105	11.250	11.005	10.862	10.800	11.014	11.155	11.232	
1+260	11.145	11.256	11.015	10.885	10.805	11.023	11.085	11.255	
1+270	11.135	11.265	11.045	10.880	10.807	11.022	11.075	11.305	
1+280	11.150	11.265	11.030	10.907	10.817	11.032	11.090	11.315	
1+290	11.165	11.270	11.045	10.905	10.835	11.045	11.070	11.328	
1+300	11.165	11.281	11.040	10.926	10.815	11.056	11.205	11.320	
1+310	11.192	11.342	11.067	10.927	10.817	11.045	11.127	11.317	
1+320	11.202	11.344	11.097	10.962	10.872	11.056	11.125	11.311	
1+330	Non	Non	11.125	10.995	10.892	Non	Non	Non	

Station	Kerb L	L1	C.L	R1	Kerb R	Side Walk	Fence	Remark
1+340	Non	11.130	10.990	10.857	11.062	11.212	11.297	

Elevation of Cross Section along Girls School Street –(1)

Station	L	L1	CL.L	L2	Gutter L	Curb. L	C.L	Curb. R	Gutter R	R2	CLR	R1	R	Remark
0+000	11.226	11.083					11.073 Pavement					11.11	11.288	
0+010	11.289	11.121					11.061 Pavement					11.07	11.261	
0+020	11.313	11.163					11.033 Pavement					11.03	11.23	
0+030	11.301	11.12					11.021 Pavement					11.025	11.22	
0+040	11.298	11.095	11.035	10.97	10.922	10.181	11.182	10.18	10.89	10.94	10.982	11.021	11.212	
0+050	11.281	11.085	11.02	10.96	10.898	11.186	11.112	11.177	10.879	10.93	11.009	11.015	11.18	
0+060	11.275	11.075	11.005	10.94	10.898	11.188	11.005	11.17	10.87	10.92	11.048	11.002	11.135	
0+070	11.26	11.05	10.981	10.93	10.885	11.169	11.051	11.166	10.87	10.92	11.02	11.011	11.212	
0+080	11.235	11.03	10.965	10.92	10.868	11.16	11.04	11.16	10.868	10.92	10.995	11.015	11.255	
0+090	11.231	11.011	10.951	10.91	10.864	11.159	10.99	11.135	10.846	10.88	10.975	11.01	11.231	
0+100	11.255	10.998	10.938		Non	Non	10.895	Non	Non	Non	10.995	11.012	11.214	
0+110	11.221	10.998	10.938	10.91	10.859	11.157	10.901	11.124	10.821	10.86	10.925	10.978	11.16	
0+120	11.19	10.995	10.94	10.91	10.855	11.155	10.908	11.11	10.808	10.85	10.895	10.954	11.098	
0+130	11.158	10.954	10.918	10.98	10.817	11.137	10.931	11.099	10.798	10.85	10.985	10.933	11.098	
0+140	11.108	10.928	10.899	10.86	11.806	11.095	10.954	11.085	10.772	10.86	10.875	10.918	11.096	
0+150	Non	11.915	10.872	10.83	10.787	11.082	10.954	11.072	10.768	10.83	10.86	10.895	Non	
0+160	11.147	10.901	10.862	10.82	10.767	11.052	10.955	11.052	10.755	10.81	10.845	10.815	11.012	
0+170	11.132	10.899	10.851	10.8	10.758	11.045	10.95	11.045	10.736	10.78	10.832	10.814	10.995	
0+180	11.117	10.882	10.845	10.79	10.738	11.02	10.813	11.02	10.698	10.73	10.792	10.815	10.98	
0+190	11.12	10.86	10.81	10.76	10.707	11.004	10.805	11.004	10.691	10.7	10.78	10.8	10.962	
0+200	11.122	10.839	10.779	10.74	10.685	10.97	10.798	10.97	10.668	10.69	10.765	10.779	10.947	
0+210	11.072	10.82	10.751	10.72	10.68	10.96	10.796	10.96	10.689	10.72	10.742	10.77	10.921	
0+220	11.038	10.792	10.718	10.7	10.649	10.939	10.792	10.939	10.72	10.77	10.718	10.768	10.892	
0+230	11.001	10.761	10.691	10.68	10.635	10.887	10.775	10.887	10.686	10.71	10.71	10.768	10.9	
0+240	10.978	10.719	10.66	10.64	10.6	10.858	10.765	10.858	10.618	10.66	10.708	10.768	10.902	
0+250	10.664	10.564					10.621 pavement						10.678	RA
0+260	Non	10.564		10.61			10.86 Round side walk							RA
0+270	Non	10.619	10.547	10.61		10.874	Non	10.874		10.58	10.537	10.533	Non	RA
0+280	Non	10.656		10.58		10.864	Non	10.864		10.58		10.527	Non	RA
0+290	10.679	10.609					10.579 pavement					10.599	10.737	RA
0+300	10.691	10.554	10.494	10.54	10.492	10.717	10.589	10.717	10.494	10.54	10.576	10.654	10.757	
0+310	10.645	10.501	10.472	10.5	10.458	10.727	10.551	10.728	10.466	10.5	10.535	10.61	10.711	
0+320	10.574	10.496	10.464	10.44	10.388	10.759	10.518	10.764	10.409	10.46	10.504	10.554	10.689	
0+330	10.601	10.482	10.461	10.43	10.379	10.788	10.535	10.798	10.408	10.46	10.501	10.551	10.703	
0+340	Non	10.477	10.458	10.42	10.372	10.809	10.571	10.816	10.407	10.46	10.491	10.566	Non	
0+350	10.601	10.442	10.445	10.42	10.367	10.814	10.521	10.828	10.406	10.46	10.495	10.568	10.772	
0+360	10.618	10.423	10.434	10.42	10.359	10.829	10.487	10.829	10.407	10.46	10.498	10.571	10.829	
0+370	10.635	10.42	10.425	10.41	10.358	10.778	10.488	10.803	10.398	10.43	10.495	10.496	10.77	
0+380	10.653	10.418	10.418	10.4	10.354	10.761	10.491	10.778	10.388	10.42	10.487	10.496	Non	
0+390	10.601	10.41	10.388	10.39	10.331	10.705	10.479	10.727	10.358	10.41	10.458	10.478	10.701	
0+400	10.546	10.391	10.369	10.36	10.311	10.679	10.464	10.679	10.338	10.4	10.447	10.447	10.679	
0+410	10.53	10.378	10.372	10.35	10.307	10.696	10.46	10.698	10.302	10.35	10.421	10.431	10.667	
0+420	10.517	10.363	10.377	10.34	10.29	10.662	10.458	10.719	10.286	10.3	10.399	10.412	10.652	
0+430	10.491	10.361				Non	Non	10.301 Pavement	Non	Non		10.407	10.61	
0+440	10.471	10.358	10.341	10.33	10.276	10.517	10.414	10.517	10.281	10.33	10.366	10.397	10.533	
0+450	10.47	10.301	10.321	10.31	10.272	10.517	10.383	10.517	10.271	10.32	10.341	10.371	10.51	
0+460	10.468	10.268	10.304	10.29	10.267	10.516	10.361	10.516	10.255	10.31	10.328	10.346	Non	
0+470	10.491	10.321	10.331	10.32	10.279	10.515	10.366	10.516	10.246	10.29	10.32	10.345	10.53	
0+480	10.521	10.362	10.355	10.34	10.288	10.515	10.37	10.515	10.255	10.28	10.285	10.346	10.53	
0+490	10.551	10.371	10.371	10.33	10.282	10.532	10.361	10.525	10.552	10.31	10.321	10.371	10.561	
0+500	10.588	10.396	10.389	10.33	10.278	10.539	10.352	10.534	10.268	10.35	10.365	10.396	10.598	
0+510	10.621	10.411	10.395	10.34	10.29	10.551	10.391	10.538	10.268	10.38	10.4	10.425	10.582	
0+520	10.656	10.421	10.405	10.35	10.303	10.562	10.439	10.562	10.268	10.43	10.45		10.573	
0+530	10.661	10.435	10.427	10.37	10.313	10.57	10.49			10.43	10.501		10.58	
0+540	10.671	10.455	10.45	10.38	10.323	10.578	10.551			10.58	10.451		10.605	
0+550	10.634	10.442	10.437	10.39	10.333	10.582	10.501							
0+560	10.601	10.438	10.428	10.4	10.333	10.588	10.43				10.428		10.533	
0+570	10.605	10.32			Non	Non	10.38 Pavement							
0+580	10.611	10.428	10.432	10.38	10.328	10.594	10.549				10.418		10.669	
0+590	10.641	10.431	10.436	10.38	10.33	10.598	10.5							
0+600	10.67	10.435	10.443	10.38	10.328	10.601	10.405				10.45		10.643	
0+610	10.635	10.441	10.44	10.38	10.326	10.605	10.501							
0+620	10.605	10.451	10.435	10.39	10.323	10.607	10.514			10.61				
0+630	10.605	10.44	10.431	10.39	10.328	10.608	10.521							
0+640	10.605	10.435	10.422	10.38	10.332	10.608	10.553							
0+650	10.61	10.441	10.43	10.39	10.334	10.611	10.536							
0+660	10.621	10.463	10.44	10.4	10.343	10.612	10.516							
0+670	10.643	10.491	10.471	10.42	10.361	10.615	10.57							
0+680	10.676	10.526	10.49	10.45	10.382	10.623	10.618							
0+690	10.663	10.511					10.513 Pavement					10.491	10.557	

Elevation of Cross Section along Girls School Street –(2)

Station	L	L2	C.L L	L2	C.L	R2	C.L R	R1	Extra width	R	Remark
0+700	Non	10.623	Non	Non	10.520	Non	Non	10.541	Non	Non	
0+710	Non	10.348	Non	Non	10.513	Non	Non	10.611	Non	Non	
0+720	10.680	10.441	10.520	10.521	10.690	10.509	10.553	10.513	10.433	10.635	
0+730	10.707	10.458	10.574	10.574	10.674	10.553	10.564	10.541	10.420	10.593	
0+740	10.683	10.510	10.579	10.579	10.733	10.595	10.564	10.493	10.413	10.593	
0+750	10.719	10.518	10.613	10.613	10.763	10.595	10.518	10.494	10.411	10.582	
0+760	10.693	10.518	10.626	10.626	10.775	10.585	10.525	10.473	10.402	Non	
0+770	10.717	10.501	10.631	10.631	10.803	10.615	10.545	10.450	10.400	10.581	
0+780	10.757	10.518	10.590	10.590	10.838	10.633	10.534	10.434	10.352	10.565	
0+790	10.757	10.532	10.474	10.474	10.857	10.647	10.532	10.452	10.431	10.539	
0+800	10.673	10.474	10.502	10.602	10.681	10.634	10.520	10.481	10.448	10.528	
0+810	Non	10.451	10.537	10.607	10.858	10.631	10.560	10.493	10.445	10.75	
0+820	Non	10.468	10.565	10.637	10.863	10.649	10.585	10.518	10.418	10.8	
0+830	10.628	10.431	10.548	10.658	10.870	10.658	10.577	10.536	10.443	10.76	
0+840	10.620	10.420	10.571	10.647	10.851	10.639	10.537	10.468	Non	Non	
0+850	10.633	10.425	10.538	10.622	10.839	10.635	10.537	10.438		Non	
0+860	10.574	10.428	10.559	10.622	10.816	10.603	10.502	10.420		10.63	
0+870	10.692	10.416	10.538	10.583	10.806	10.587	10.478	10.420		10.65	
0+880	10.567	10.408	10.521	10.563	10.775	10.551	10.460	10.390		10.64	
0+890	10.579	10.380	10.483	10.592	10.802	10.561	10.447	10.383		10.62	
0+900	10.533	10.356	10.428	10.532	10.788	10.574	10.481	10.352		10.63	
0+910	10.568	10.331	10.395	10.510	10.725	10.533	10.440	10.341		10.54	
0+920	10.564	10.305	10.393	10.511	10.728	10.518	10.434	10.323		10.49	
0+930	10.495	10.315	10.390	10.463	10.663	10.474	10.385	10.323		10.5	
0+940	10.549	10.305	10.327	10.338	10.553	10.335	10.282	10.262		10.46	

Elevation of Cross Section along Hospital Street-(1)

Station	Curb. L	L1	C.L	R1	Curb. R	Side Walk	Fenece	Remark
0+000	Non	11.130	10.990	10.857	11.062	11.212	11.297	End of kornish street
0+010	11.382	11.162	10.982	10.877	11.074	11.212	11.300	
0+020	11.360	11.162	10.982	10.892	11.102	11.212	11.310	
0+030	11.352	11.167	10.982	10.881	11.104	11.240	11.299	
0+040	11.331	11.165	10.984	10.887	11.105	11.252	11.297	
0+050	11.322	11.184	10.017	10.890	11.135	11.282	11.295	
0+060	11.432	11.201	11.047	11.022	11.176	11.301	11.298	
0+070	11.447	11.222	11.067	11.012	11.198	11.316	11.299	
0+080	11.452	11.229	11.071	11.047	11.226	11.342	11.297	
0+090	11.461	11.227	11.082	11.054	11.254	11.357	11.297	
0+100	11.470	11.257	11.095	11.057	11.265	11.377	11.300	
0+110	11.473	11.248	11.108	11.072	11.266	11.360	11.301	
0+120	11.463	11.241	11.061	10.998	11.234	11.350	11.298	
0+130	11.445	11.225	11.063	11.036	11.243	11.333	11.295	
0+140	11.433	11.218	11.070	11.010	11.223	11.323	11.291	
0+150	11.440	11.213	11.089	11.003	11.232	11.275	11.278	
0+160	11.438	11.213	11.098	10.998	11.211	11.266	11.266	
0+170	Non	11.223	11.091	10.994	11.203	11.253	11.265	
0+180	11.446	11.213	11.136	10.997	11.216	11.278	11.266	

Station	Earth	Curb. L	L1	C.L	R1	Curb. R	Fenece	Remark
0+190		11.503	11.253	11.228	11.116	11.323	11.266	
0+200	11.316	11.523	11.293	11.277	11.136	11.378	11.265	
0+210	11.131	Non	11.230	11.250	11.138	11.353	11.265	
0+220		11.577	11.333	11.245	11.117	11.350	11.266	
0+230		11.543	11.413	11.253	11.163	11.341	11.265	
0+240		11.471	11.368	11.258	11.142	11.338	11.264	
0+250		11.581	11.340	11.238	11.110	11.343	11.265	
0+260		11.438	11.308	11.218	11.068	11.278	11.275	
0+270		11.442	11.308	11.215	11.045	11.248	11.280	
0+280		11.428	11.298	11.188	11.081	11.288	11.294	
0+290		11.378	11.248	11.143	11.058	11.261	11.293	
9+300		11.358	11.248	11.145	11.025	11.221	11.315	

Station	Curb. L	CL L	CL Barie	CL R	Curb. R	Fenece	Remark
0+310	11.308	11.141	11.328	11.018	11.210	11.210	Start of Barrier

Station	L	L1	CL L	L2	Curb. L	C.L bar.	Curb. R	R2	CL. R	R1	Extra width	R	Fence	
0+320	11.298	11.098	11.120	11.162	11.395	11.593	11.295							
0+330	11.295	11.108	11.014	11.133	11.367	11.543	11.298							
0+340	11.262	11.029	11.070	11.109	11.399	11.488	11.289	11.055	11.028	10.938		11.210	11.323	
0+350	11.202	10.996	10.998	11.025	11.256	11.415	11.277	11.058	11.107	11.920		11.213	11.333	
0+360	11.212	10.970	10.959	10.991	11.225	11.358	11.252	11.059	10.998	10.891		11.219	11.337	
0+370	11.158	10.975	10.970	10.973	11.203	11.341	11.202	11.042	10.981	10.881		11.195		
0+380	Non	10.972	10.951	10.928	11.162	11.298	11.221	11.021	10.965	10.834		11.202		
0+390	11.107	10.953	10.929	10.878	11.110	11.346	11.211	10.991	10.942	10.810		11.225		
0+400	11.125	10.915	10.903	10.838	11.107	11.223	11.203	10.981	10.938	10.792		11.118		
0+410	11.153	10.845	10.878	10.801	11.042	11.241	11.244	10.995	10.943	10.882		11.118		
0+420	11.162	10.856	10.879	10.784	11.021	11.236	11.190	10.986	10.905	10.891		11.083		
0+430	11.055	10.857	10.878	10.799	11.031	11.273	11.243	10.991	10.925	10.892		10.983		
0+440	11.072	10.811	10.838	10.804	11.042	11.247	11.232	10.958	10.846	10.730		11.074		
0+450	10.992	10.826	10.829	10.824	11.056	11.133	11.173	10.004	10.014	10.874	10.876	11.069		
0+460	Non	10.804	10.836	10.834	11.067	11.152	11.103	10.987	10.956	10.905	10.819	11.052		
0+470	10.901	10.687	10.766	10.778	11.021	11.044	11.931	10.942	10.969	10.922	10.829	11.129		
0+480	10.799	10.683	10.702	10.706	10.936	11.989	11.900	10.872	10.897	10.882	10.849	Non		
0+490	10.730	10.508	10.678	10.678	10.911	11.951	11.866	10.689	10.791	10.796	10.746	Non		
0+500	Non	10.644	10.652	10.652	10.899	11.042	11.865	10.660	10.769	10.775	10.751	10.849		
0+510	10.593	10.396	10.569	10.602	10.841	11.068	11.832	10.626	10.725	10.787	10.702	Non		
0+520	10.560	10.376	10.532	10.574	10.812	10.976	10.791	10.625	10.673	10.742	10.696	10.804		
0+530	10.674	10.373	10.488	10.537	10.772	10.814	10.763	10.602	10.672	10.706	10.672	10.715		
0+540	10.691	10.354	10.473	10.547	10.780	10.782	10.691	10.559	10.620	10.636	10.596	10.627		
0+550	10.639	10.412	10.456	10.516	10.747	10.759	10.661	10.527	10.574	10.612	10.525	10.632	Branch Road	
0+560	Non	10.343	10.437	10.487	10.719	10.712	10.621	10.467	10.513	10.526		10.681	10.489	
0+570	10.654	10.237	10.386	10.442	10.675	10.665	10.555	10.425	10.490	10.479		10.678	10.433	Side earth
0+580	10.575	10.237	10.368	10.431	10.661	10.662	10.543	10.386	10.439	10.471		10.641	10.359	
0+590	10.515	10.209	10.334	10.413	10.643	10.606	10.534	10.325	10.392	10.441		10.614	10.359	
0+600	10.499	10.205	10.301	10.380	Non	10.648	Non	10.313	10.372	10.436		10.642	10.260	
0+610	10.419	10.177	10.282	10.369	Non	10.602	Non	10.304	10.356	10.425	End of fence	10.647		
0+620	10.439	10.172	10.274	10.354	Non	10.616	Non	10.282	10.331	10.406		10.662	10.342	
0+630	10.462	10.161	10.249	10.346	Non	10.569	Non	10.276	10.331	10.404		10.627	10.370	
0+640	10.309	10.109	10.209	10.293	10.532	10.552	10.437	10.254	10.331	10.379		10.616	10.370	
0+650	10.322	10.085	10.192	10.279	10.509	10.479	10.400	10.229	10.296	10.367		10.606	10.412	
0+660	10.276	10.054	10.157	10.249	10.481	10.494	10.372	10.207	10.290	10.343		10.569	10.374	
0+670	10.264	10.009	10.119	10.204	10.435	10.477	10.368	10.165	10.246	10.310		10.555		

Existing drainage system Survey

Existing Drainage System in the three (3) Streets of Promenade

2005 May

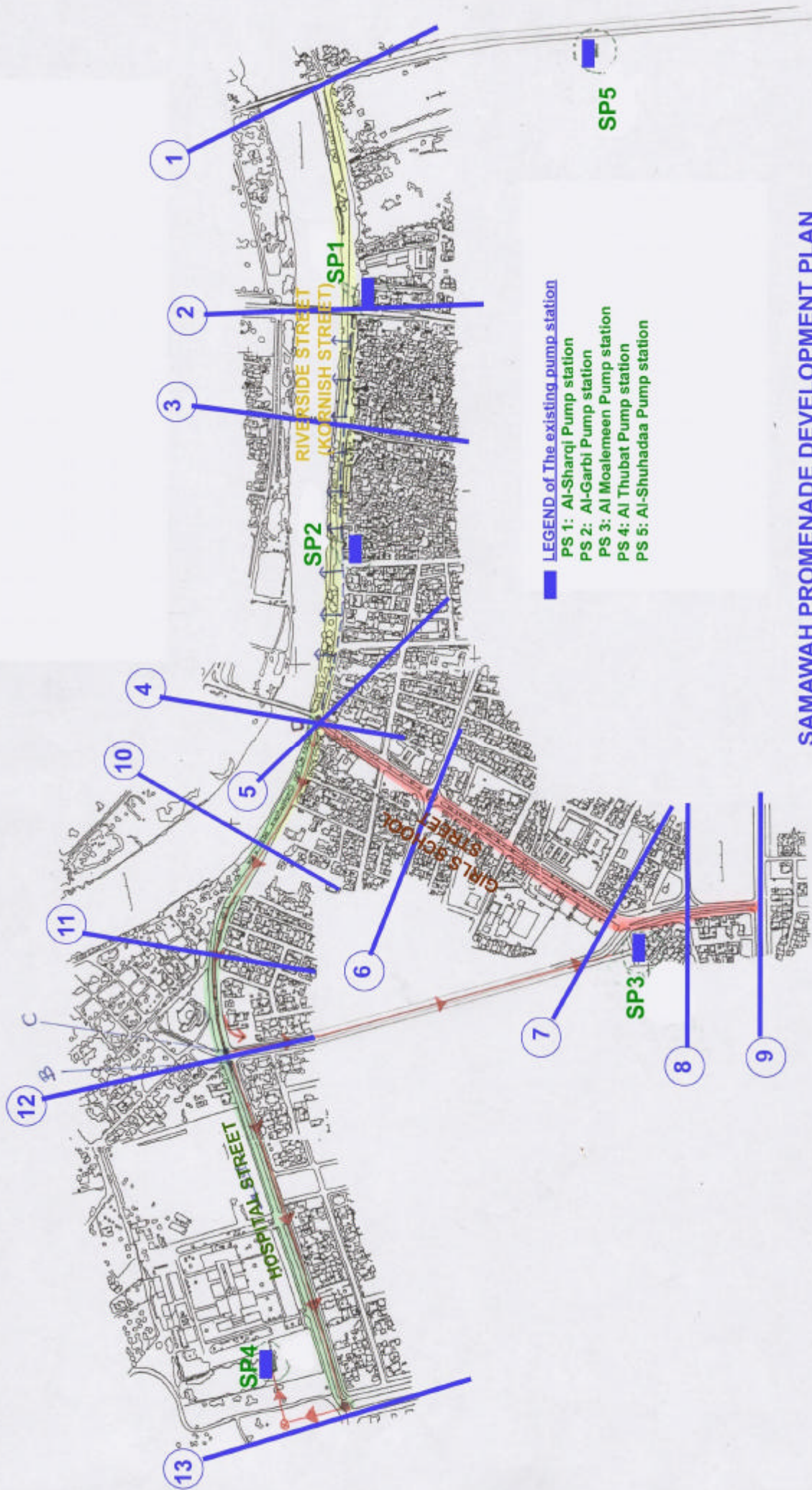
- 3- Section between pump station A west end of Hospital and Pump station B Mid point of Hospital street., this section is to be considered the drainage pipe will set an effluent direction from B to A side and collected water is to be pumped up and discharge to the river at the pump station A
- 4- Section between location C Mid point of Hospital street, near to pump station B and location D Steel bridge at riverside street, this section is to be considered the drainage pipe will set an effluent direction from D to C side and collected .water is to be pumped up and discharge to the river at the pump station B



7

Riverside street has already equipped existing drainage system, therefore U-ditch drainage will be applicable for collecting domestic waste water from the adjacent houses and facilities due to locate the street along the river for discharge water to the river

- LEGEND of The existing pump station**
- PS 1: Al-Garbia Pump station
 - PS 2: Al-Sharqia Pump station
 - PS 3: Al Moalemeen Pump station
 - PS 4: Al Thubat Pump station
 - PS 5: Al-Shuhadaa Pump station



LEGEND of The existing pump station
 ■ PS 1: Al-Sharqi Pump station
 ■ PS 2: Al-Garbi Pump station
 ■ PS 3: Al Moalemeen Pump station
 ■ PS 4: Al Thubat Pump station
 ■ PS 5: Al-Shuhadaa Pump station

SAMAWAH PROMENADE DEVELOPMENT PLAN

Existing Drainage System in the three (3) Streets of Promenade

Comments on Site Investigation:

Cornish Street :-

1. From section (1-1) to section (2-2) :-

- **Existing services as per investigation on field**

- 1- There is no drainage system for domestic waste water as the area considered an agriculture usage.
- 2- There are 7no.s of side inlets (two of them are located at lowest points under the concrete bridge). These inlets are located at depressed spots for collecting rain water and discharging it directly to river, and were distributed in irregular distance, ranging from (35 to 65)m along the curbstone of river side walk .
- 3- At the residential side, there is a sewage pumping station (Al- Shariqi PS1) placed near to the concrete bridge for collecting the sewage of the residential area beyond this station and pumping it through PVC pipe (size of 200 mmØ) along the side walk and discharging to main MH .located at Al-Shuhadaa Bridge . From this MH to be discharge to the river.
- 4- There is an overflow Ductile (of 400mm Ø) pipe connected from the PS1 crossing the street. (laid at a depth of about 4m) This pipe is functioning as an overflow for discharging the sewage flow directly to river during a temporarily shut down in electricity in the Al-Sharqi PS1. The duty of this pipe had been canceled for several years due to the generation of sewage odors in all of the surrounded areas the sewage Dept. is considering to re-use this pipe during shutting off in power and this definitely will re-generate the undesirable odors. The solution of this problem requested from sewage Dept. is providing an electrical generator so that any interruption in electrical current will be easily deal and we recommend this solution.
- 5- There are two exposed steel pipes of a size (Ø 250mm) laid in the middle and along with side walk of residential side and third one of the same type under construction. These two pipes are responsible for suctioning water from the river to the oil refinery and cement factory and the third one which is under construction is for some duty to the refinery factory.

- **Investigation Comments / proposal for solution:**

- 1- Providing side inlets at subsequence distance, say each 25m, these inlets recommended to be placed at river side so that the direction of the slope of the new pavement will be toward river side. These inlets should discharge directly to river and each one of them is independent and not connected with the others to avoid horizontal blocking.
- 2- The MH that collecting the flow discharging from Al-Sharqia PS and Al-Shuhadaa PS should be rehabilitated . Although this MH is placed at the other side of Al-Shuhadaa Bridge and it is out of limit of Kornish Street but an undesirable odor are generated from it in addition to a bad feature presenting from this spot.

1. From section (2-2) to section (3-3) :-

- Existing services as per investigation on field

1- There are 4 sewages collecting pipes crossing the street at this portion from residential side toward the river, as indicating in the attached drawings.

2- There are side inlets provided of the most depressed spots in the street. The destination of the effluent from these is toward the river.

3- There are few manholes which have used by connecting some of the inlets mentioned previously with them.

- **Investigation Comments / proposal for solution:**

1- Providing side inlets at relatively fixed distances, say each 25 m, at river side where each inlet is independent. These inlet either fixed in such a way so that a one inlet will be provided at river side only and accordingly, slope of street for the new pavement will be toward river side only or providing an opposite inlets at each selected distance where the one in the residential side will discharge toward the one in the river side, if two opposite direction of the slope for the new pavement is suggested.

1- From section (3-3) to section (4-4) :

- Existing services as per investigation on field

1- The slope of this portion of street is reflecting towards the residential side and according to the side inlets are providing at residential side in combination with MH providing at the walk way . These MHs and associated inlets are starting from a MH placed at a distance of 40 m from the second edge of Al-Musagaf bazaar toward section (4-4). This line is discharging towards Al-Garbi PS2.

2- There are 7 sewage collected pipes cross this portion

3- Al-Garbi sewage pumping station placed at the corner of Al-Shabia Street in Kornish street side. Three drain lines are discharging at this PS as indicated obviously in the attached drawings which is discharging the collected sewage toward the river.

4- From 20th Revolution Bridge towards Al-Garbi PS there is a drain line consists of MHs and side inlets in association it at each about 25 m as shown in the attached drawings with . This line is connected with a drain line coming from Girls School Street and discharging at Al-Garbi PS2. This line has been discovered accidentally since 2001 and then rehabilitated and re-used. This line has also a pipe discharging directly to river near 20th Revolution Bridge which is used for over flow case of electricity shut down in Al-Garbi PS2.

- **Investigation Comments / proposal for solution :**

1- Comments No.1 for section 2-2 and 3-3 would be applicable at this section.

2- In addition to the suggestion above , all the previous inlets should be cancelled

- 3- For more improvement of existing the drain line cleaning of the drain line and MHs is recommended beside the replacing of the covers of the MHs (both the concrete and the metal covers).
- 4- The idea of U ditch was refused by the sewerage dept. due to expected misuse of resident along the street which will require contains cleaning and maintenance.

Civil Defense Street (Girls School Frontage Road) :

1- From section (5-5) to section (6-6)

• **Existing services:**

- 1-There is a drain line consists of MHs placed at each 20m – 25m each MH is associated with two side inlets at each side of the median .This line is concrete pipe of size Ø 400mm laid at the median and connected with each other along the street, and discharging to Al-Garbi PS2.
- 2- There are two sewage pipes discharging to this drain line both of these two pipes are concrete of size Ø 400 mm .
- 3-There is a pumping pipe laid under the side walk of the right – side of street towards the river .This is PVC pipe of size Ø 200 mm discharging the sewage from Al-Mualimeen Ps to the river .

• **Investigation Comments / proposal for solution :**

Cleaning this line and its MHs and side inlets and placing the covers of the MHs (both the concrete and metal covers) .

2- From section (6-6) to section (7-7) :

• **Existing services as per investigation on field**

- 1- The same drain line at previous portion is continuous along this portion, as mentioned by the sewerage dept. this drain line in this portion is out of duty, but it is still working.
- 2- Many of the inlets in bad conditions and some of them were covered by overlay pavement. Part of the drain line is blocked either by debris or by overlay pavement or due to lacing concrete blocks for security situation starting from far station building to the end of this portion.
- 3- The pumping pipe from Al-Mualimeen PS3 is laid at the middle and along the median and adjacent to the drain line. There is a leak problem in this pipe appears in front of the fire station.
- 4- There are three pipes cross this portion two of them are discharging to this drain pipe and the third one is discharging from this line in addition to the pumping pipe mentioned previously which is cross the end of this portion .

• **Investigation Comments / proposal for solution:**

Similarly to that for the portion between section (5-5) and section (6-6)

3-From section (7-7) to section (8-8) :

- **Existing services as per investigation on field**

This portion has only a drain line for rain water only at the opposite side to the Al-Mualimeen PS3. This line is concrete pipe of size Ø 400 mm and consists of MH and side inlet at each about 20m – 25 m as shown in the attached drawing .

- **Investigation Comments / proposal for solution :**

Similarly to that for the portion between section (5-5) and section (6-6)

4- From section (8-8) to section (9-9)

There is no drain system available in this portion.

Hospital Street:

1- From section (4-4) to section (10-10)

- **Existing services as per Investigation field :**

- 1- There is no sewage pipes connecting on this portion.
- 2- There are only two side inlets , first one at the intersection of the bridge and the other is at distance of about 130 m from the first one .
- 3- There is an expectation from sewage Dept. of an existing drain line with its MHs in this portion. This line with it's Mhs might be covered by several overlaying pavement for years ago.

- **Investigation Comments / proposal for solution :**

Due to the neighborhood of this portion with the river , it is recommended to provide inlet at each fixed distance , say 25 m , where this inlet is discharging directly to river .

2-From section (10-10) to section (11-11) :

- **Existing services as per investigation on field:**

- 1- There are MHs and side inlets at the end of this portion only.
- 2- There is a PVC pipe of size Ø 400 mm discharging into the first MH and a PVC pipe of size Ø 500 mm discharging out of the second MH (main MH) towards the river

- **Investigation Comments / proposal for solution :**

According to the fact that this portion is laying away from the river , it is recommended to provide side inlet at any side of the street or even two at each side where these inlets are longitudinally connected toward the first MH or to a proposal location for new MH .

3- From section (11-11) to section (12-12)

- Existing services as per investigation on field

There is a PVC drain pipe of size Ø 500 mm laid at the median with its MHs and side inlets which are placed at about each 25m shown in the attached drawing .

This line is slope towards section (12-12) and discharging toward this direction for usually times which is turn toward Al-Mualimeen PS through Ammar Street and also work as overflow for peak hours of discharging by flowing anti-direction for this normal direction toward the Main MH available in the previous portion .

- **Investigation Comments / proposal for solution :**

It is recommended to provide side inlets at each side of street connected directly to the MHs provided at the median

3- From section (12-12) to section (13-13)

- Existing services as per investigation on field
 - 1- there is no drain system for rain water except two side inlets , the first one is at the corner of the section (12-12) and the second one is at the corner of the section (13-13) .Accordingly , during raining season , this section turns to be like pounds and water is suctioned from this section by using tank vehicle from sewage Dept.
 - 2- Along the opposite side from the hospital , there is an open channel collect sewage that is seeping from the septic tanks of the houses .
 - 3- This area is high class area .

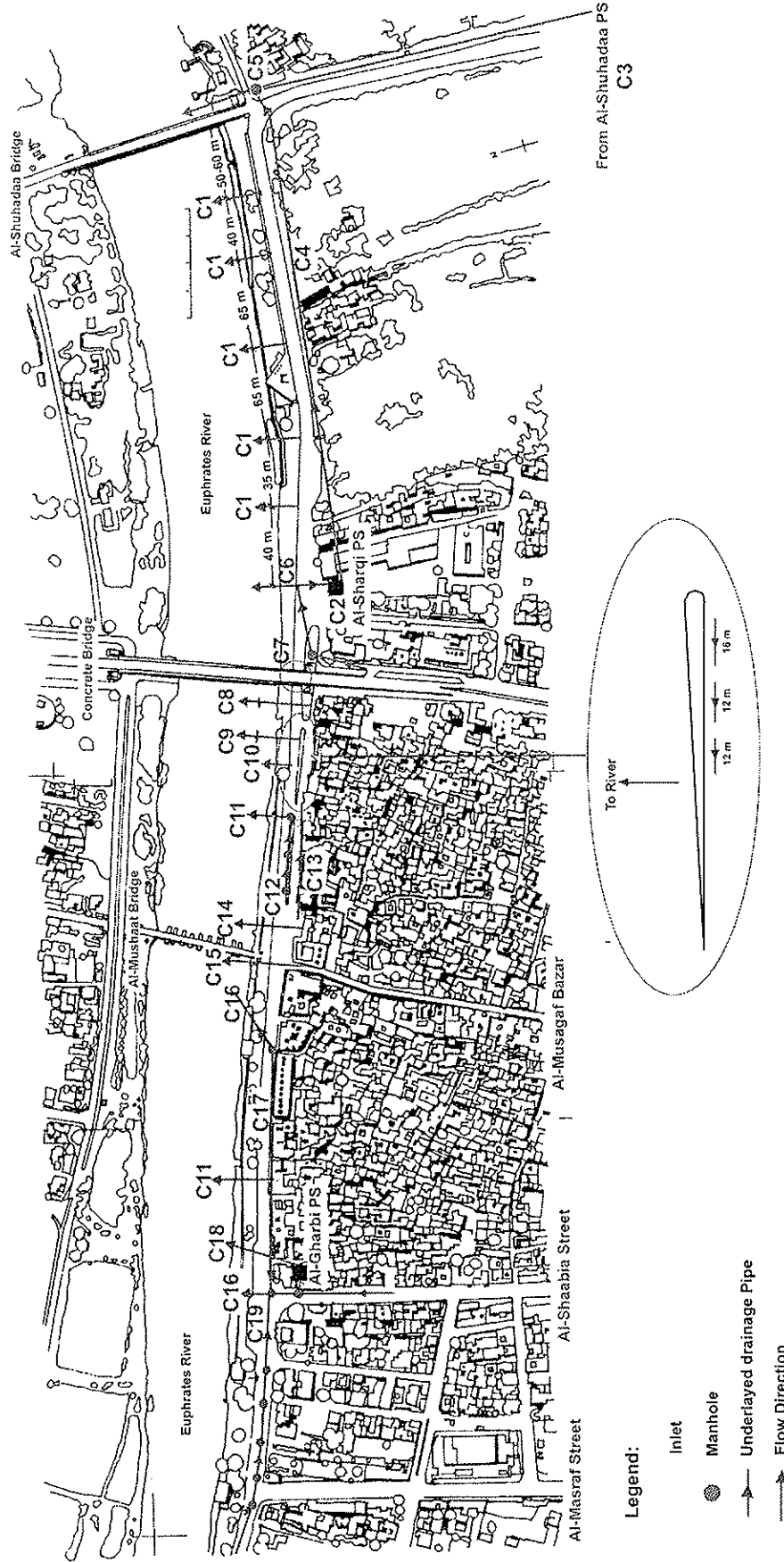
- **Investigation Comments / proposal for solution:**

It is recommended that a rain water system should be provided at this portion .This system may take several characteristics such as side inlet at each side of street discharge directly to a MH at the median or one side inlet at one side discharge directly to a MH and a drain , pipe connecting between these MHs and discharge either to one end or to two ends of this portion or using series connected side inlets say each 3 side inlets are directly connected and then discharge to a MH and so . Chosen suitable system will depend on the final selected slope (both longitudinal and cross level) for the new pavement and the type of final discharge of the new drain pipe from whether it will connect to a new MHs or to an existing MHs and to one end of this portion or divided to connect to the two ends of this portion following the available and final invert levels because there are two existed drain pipes one as remarked in the section (12-12) side and the other as remarked in the section (13-13) side , i.e. the end of hospital street .

Drainage System Survey

April 2005

**Kornish Street
As Built Layout For The Existing Drainage System**



Cornish Street

C1. Side inlet connecting with Ø 200 PVC pipe that discharging to river.

C2. Sewage Dept. comment:

There are several interruptions in electricity current in the remarked pumping station there fore in electrical Generator should be provided this station of size 150 KVA , otherwise an overflow pipe remarked in frontage of this station will re-generate odor over all the area.

C3. The pumping pipe from this station as remarked is of Ø 300 ductile for 600 M length and of Ø 250 PVC for 20 M length .

C4. PVC sewage pumping pipe from AL-Sharqi PS of size Ø 200 laid along the middle of the walk way.

C5. Main MH collection the flows discharging from Ø 250 pumping pipe coming from AL-Shuhdaa pumping station and Ø 200 PVC pumping pipe coming from AL_Sharqi pumping station and discharging to river through Ø 250 PVC pipe.

C6. Over flow pipe Ø 400 ductile depth (4m) since 1999. Currently canceled but sewage Dept. attempt to open it again.

C7. There are two inlets in adjacent under the bridge at about (3m) from the left edge.

C8. Ø 300 PVC sewage pipe.

C9. Ø 300 Asbest sewage pipe.

C10. Inlet Ø 200 PVC pipe.

C11. Ø 400 ductile pipe.

C12. There is inlet beside this MH.

C13. Ø 250 PVC pipe.

C14. Ø 250 Asbest pipe.

C15. Ø 400 asbest pipe.

C16. Overflow Ø 250 Asbest pipe

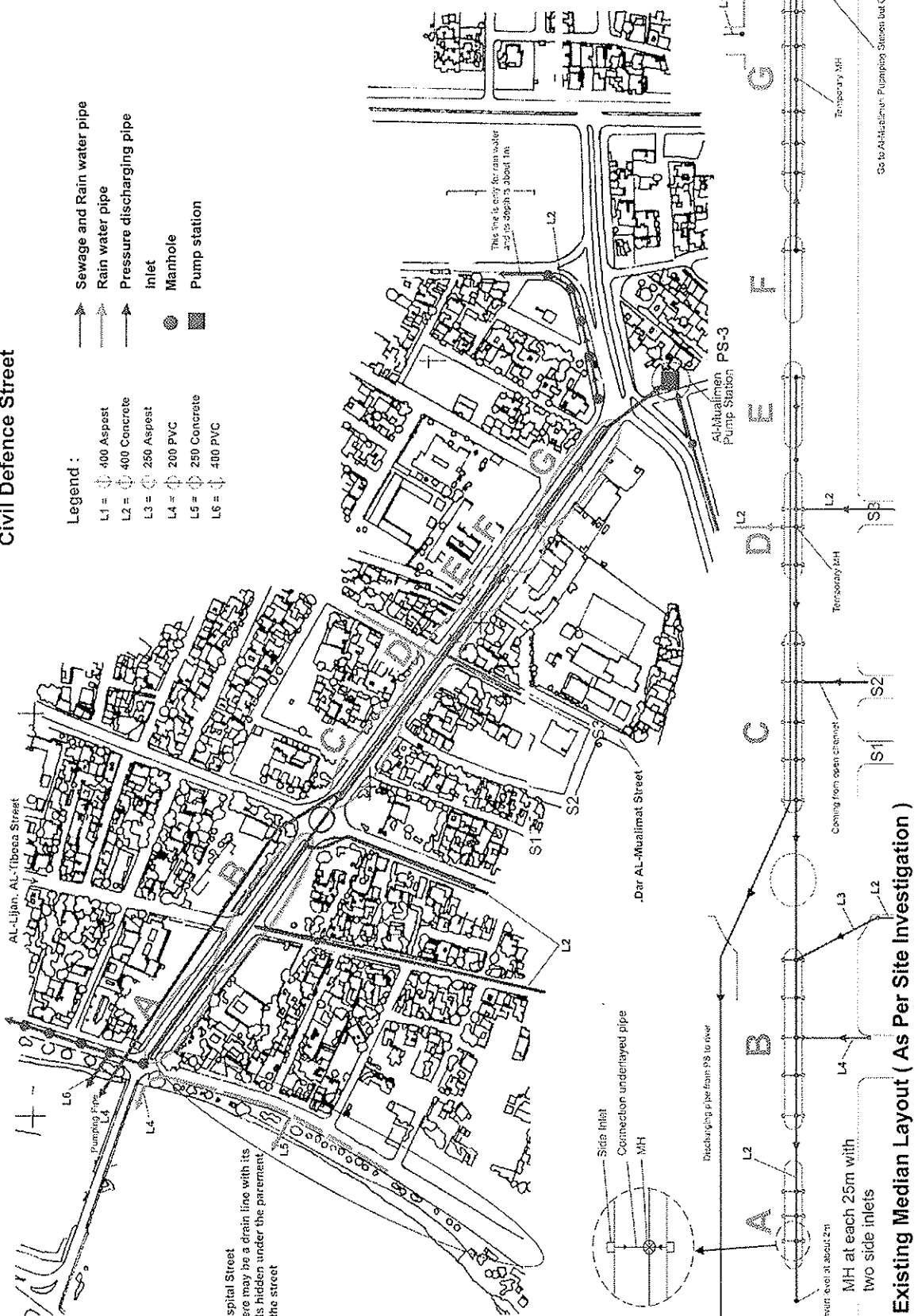
C17. Ø 500 concrete pipe. At each 25M there is a MH and an inlet connected with each other, also the drain pipes of the adjacent buildings are connected to these MHs.

C18. Ø 200 steel and then PVC pumping pipe from Al-Garbi PS discharging to the river.

C19. Ø 500 concrete pipe. At each 25m there is a MH at a distance of about (5m-8m) from river sides curb stone and in front of it there is a side inlet.

Civil Defence Street

- Legend :**
- L1 = 400 Aspart
 - L2 = 400 Concrete
 - L3 = 250 Aspart
 - L4 = 200 PVC
 - L5 = 250 Concrete
 - L6 = 400 PVC
- Sewage and Rain water pipe
 - Rain water pipe
 - Pressure discharging pipe
 - Inlet
 - Manhole
 - Pump station



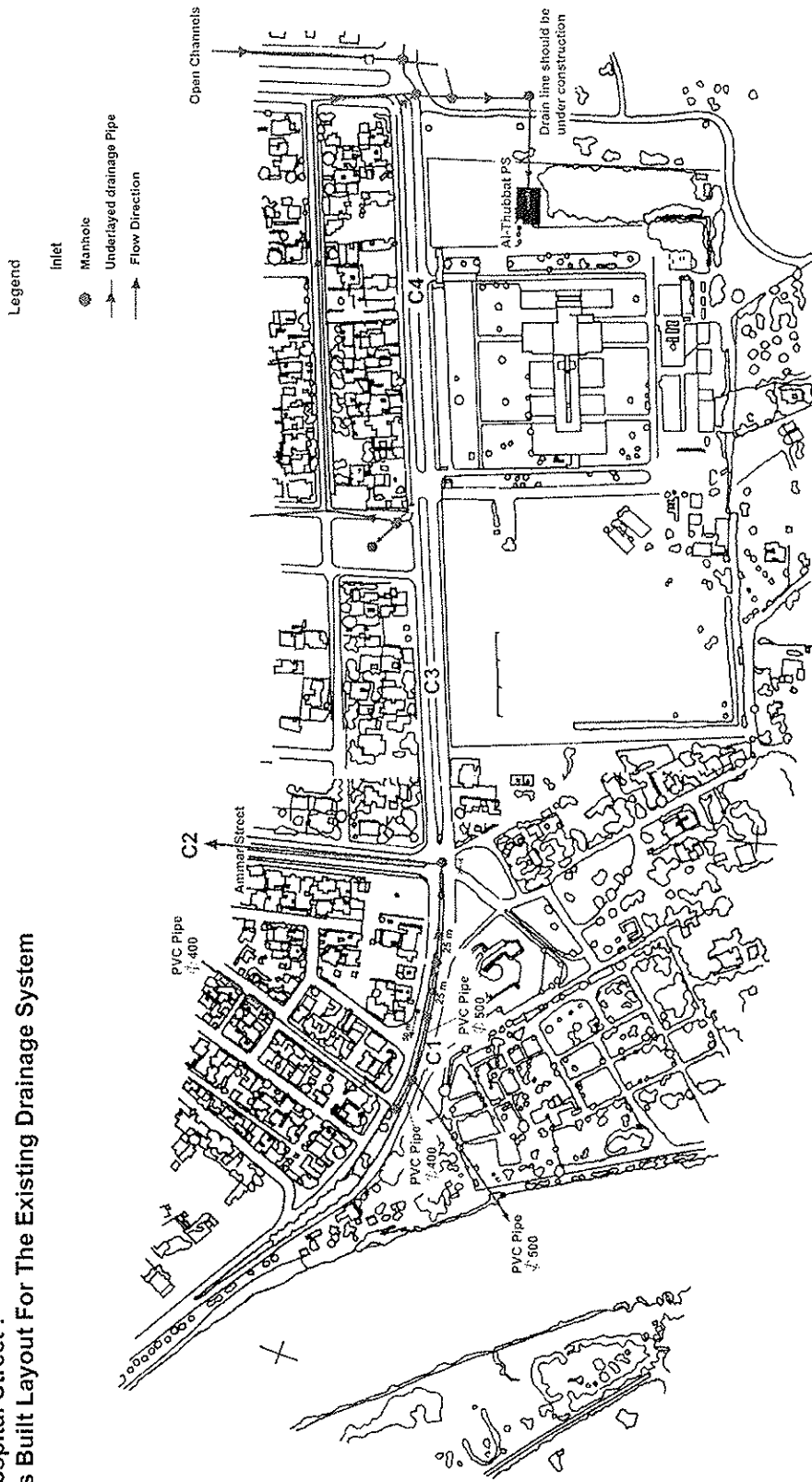
Hospital Street
 There may be a drain line with its
 MHS hidden under the pavement
 of the street

This line is only for rain water
 and its depth is about 1m

Go to Al-Muallimat Pumping Station but Canceled

Existing Median Layout (As Per Site Investigation)

**Hospital Street :
As Built Layout For The Existing Drainage System**



Comments :

- C1:** During peak flow, this line works as overflow by flowing in slope anti-direction towards the MH
- C2:** Ø400 concrete pipe constructed since 1980 underlaid in the middle of the median and discharging to Al-mualimen PS
- C3:** Within this portion there is no drain system and thus rain water is collected in this part as ponds and the sewage Dept. is suctioning these ponds by using tank vehicles
- C4:** Within this portion there are exposed open channels that are filled with sewage which is resulted from seeping from septic tanks of houses