

# **PROPOSED MODEL FOR A SUSTAINABLE ENGINEERING CONSULTING FIRM**

**Mô hình đề xuất cho Công Ty  
Tư Vấn Kỹ Thuật Ứng Dụng Bền Vững**

By

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G&P Professionals Sdn Bhd



## **CONTENTS**

- a) Introduction**
- b) Ownership/Partnership**
- c) Quality Management System  
(QMS)**
- d) Capacity Building**
- e) Conclusion**

# INTRODUCTION

1. What is the **Essence** of a good engineering consulting firm/group ?
2. How to assure **Sustainability** of a firm/group ?
3. Why do we need  
“**Quality Management System**” (QMS) ?
4. How to achieve **Capacity Building** ?

## ESSENCE of a Good Engineering Consulting Firm/Group

- **MISSION**

:- “Q”uality  
“S”peed → **QSVa**  
“Va”lue Adding

- **Action Plan**

= Take Action + Closely Follow Up

*-monthly*

## Common Problems of Sustainability

- No Pre-set *Retiring Age*
- Failure to groom successors / ownership
- Loss of good experienced engineers
- No system on retaining knowledge & experience gained

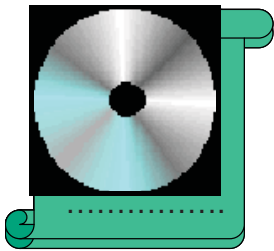
→ Fragmentation of Consulting Firms

### Resigned or Retired...



***Don't you want to retain these ?***





# Intranet

and many more.....



## Solution = Ownership / Partnership

- A systematic way to groom experienced engineers
  - Ownership.
- Ownership / Partnership Agreement
  - Prevent dispute and confusion.
  - *incentives*
- Pre-set Age of Retirement for Owners
- Promote & made partners
  - Anchoring Force.

**ACHIEVE SUSTAINABILITY !**

# Quality Management System QMS

## Quality Management System QMS

# SYSTEM

Dr. Edwards Deming

85%/15% → 96%/4%

Error due to lack of system or improper system

Human Error

Problems were built into the way work was done

## *ISO 9001 :2000 Quality Management System.*

### Quality Management Principles :

Principle 1 = Customer –Focused Organisation

Principle 2 = Leadership

Principle 3 = Involvement of People

*Ownership & Training !!!!*



### FOR SUSTAINABILITY

Don't go for the whole small cake.  
Instead, go for a slice of big cake.

# TRAINING MODULES

“Do not be afraid to teach your disciples all your 10 skills. In the unlikely event one of them manages to master all 10 skills, you would have acquired your 11.”

ctI2000





Codified Approach  
= Systematic

- *Colloquium*
- *Structured Training*

G&P PROFESSIONALS

Continue : Quality Management Principles

## *ISO 9001 :2000 Quality Management System.*

Quality Management Principles :

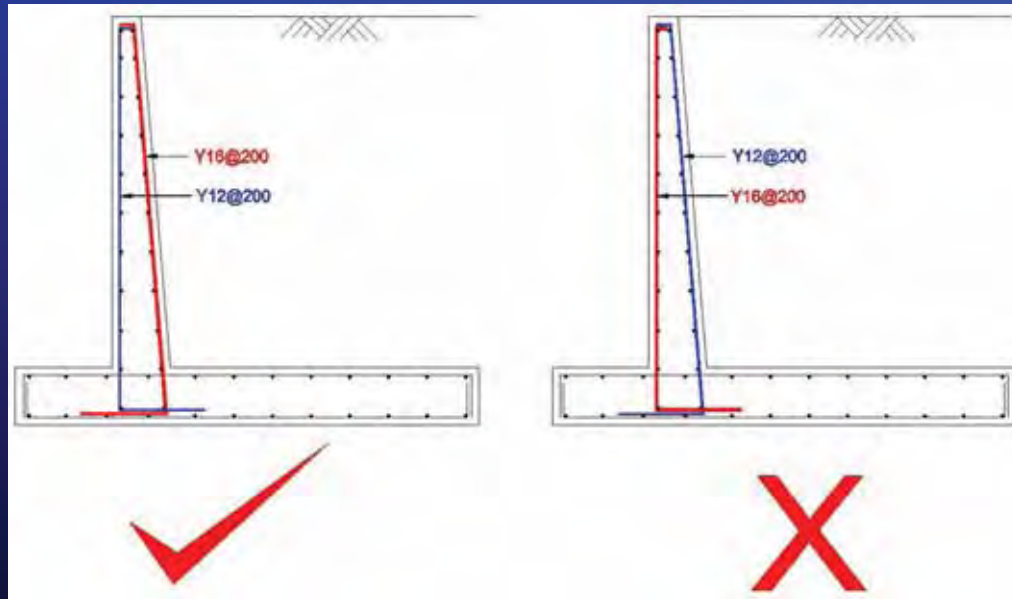
### Principle 4 = System Approach

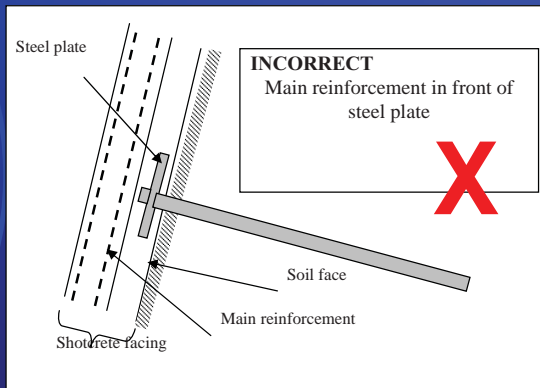
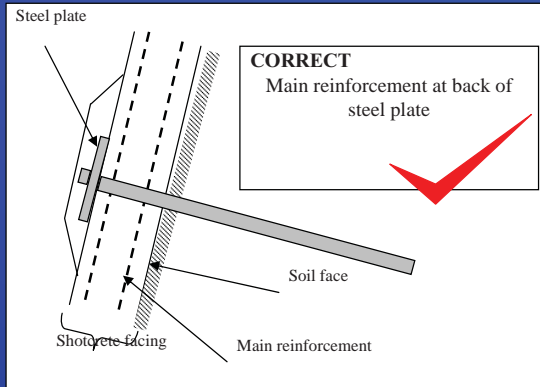
Efficient management of resources and activities.



→ Check & Review !!!







**FACE FAILURE**

***ISO 9001 :2000 Quality Management System.***

**Quality Management Principles :**

**Principle 5 = Continual Improvement**

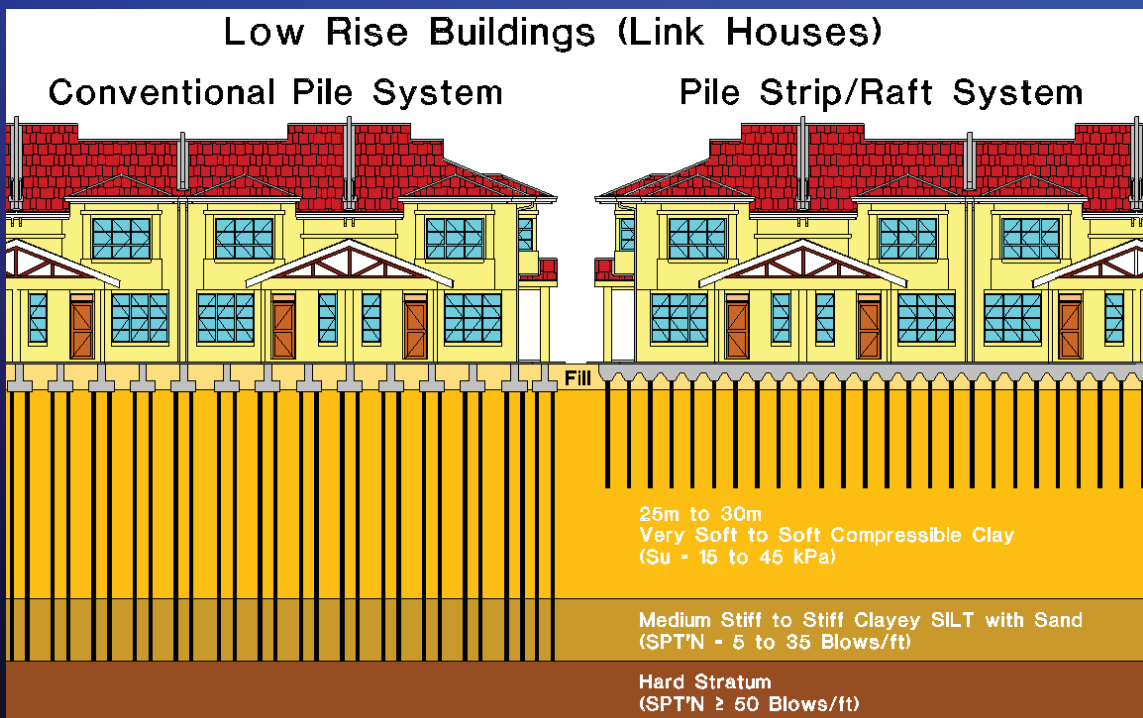
All resources (human, infrastructures and environment) →  
Competitive.

***Research & Development***

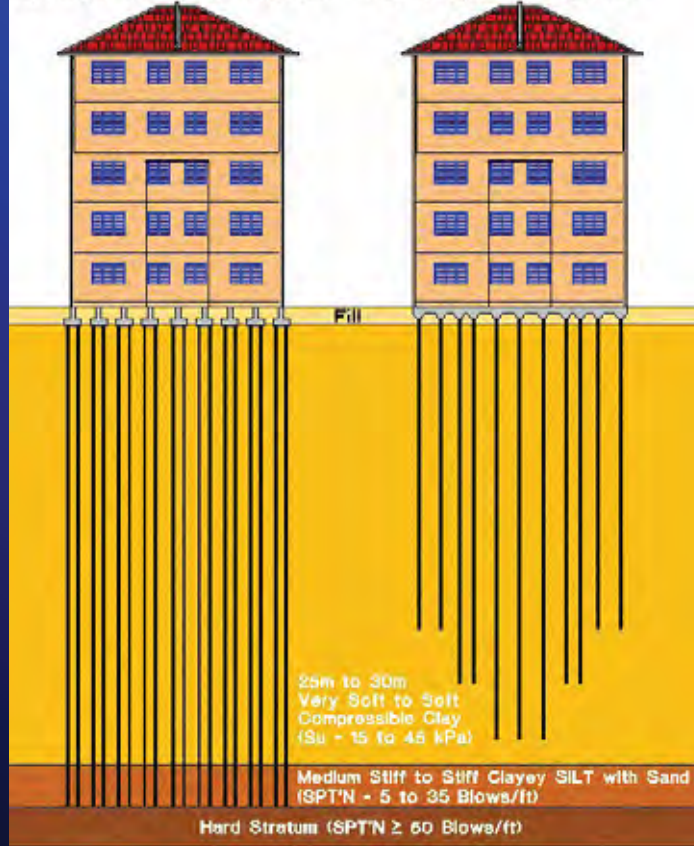
***(R&D) !!!***



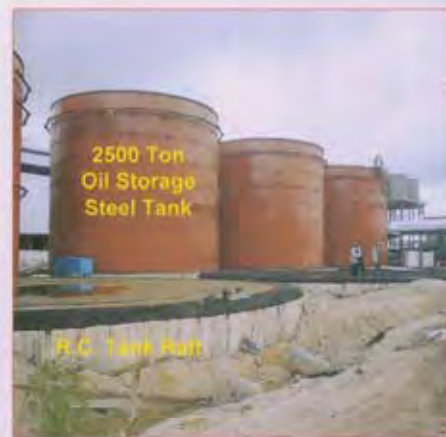
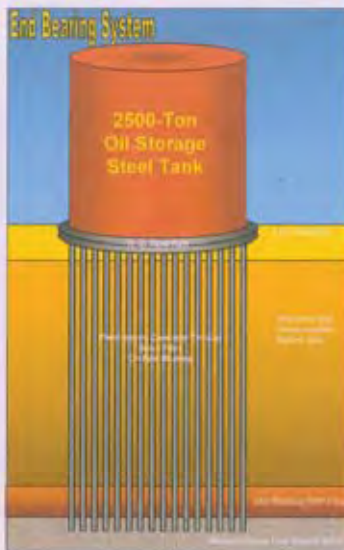
**Challenge The Norm Thru Innovation To Excel**



Medium Rise Buildings  
 Conventional Pile System    Pile Strip/Raft System

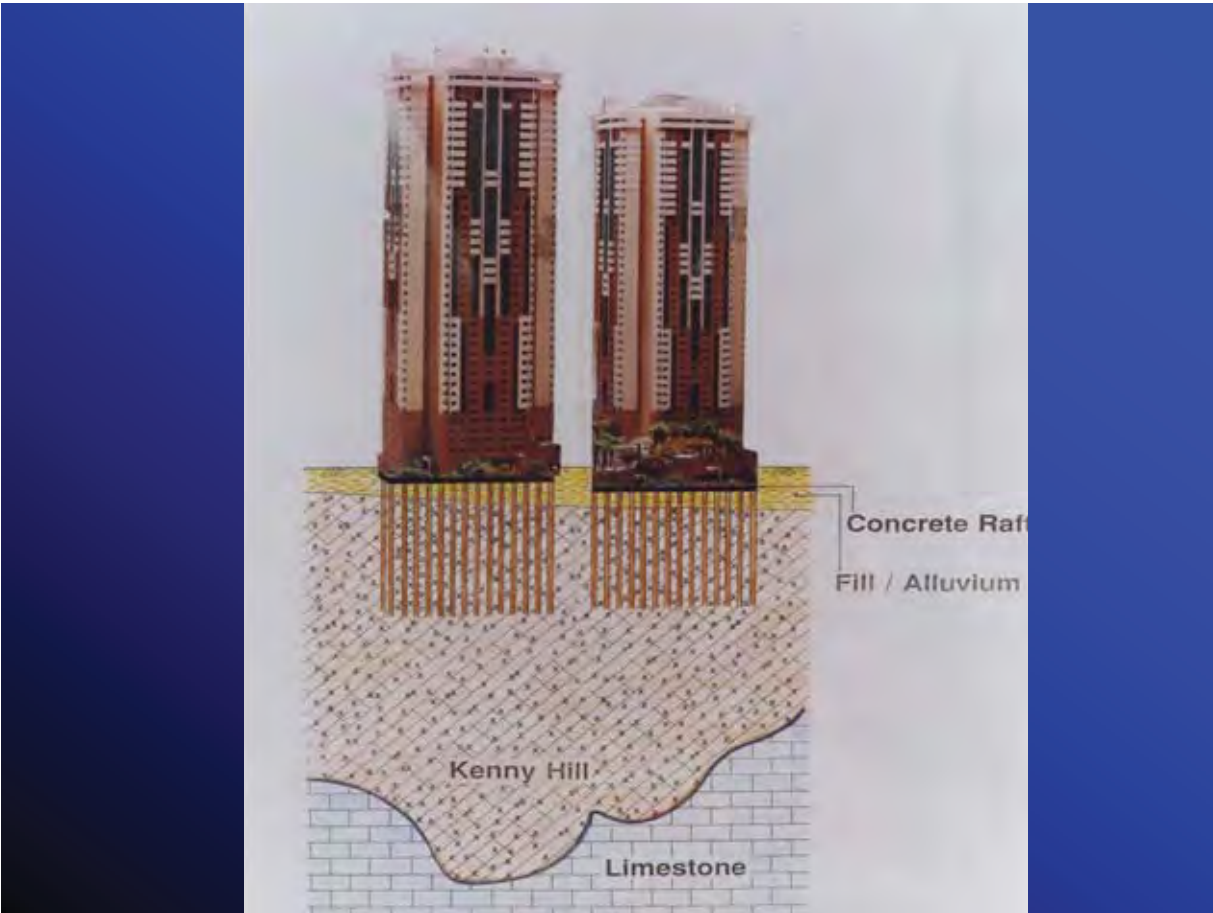


# 2500 Ton Silo on Very Soft Marine Deposits



Completed Tank Structure

**Adopted** ✓



# R & D

- Guidelines / Checklists
- Interpretation of test results
- Database Management
- Contractual Document
- Software Guru System
- Operating Procedure

Planning  
Analysis  
Design

- R&D assimilated in the Company : for all to use

**G&P Geotechnics Sdn Bhd**  
GEOTECHNICS

HOME | Calendar | Resources | Research | Company

**G&P IntraNet**

**Office Information**

- [Circulars](#)
- [Audit Schedule \(Scheduled\)](#)
- [Audit Schedule \(Unscheduled\)](#)
- [Internal Colloquium Schedule](#)
- [Booking for 4th Conference Room](#)
- [Request for Proposal / L1 / L2 / L3 / L4 / L5 / L6 / L7 / L8 / L9 / L10 / L11 / L12 / L13 / L14 / L15 / L16 / L17 / L18 / L19 / L20 / L21 / L22 / L23 / L24 / L25 / L26 / L27 / L28 / L29 / L30 / L31 / L32 / L33 / L34 / L35 / L36 / L37 / L38 / L39 / L40 / L41 / L42 / L43 / L44 / L45 / L46 / L47 / L48 / L49 / L50 / L51 / L52 / L53 / L54 / L55 / L56 / L57 / L58 / L59 / L60 / L61 / L62 / L63 / L64 / L65 / L66 / L67 / L68 / L69 / L70 / L71 / L72 / L73 / L74 / L75 / L76 / L77 / L78 / L79 / L80 / L81 / L82 / L83 / L84 / L85 / L86 / L87 / L88 / L89 / L90 / L91 / L92 / L93 / L94 / L95 / L96 / L97 / L98 / L99 / L100](#)
- [Wish List](#)

**Company**

- [Capability Statement](#)
- [Office Manual](#)
- [Staff List & CV](#)
- [Staff Particulars](#)

**Project Info**

- [Project Particulars Database](#)

**List of Approved Contractors**

- [Earthwork Contractors](#)
- [Foundation Contractors](#)
- [General Building Contractors](#)
- [Geotechnical Contractors](#)
- [Ground Improvement Contractors](#)
- [Instrumentation Contractors](#)
- [Laboratory Contractors](#)
- [SI Contractors](#)
- [Soil Stabilisation Contractors](#)
- [Structural Repair Contractors](#)
- [Testing Specialist Contractors](#)

**Common Links**

- [Library Books](#)
- [Subject File Index](#)
- [British Standards](#)
- [Geological Maps](#)
- [Roadcode](#)
- [Product Info](#)

**Quick Links**

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- [G&P Geotechnics Webpage](#)
- [G&P Group Webpage](#)
- [G&P WebMail](#)

**Document References**

- [Fax](#)
- [Letter](#)
- [Memo](#)
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[www.gnpgroup.com.my](http://www.gnpgroup.com.my)

**G&P GEOTECHNICS**  
G&P GEOTECHNICS SDN. BHD. Geotechnical Consultants

**R&D**

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**Download**

Note: Titles highlighted in blue colour is available for download online. The following downloadable documents are in pdf format. You may not be able to view the documents if your computer does not have any pdf reader programme installed.

- List of Specifications
- List of Specifications under Development
- List of Checklists

**List of Specifications**

\*\* The following technical specifications and checklists are FREE for you to download:

1. Specification for Engineered Fills
2. Specification for Hydrosedding
3. Specification for Turfing
4. Specification for Reinforced Soil Wall
5. Specification for Jacked Anchor for Retaining Structures
6. Specification for Pile Testing (Driven Piles)
7. Specification for Filled Embankment
8. Specification for Vertical Drain
9. Specification for AGS Format

## R&D PROGRESS MONITORING

Microsoft Excel - R&D Progress Update - 2011

File Edit View Insert Format Tools Data Window Help

30/12/2011

**R&D Analysis & Design (A&D)**

Progress As At: 2011 January

Completed: 50% / 50%  
Total Progress: 50% / 50%

No.	Engineer	R&D Topic	Category	Start	End	EST	Status	Target	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	
AD1	THE	Public Yield Design	V	1/6/2010	30/1/2010		Completed	Target: 90 Actual: 90	90	90	100									
AD2	OKW	Degree of Consolidation Settlement with FWD Design	V	12/7/2010	15/12/2010		Completed	Target: 90 Actual: 90	90	90	100									
AD3	IST	Shielding Design (SAD-120)	V	1/8/2010	31/1/2010		WIP	Target: 5 Actual: 5	5	10	15	20								
AD4	OKW	Ground Anchor Length Calculation	V	20/8/2010	15/1/2011		WIP	Target: 70 Actual: 70	70	80	100	100								
AD5	IBR	Capacity due to Tunneling/undermined Soil	V	1/8/2010	15/1/2010		Completed	Target: 75 Actual: 75	75	80	100	100	100							
AD6	MLY	Cost Estimation for RC wall (AD201)	D	15/10/2010	15/12/2010		Ongoing	Target: 75 Actual: 75	75	80	80	80								
AD7	THE	Shave reinforcement design for circular section	D	30/1/2011	30/1/2011		Completed	Target: 100 Actual: 100	100	100	100	100								
AD8	OKW	Shave reinforcement design for circular section (SAD-143)	V	30/1/2011	31/1/2011		WIP	Target: 100 Actual: 100	100	100	100	100								
AD9	KVP	Lateral Pile (Elastic only) (SAD-098)	V	20/4/2011	30/1/2011		Ongoing	Target: 50 Actual: 50	50	50	50									

Engineer/  
Geologist

Commencement  
Date

Target  
Completion  
Date

Monthly  
Progress  
(%)

R&D Topic

# Apple tops target with 67% rise in profit

## iPhone and iPod bolster Macintosh computer sales

**SAN FRANCISCO:** Apple Inc blew by analysts' estimates with a 67% rise in profit on Monday as the popularity of its iPhone and iPod boosted Macintosh computer sales, and its shares jumped 7%.

"There's no question that Mac sales are still having a halo effect from the iPod and iPhone," said Tim Bajarin, president of technology consulting company Creative Strategies.

Net profit climbed to US\$904mil, or US\$1.01 per share, in its fiscal fourth quarter, from US\$542mil, or 62 US cents per share, a year ago. Revenue rose 29% to US\$6.22bil.

That handily beat Wall Street's average targets of 85 US cents per share in profit and US\$6.06bil of revenue, according to Reuters Estimates.

Apple also benefited from falling prices of electronic components, lifting its gross profit margin to 33.6%. The company said it expects that to fall to 31% in its current quarter as prices for some parts start to rise again.

Apple also forecast first quarter profit of US\$1.42 per share and revenue of US\$9.2bil, ahead of the US\$1.40 per share and US\$8.7bil that were the average Wall Street targets.

"It appears that they are expecting an extremely solid holiday shopping season and, I would guess, strength from the launch of the iPhone in Europe," said analyst Shannon Cross of Cross Research.

During the quarter, Apple shipped 1.12 mil-



Shoppers making their way past an Apple store in Schaumburg, Illinois. - Reuters

lion units of the iPhone, which went on sale in the United States in late June. That was towards the high end of analysts' forecasts.

Some investors had hoped for even better performance from the iPhone but said sales could pick up following Apple's move last week to let users install other software on the devices.

"They have real value in the iPhone. We were a little disappointed in the sales number itself. More and more people will find the

phone more useful as they add outside applications," said Nicholas Kaiser, president of Saturna Capital, which owns Apple shares in mutual funds and private accounts.

One thing Apple did not disclose was its chunk of shared revenue from AT&T Inc, the exclusive US network carrier for the iPhone. Analysts have estimated the payments could amount to anywhere from US\$150 to US\$350 or more per unit over the mandatory two-year contract. - Reuters

10 Year



**APPLE STOCK PERFORMANCE FOR LAST 10 YEARS**



# ISO 9001 :2000 Quality Management System.

## Quality Management Principles :

### Principle 6 = Factual Approach to Decision Making

Effective decisions = Analysis of Data and Information

(Client Evaluation, Feedback, Complaints, Internal Quality Audits, Performance, etc.)

## Project Quality Plan

G&P GEOTECHNICS SDN BHD  
(formerly known as G&P Geotech Sdn Bhd)  
(Geotechnical Consultants)

ISO Form 28 Rev 09/04

**PROJECT QUALITY PLAN**

Prepared By : \_\_\_\_\_ Date : \_\_\_\_\_

Reviewed & Approved By : \_\_\_\_\_ Date : \_\_\_\_\_

**A. Project Details**

Project No. : \_\_\_\_\_

Project Title : \_\_\_\_\_

Location : \_\_\_\_\_

Client : \_\_\_\_\_

Client's Contact : \_\_\_\_\_

Date Started (Project Assignment Date) : \_\_\_\_\_

Estimated Project Duration : \_\_\_\_\_

**B. Project Team**

Project Director : \_\_\_\_\_

Project Engineer(s) : \_\_\_\_\_

Engineer(s)/Geologist(s) : \_\_\_\_\_

Checker(s) : \_\_\_\_\_

Reviewer(s) : \_\_\_\_\_

External Reviewer(s) : \_\_\_\_\_

**C. Overall Project Organisation**

Fill up Attachment A & Attachment B

**D. Project Scope of Work (Design Input)**

*CHECK &  
REVIEW !!*



# Planning, Analysis & Design

**G&P GEOTECHNICS SDN BHD**  
**PLANNING / ANALYSIS / DESIGN**

Project No. : \_\_\_\_\_  
Project Summary Title : \_\_\_\_\_  
Title of Planning/Analysis/Design : \_\_\_\_\_

Total Pages : \_\_\_\_\_ Revision No. : \_\_\_\_\_  
(shall be the same as Work Ref. Revision No.)

Activity : S1 / A&D / PD / TC / IC / CM

Work Ref : \_\_\_\_\_

Designed by : \_\_\_\_\_ Checked by : \_\_\_\_\_ Reviewed by : \_\_\_\_\_  
(Initial) (Initial) (Initial)

Signature : \_\_\_\_\_ Signature : \_\_\_\_\_ Signature : \_\_\_\_\_

Date : \_\_\_\_\_ Date : \_\_\_\_\_ Date : \_\_\_\_\_

Comment (if any): \_\_\_\_\_

Actions to be taken: \_\_\_\_\_ Rectification Status: \_\_\_\_\_

Checklist : (Place "X" if applicable)

1)	Objective & Purpose of Planning / Analysis / Design	
2)	Concept and Method of Planning / Analysis / Design	
3)	Subsurface Information and Interpreted Parameters	
4)	Planning / Analysis / Design	
5)	Computer Filenames & Path	
6)	Summary of Analyses Results and Recommendations	
7)	Discussions and Conclusions	

Note :  
1. Activity : S1=Site Investigation A&D = Analysis & Design PD = Project Deliverables  
TC = Tender/Contract Management IC = Interpretation of Construction Records & Test Results  
CM = Change/Modification  
2. Work Ref. = XXXXX / Status %% / R++ ### &&& @@@@  
where XXXXX = Project No. Status = Check (C) or Renewal (R) or Check & Renewal (C)  
%% = Number of work in sequence for each project. R++ = Revision No. (Start with RD for each Work Ref)  
### = Designer. &&& = Checker. @@@@ = Renewal (if any)  
3. From Revision No. 1 (RD) onwards, the %% number shall be the same as Revision No. 0 (RD)

# Project Summary Form

**G&P GEOTECHNICS SDN BHD**  
(Formerly known as Gee & Partners Sdn Bhd)  
(Geotechnical Consultants)

**PROJECT SUMMARY FORM**

Project No. : _____	Updated on : (DD / MM / YY) _____	Client : _____
Project Title : _____ (simplified)		
Developers : _____	Consultants / Specialists : _____	Contractors : _____
Location : (Road / City / District / State / Country) _____		
G&P Scope : _____		
Main Issues : _____	1. _____	
Geology Information : (e.g. Formation, Type of Soil-rock, other geological info)	1. _____	
Subsoil Condition :	1. _____	
Geotechnical Works Information :	1. _____	
<b>Lessons Learned or Errors Made :</b> (e.g. how lessons, mistakes made, improvements to G&P, etc) *Please record the lessons learned or error made in detail in this form (G&P Form 07 Rev 01/08)	1. _____	
	2. _____	
	3. _____	
	4. _____	
	5. _____	
	6. _____	
	7. _____	
	8. _____	
Has lesson learned already captured in CP/ITM? ( ) Yes, ( ) Not Yet, ( ) No Lesson (please tick ✓) → If "Not Yet" please submit to R&D Project Management committee (ic) to P/C		

**LESSON  
LEARNED**

# Technical Manual (DO & DON'T)

Technical Manual for Foundation Design		Page 3 of 10	
<ul style="list-style-type: none"> <li>Rock probing may be required at limestone formation with karst features, preferably at every alternate column locations.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>4.3. SOIL PARAMETER FOR DESIGN</b>			
<b>DO</b>			
<ul style="list-style-type: none"> <li>Show the subsoil profile (plotted borelogs) and design values (e.g. SPT or <math>S_u</math> vs Depth).</li> <li>Check on subsoil material and SPT-N values.</li> <li>Interpreted <math>S_u</math> profile following OP-01-XX (Bjerrum Correction Factor).</li> <li>Driven/Jack-in Piles - Plot contour of founding levels using Surfer.</li> <li>Bored/Barrette/Micro Piles - Rationalised Design Parameter - Cluster Zones for Pile Design.</li> <li>Estimation of Pile lengths and tabulate required pile lengths</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>4.4. LOADING AND REINFORCED CONCRETE (RC) DESIGN</b>			
<b>DO</b>			
<ul style="list-style-type: none"> <li>State the following:                             <ul style="list-style-type: none"> <li>(A) Sum of all working vertical load (without factor) = kN</li> <li>(B) Average building footprint area = <math>m^2</math></li> <li>(C) Number of storey =</li> <li>(D) Average load per floor of buildings = kPa/storey (D = A/B/C)</li> </ul>                             Note: For residential buildings, normal range of load shall be 12kPa to 15kPa per floor.                         </li> <li>Establish Load combination with Structural Engineer (e.g. combination of dead load, live load, vertical load due to nominal and wind load).</li> <li>For Pile Provision (or Pile Allocation) exercise, working load shall be used.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	

DO

# Technical Manual (DO & DON'T)

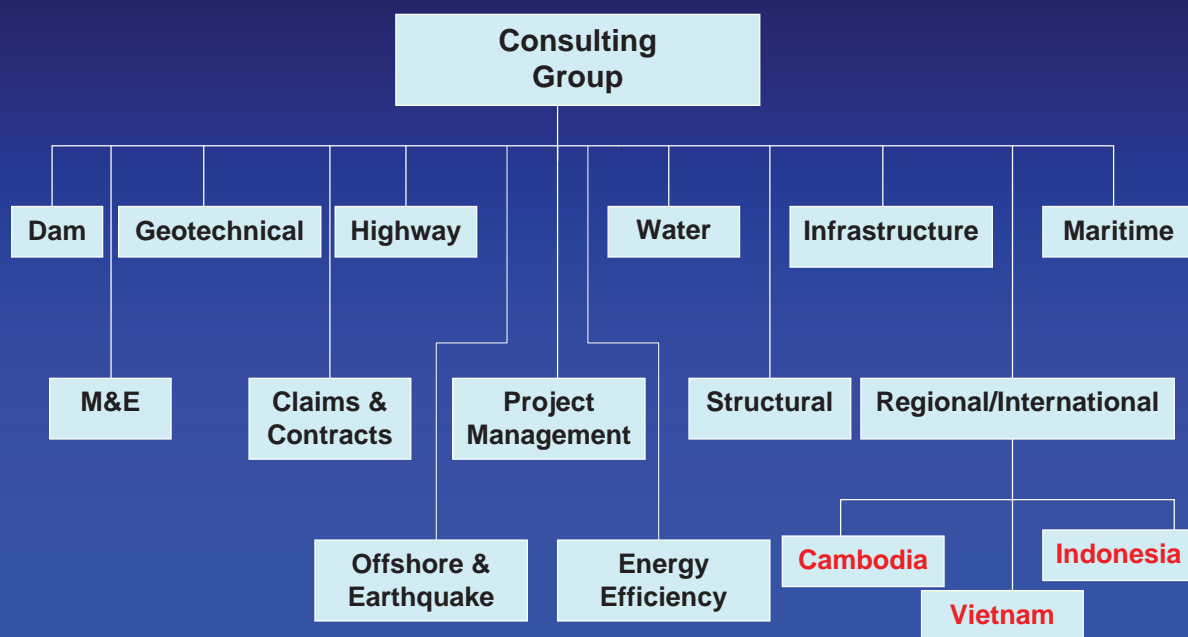
G&P GEOTECHNICS SDN BHD		Section: TM-A1-12A	
Technical Manual for Design of Road Alignments using Alignment Designer(PAD) Module		Revision: 0	
		Date: 10-05-2005	
		Page 3 of 5	
<p><i>Note: If PDS is running on local hard drives, project work must be back up into the server at the end of the day. The backup must preserve the exact directory structure. If the user is moving from one computer to another, the backup version in the server shall be copied to the local hard drive and again please ensure that the original directory structure are preserved for smooth operation.</i></p>			
<b>DON'T</b>			
<ul style="list-style-type: none"> <li>Once chosen the directory of where the new project to be saved, user must avoid change the location of the file unless the user is fully aware of how PDS referencing works.</li> <li>Do not under any circumstances change the name of project file from the default (E.g. \$DBU). <b>IMPORTANT!</b></li> <li>Do not create a very deep directory structures as PDS would not be able to refer or open any folders that are more than 5 levels deep.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>12.3. DESIGNING A HORIZONTAL ALIGNMENT</b>			

DON'T

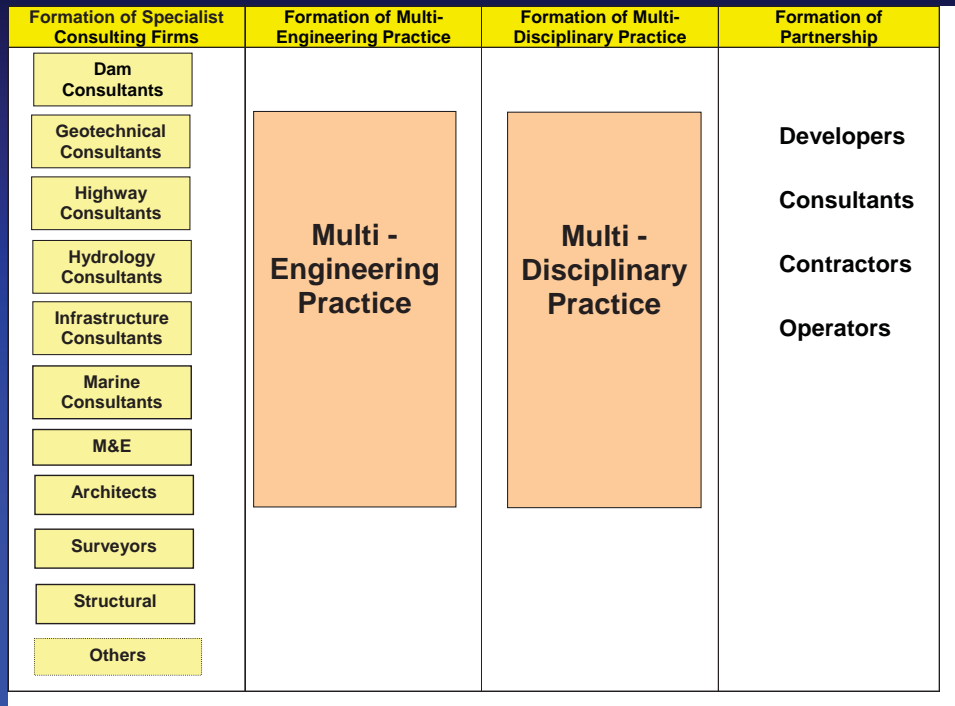
# TRUST

- More and more transparency
- Written (Shareholder Agreement)
- Commercial decision
- Discipline

## Formation of “One-Stop” Specialist Consulting Firm



# ROUTE TO FORMATION OF A ONE-STOP MULTI-DISCIPLINARY PRACTICE



# COMPETITIVENESS

## Ingredients

- a) Capability
- b) Capacity
- c) Efficiency

} House of  
specialist firms

- use of technology / ICT

## d) Innovativeness

- Track records
- Competition

# CONCLUSIONS

- Partnership or Sdn Bhd
  - Written agreement (\$\$)
- Mission QS Va
- Plan – long term
- Training modules
  - Completion
  - Performance
  - Competency
- System

# CONCLUSIONS

## (cont.)

- Attributes of a sustainable firm
- For Clients:
  - **Structured Quality System with Value-adding (QSVa)**

# CONCLUSIONS

## (cont.)

- Formula of Successful Consultancy / Service Firm
  - Structured **Equity System** (2-tiers)
  - Attract & Assemble **Talents**
  - Good Structured **Knowledge Management & Training**
  - Capability & Capacity

# WITH TEAMWORK WE SHALL EXCEL TO HIGHER HORIZON



FERRARI'S PITSTOP WAS COMPLETED BY 15 MECHANICS (FUEL AND TYRES) IN 6.0 SECONDS FLAT.



54 PEOPLE TOOK PART IN THIS CONCERTED ACROBATIC JUMP.



Championship team **cannot** rely on one or few players.







*Thank You for Your Attention*

# The End

*Thank You*

G&P Professionals Sdn Bhd  
[www.gnpgroup.com.my](http://www.gnpgroup.com.my)

