

**East West Arterial Extension
Hirst Road to Woodland Drive**



PROJECT FUNDED BY:
Queensland Government

PROJECT MANAGED BY:
M&P

**BODDEN TOWN
EAST END
NORTH SIDE**
→

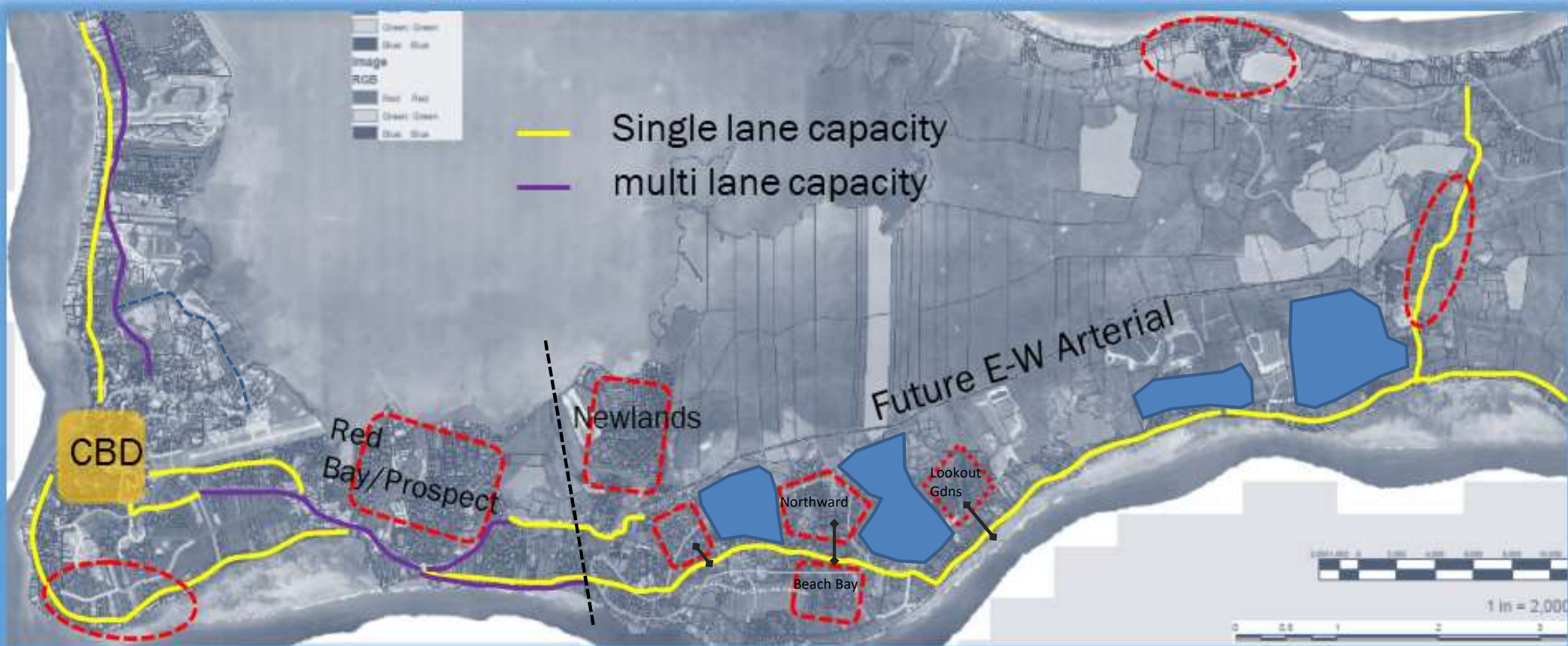


Order of Presentation

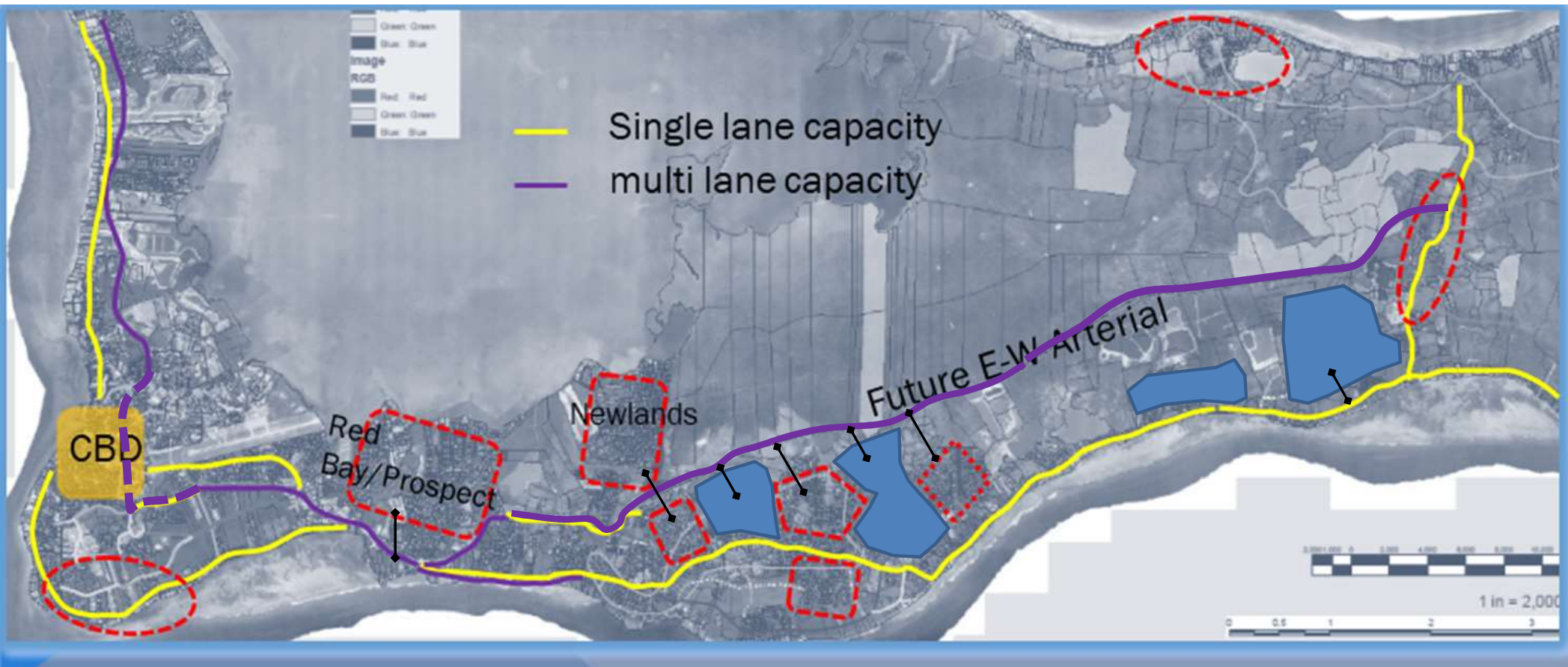
- The Congestion Problem in the eastern districts
- Traffic Analysis (volumes, travel times, delay)
- EIA Development for the EW Arterial
- 2008 Trial Pit Data (ground conditions)

THE CONGESTION PROBLEM

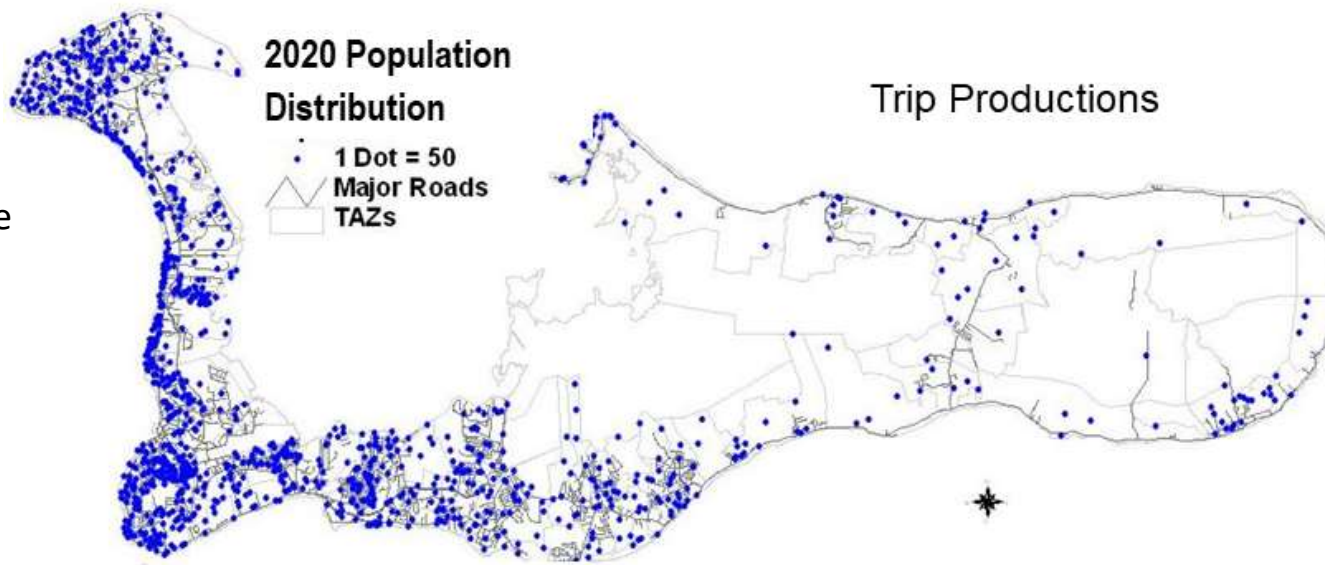
- 50% of all inbound morning traffic comes from east of Savannah Tall Tree
- There is only one lane available b/w EE and Sav to support all of the eastern district traffic.



GOAL: EW extended to Frank Sound by 2026/27



Where people live



VS

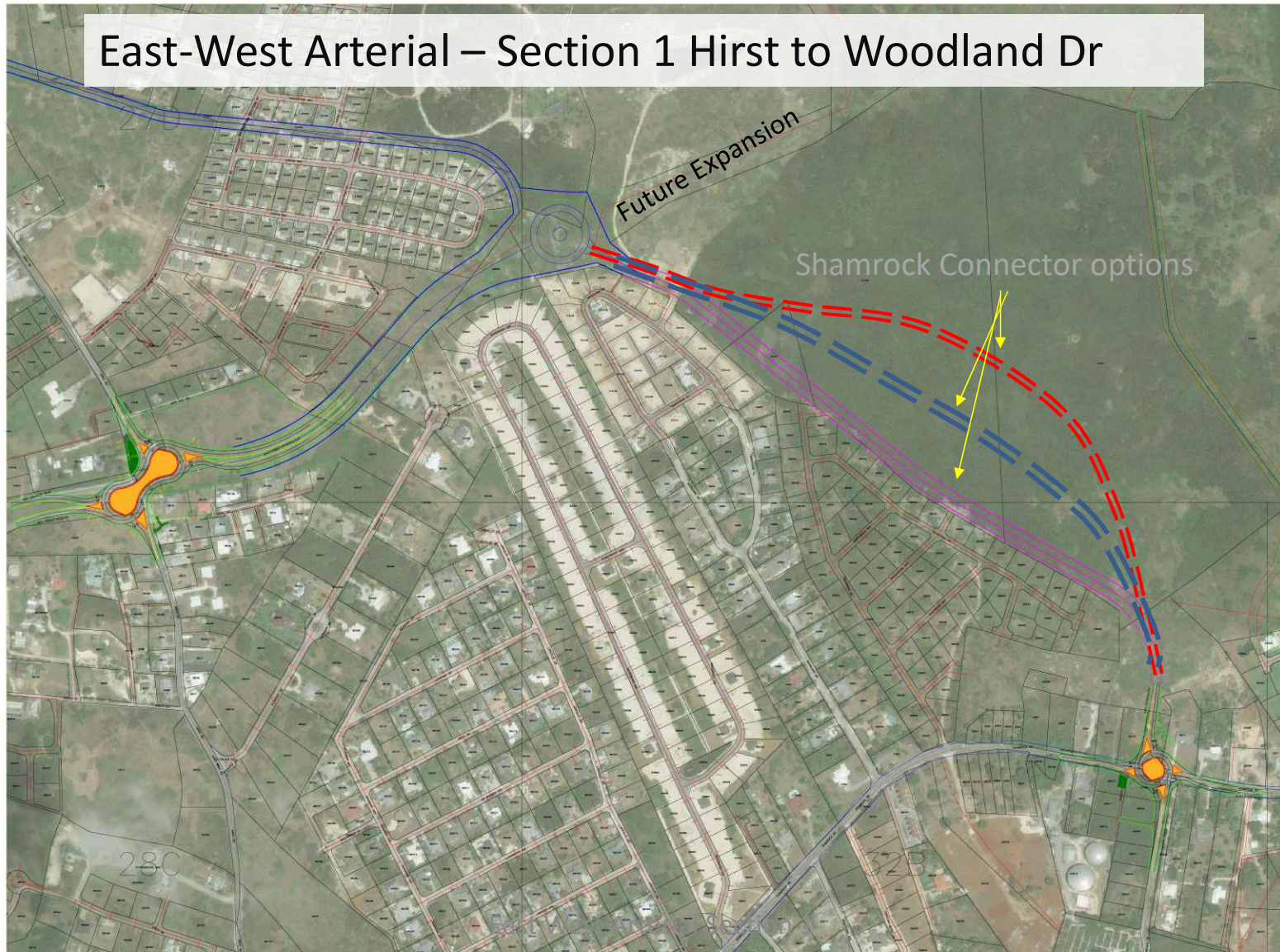
Where people work





New Developments impacting the Constrained Corridor


East-West Arterial – Section 1 Hirst to Woodland Dr





THE CASE FOR THE E-W EXPANSION

- Creates a highly disaster resilient “central highway”
- Serves an emergency route when coastal roads are compromised
- Opens land for development on the interior
- Provides road hierarchy and provides enhanced access and connectivity
- Reduces travel times for EE, NS & BT residents
- Facilitates utilities expansion (electricity, fibre, water, central sewer)
- Can serve as a major horizontal conveyance for future storm water management systems
- Enhances the local tourism product by allowing quicker and easier tour-access to outlying tourist attractions (Botanic Park, Cayman Crystal Caves, Rum Point, etc)



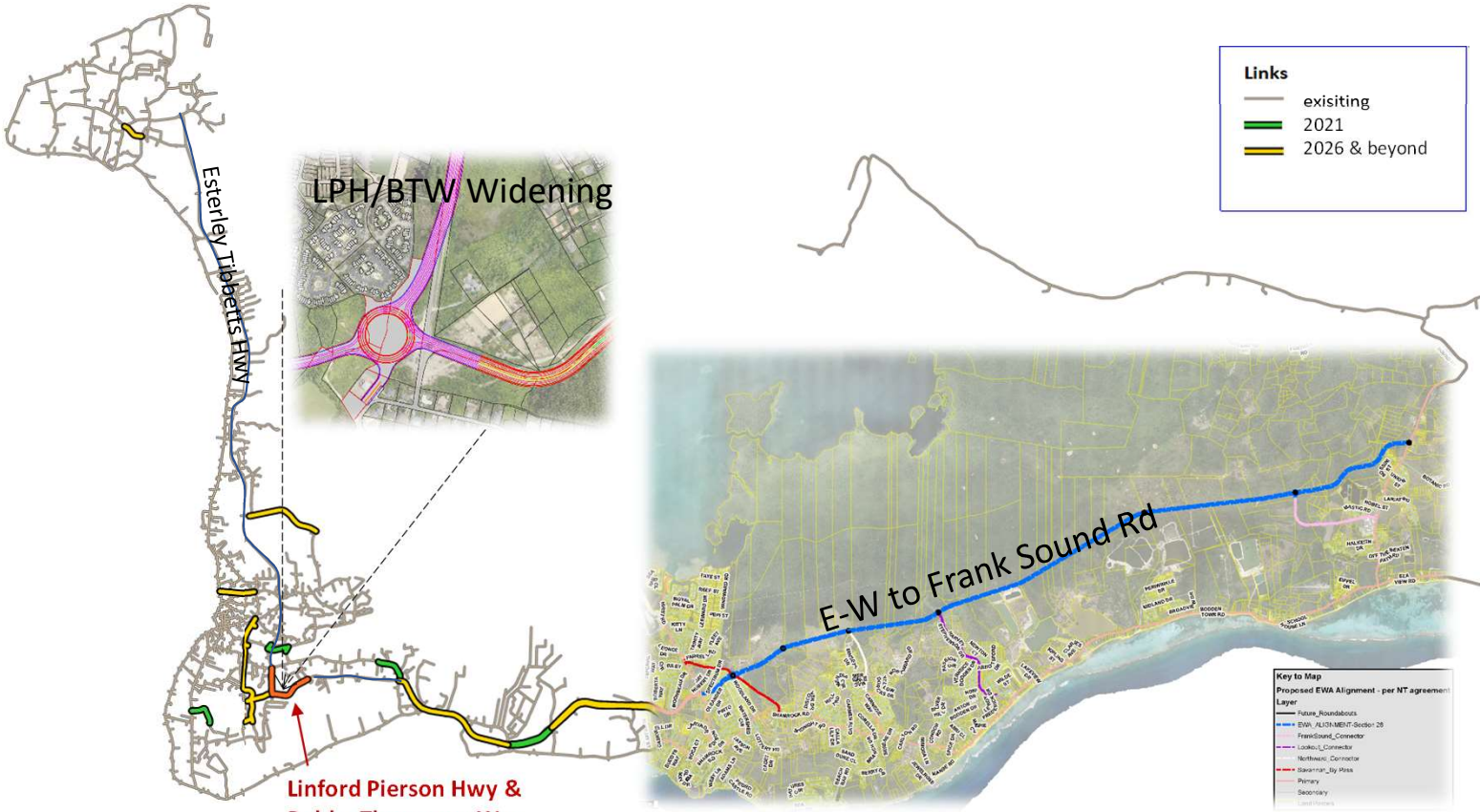
Successful implementation of the EW Arterial greatly assists the Government in its new set of national priorities targeting growth and economic development. These include priorities of:

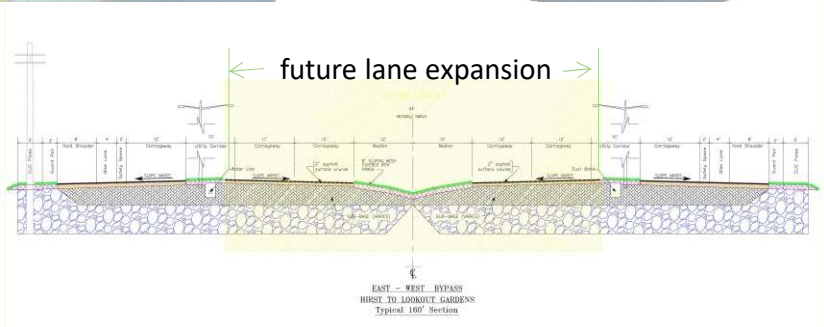
- Creating jobs
- Investment in critical infrastructure
- Encouraging business investment
- Improving road travel reliability
- Making the island more climate resilient
- Increasing housing supply
- Developing modern, safe, and efficient public transportation

The NRA's goals for roads in particular include:

- Reducing travel time
- Increasing roadway lane capacity/ improve road travel reliability
- Developing comprehensive North-south and east-west primary arterials
- Improve road safety for all road users
- Ensure on-time running for public transport
- Developing a resilient road network for effective emergency planning and response
- Serve as a driver of strategic growth and planning initiatives.

EW Arterial & LPH Widening – National Priorities





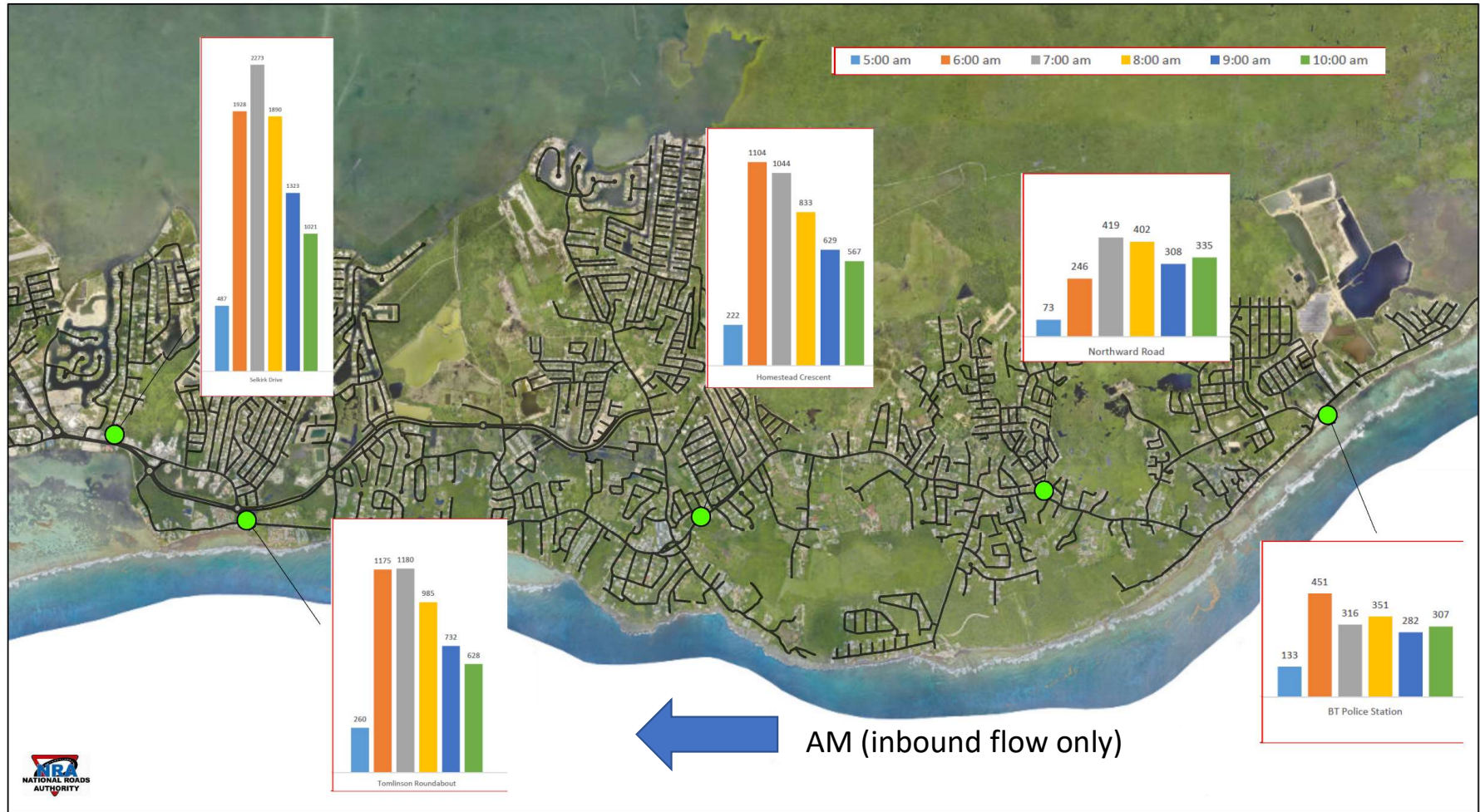
These materials were prepared by the Council of Experts in the amount of 70% and approved by the Council on 16th September 2018.

- EWA Extension to Lookout Gardens

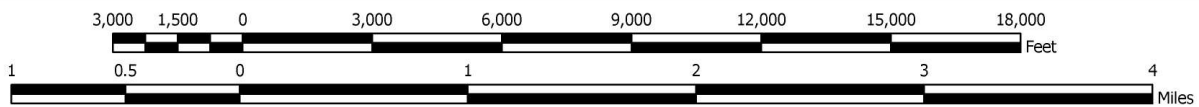


Traffic Analysis

2018 Comparison of Morning Conditions for Inbound Traffic Along Main Road at Key Intersections



Base mapping data provided by the Lands & Survey Department - Map produced by Transportation & Planning Unit October 7, 2021

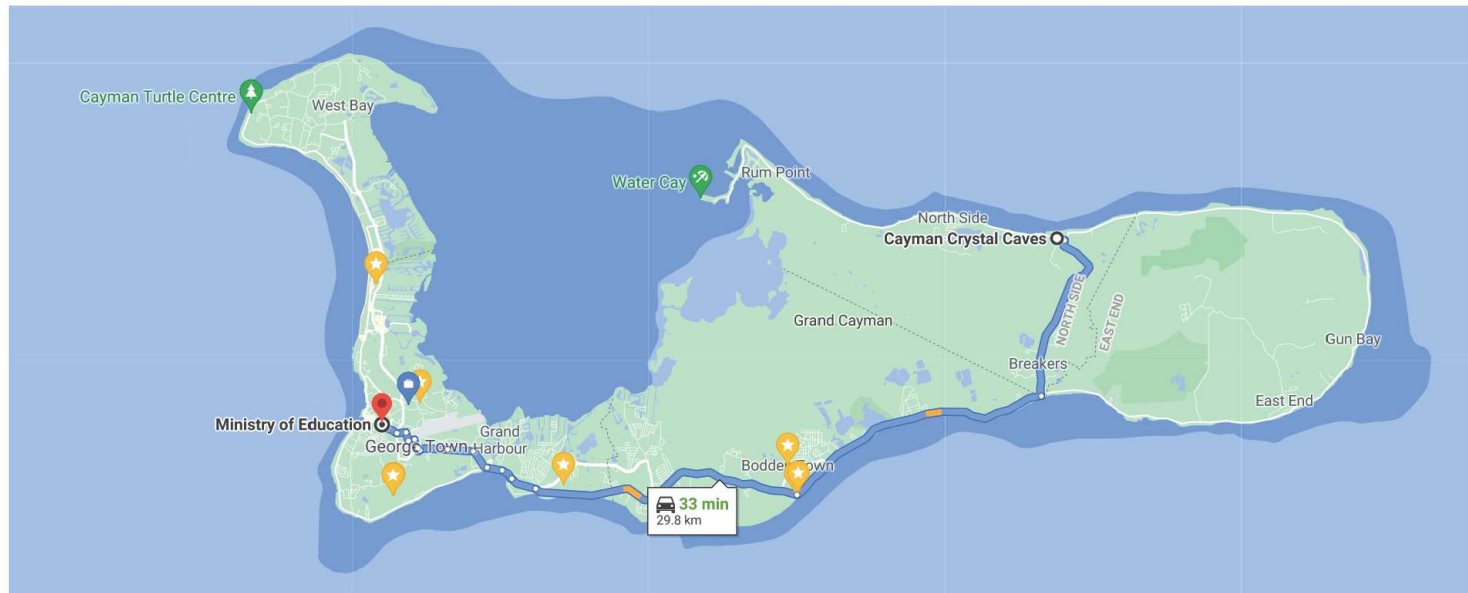


TRAVEL TIME COMPARISONS

- Off Peak (i.e. non rush hour)

Google Maps Cayman Crystal Caves to Ministry of Education

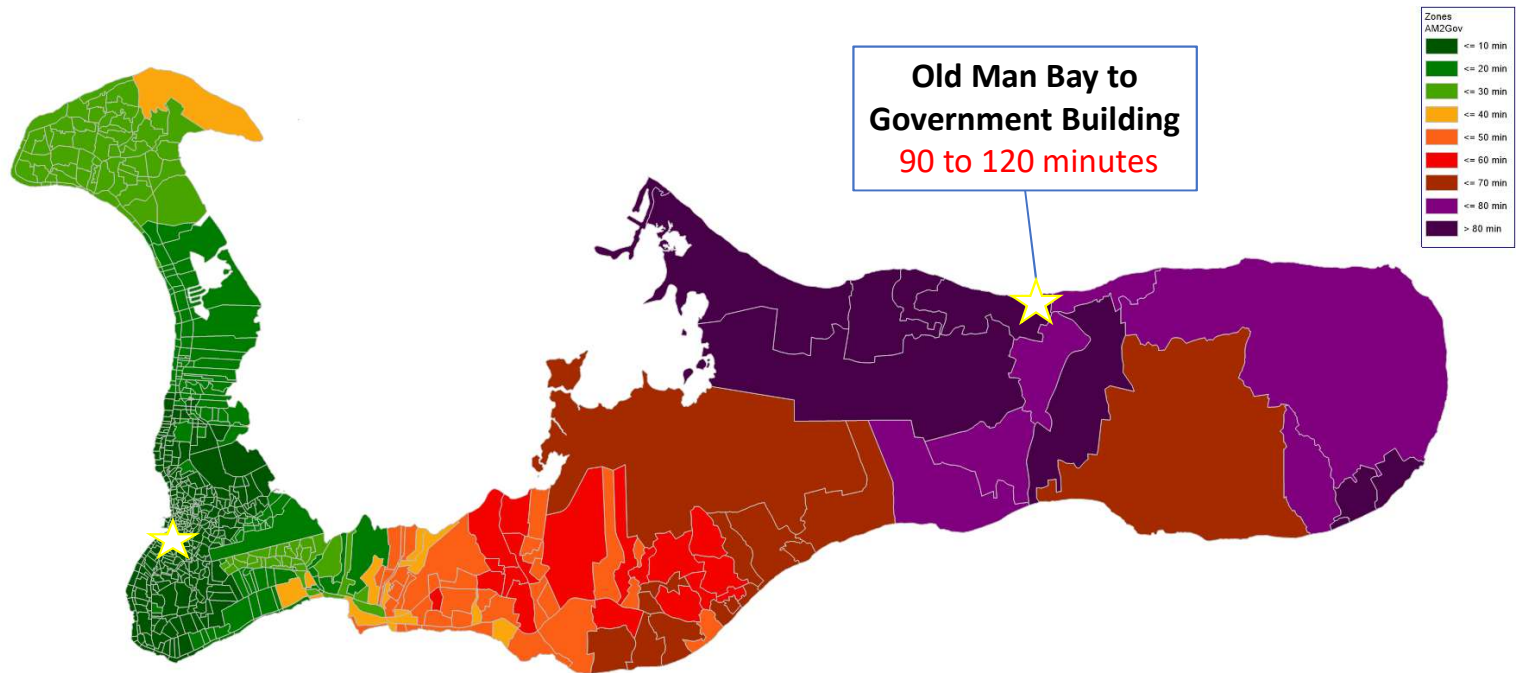
Drive 29.8 km, 33 min



Crystal Caves to Govt Admin Bldg = 19 miles in 33 minutes (32 mph avg speed)

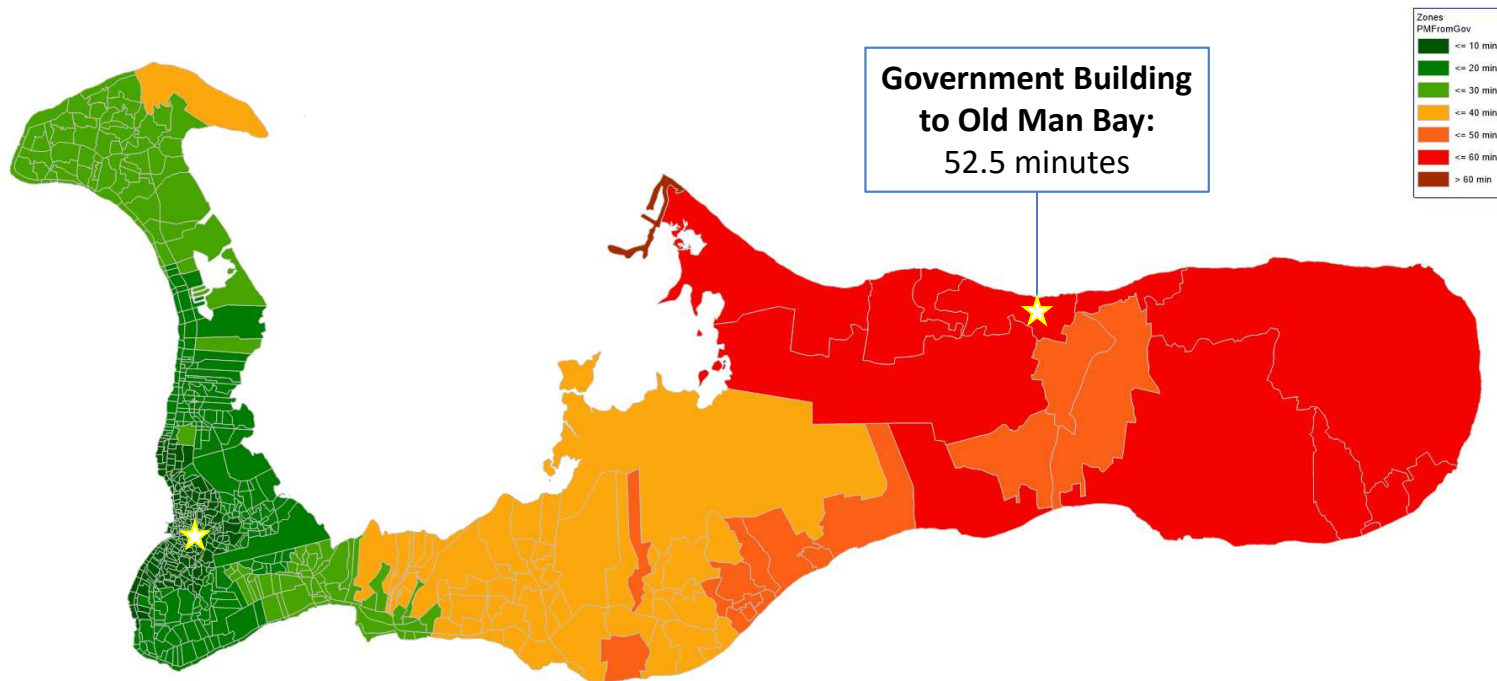
MORNING PEAK 2026 DO NOTHING

Travel Time to Government Building



- 2026 estimated travel (AM rush hour) times to GAB without LPH & EW Arterial Improvements
- **Note: Congestion periods go from current 1hr to as much as 2hrs**

PM 2026 EWA EXT. & BTW/LPH WIDENING – TRAVEL TIME FROM GOVERNMENT BUILDING



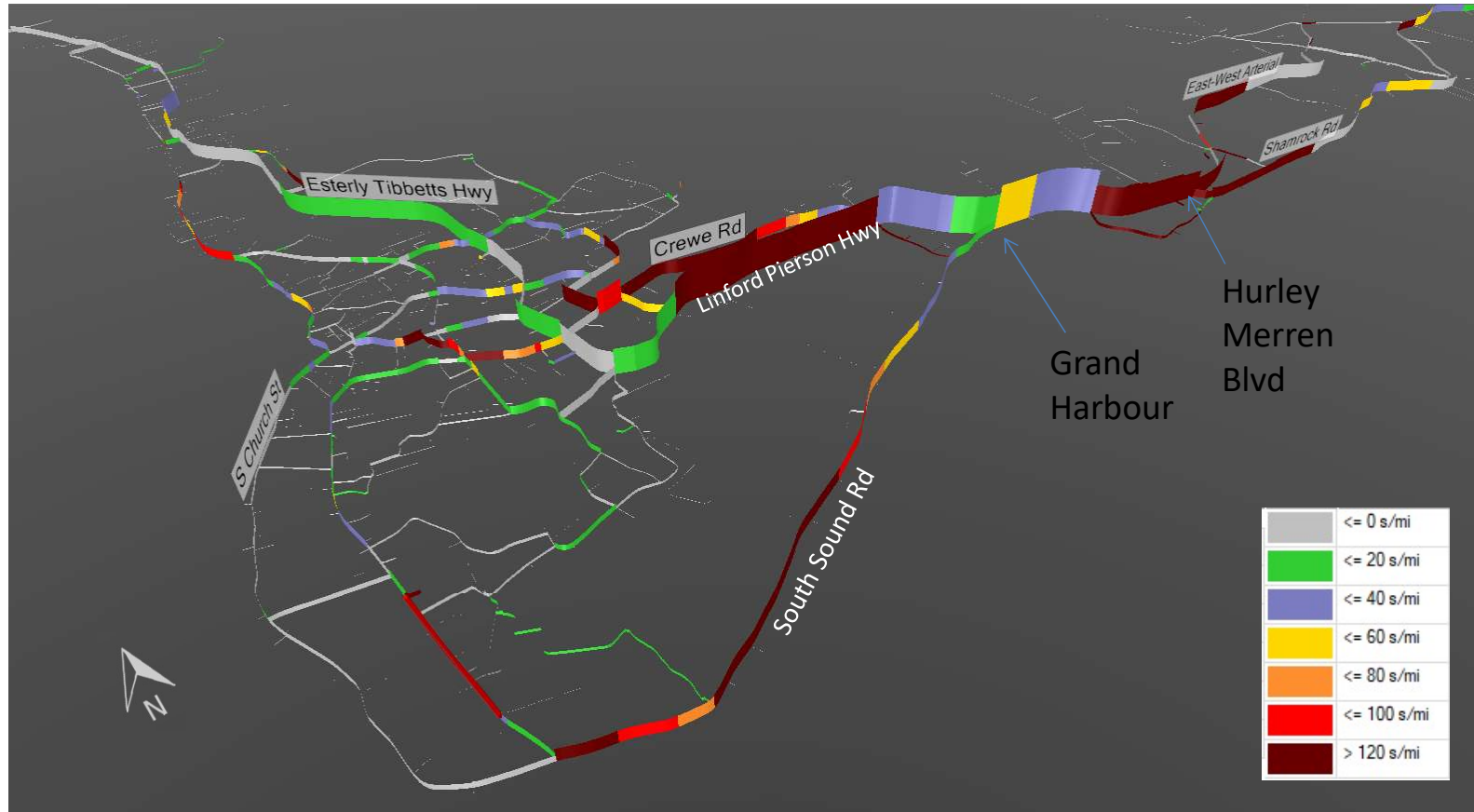
53 mins Peak Hr vs 33 mins Off Peak

TRAVEL TIME COMPARISONS

AM PEAK HR (6:30 am to 8:30 am) OLD MAN BAY to GOVT Admin Building				
Status Quo (i.e. marginal improvements)	BTW (4 lanes) Widening only	E-W Arterial (to Lookout Gdns) only	EWA + BTW combined	EWA + BTW + SHAMROCK (6lanes)
90 mins to 120 mins 13 mph avg spd	~75 mins 15 mph avg spd	~75 mins 15 mph avg spd	~62 mins 18 mph avg spd	45-50 mins 28 mph avg spd

PM PEAK HR (4:30 pm to 6:30 pm) Govt Admin Building to Old Man Bay				
Status Quo (i.e. marginal improvements)	BTW (4 lanes) Widening only	E-W Arterial (to Lookout Gdns) only	EWA + BTW combined	EWA + BTW + SHAMROCK (6lanes)
50 to 60 mins 19 - 23 mph avg spd	~57 mins 20 mph avg spd	~54 mins 21 mph avg spd	~50 mins 23 mph avg spd	~45 mins 25 mph avg spd

AM 2026 EWA EXT. & BTW/LPH WIDENING – AM DELAY PER MILE (CHOKE POINTS)



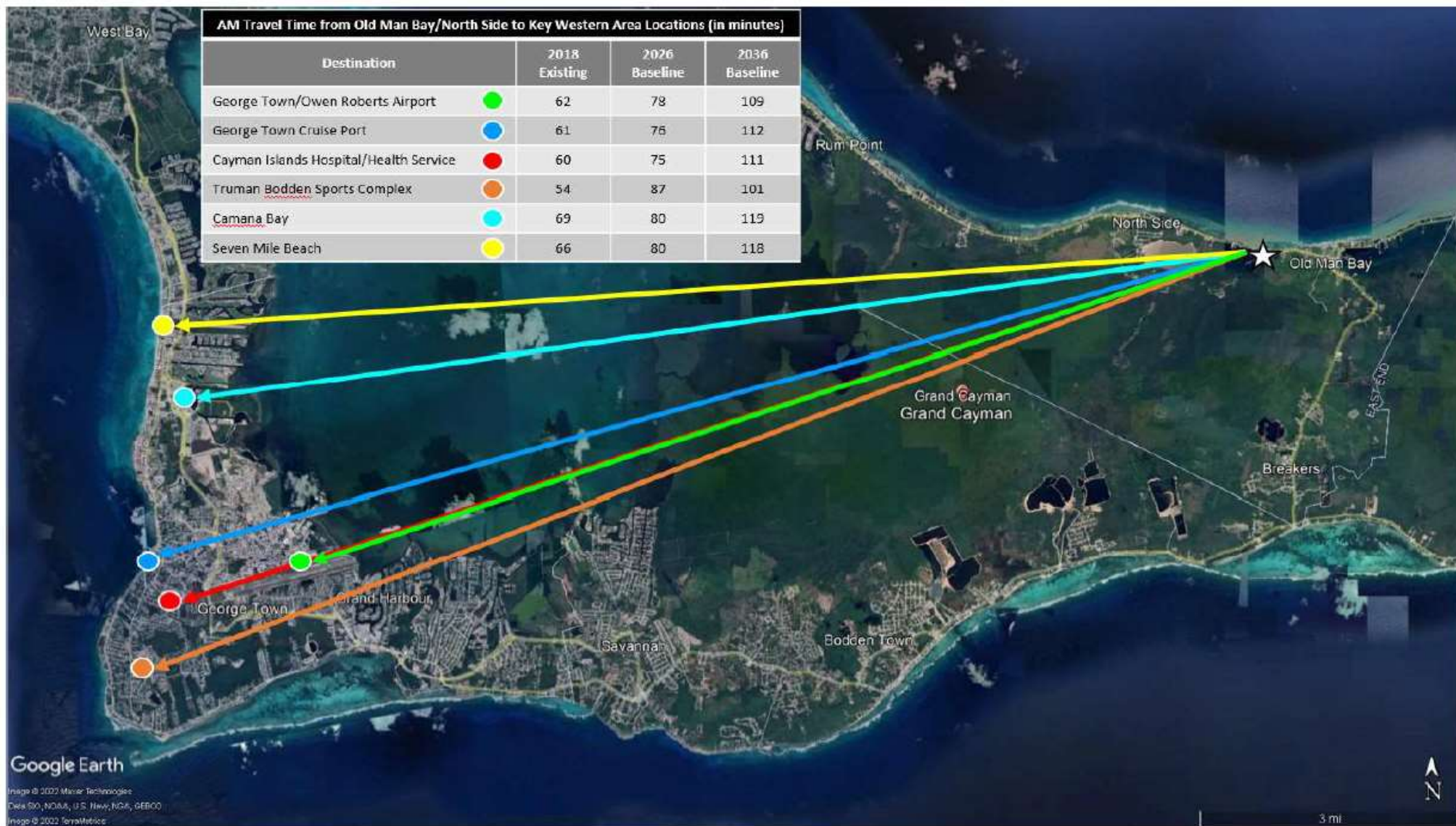


Figure 7: AM Travel Time (in minutes) from Old Man Bay, Northside to Key Western Area Locations (Without EW Arterial Expansion)

EIA DEVELOPMENT & HIGHWAY DESIGN/BUILD



Outline: Development of EIA Coordination and Review Framework

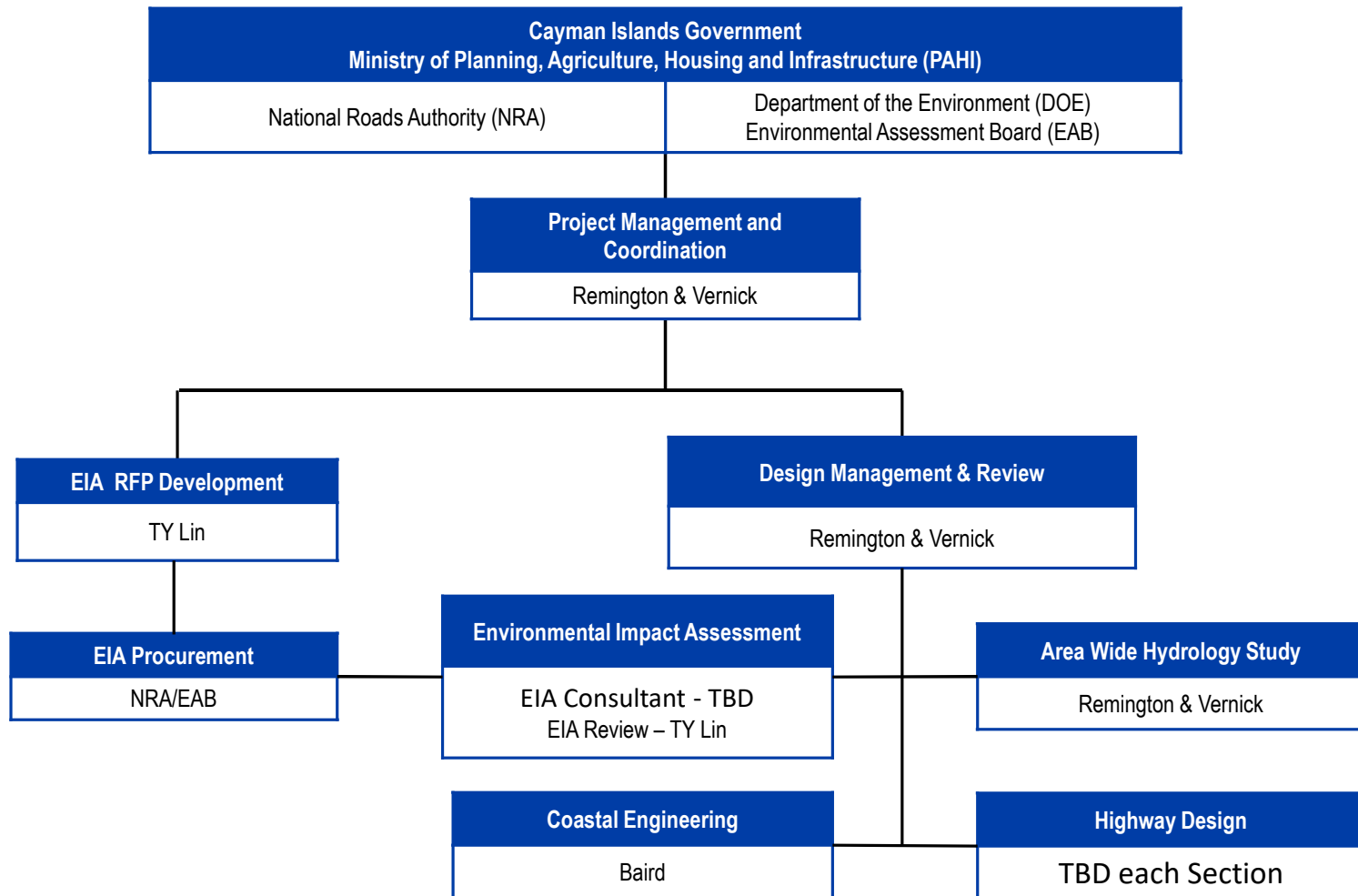
Completed to Date

- Draft Timeline
- Team Organization
- Scoping opinion (for road to LookOut)
- Draft EIA Request for Proposal (RFP)

Next Steps

- Revise scoping opinion (for road to Frank Sound)
- Draft EIA Coordination and Review Framework
- Advertisement of RFP for EIA Proponent

East-West Arterial Project Development Team



EIA Steering Cmte – key personnel

2 hydrology & stormwater experts;
1 environmental scientist (Coral Gables, Fla);
1 Coastal Engineer and storm surge modeling expert.

National Roads Authority

- Edward Howard, Managing Director
- Denis Thibeault, Assistant Director
- Mark Scotland, Consultant/Project Manager

Remington and Vernick

- Steven Bolt, PE, PTOE – Project Management – 35 years exp, 18 years local project exp.
- Joseph Pegnetter, PE – Project Management – 28 years exp, 14 years local project exp.
- Qingyuan Liu, PE – Hydrology and Drainage – 30 years exp, 13 years local project exp.
- Stuart Gause, PE – Hydrology and Drainage – 31 years exp, 8 years local project exp.

TY Lin (Florida & Pennsylvania)

- Paul Archibald, PE, PTOE – Project Management – 32 years exp, 1 year local project exp.
- Sara Gutekunst, - Environmental Scientist – 9 years exp

Baird (Canada)

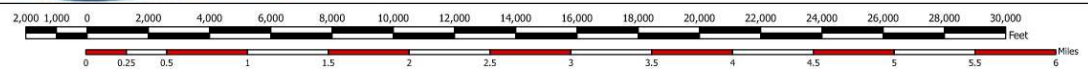
- Doug Scott PhD P.Eng – Coastal Engineering - 34 years exp, 14 years local project exp.

EWA Extension Corridor from Hirst Road to Frank Sound Rd- Context for EIA and Drainage Impact onto Central Mangrove System



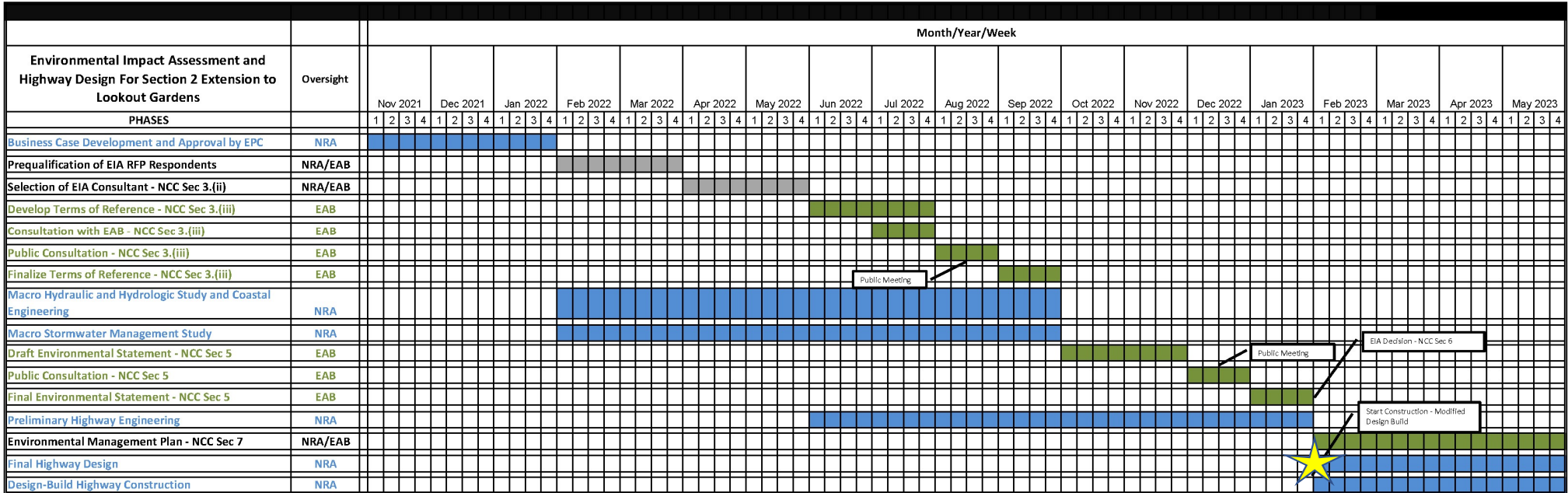
- Legend**
- EWA Extension Alignment**
- Layer
 - Future_Roundabouts
 - Gazetted
 - Savannah_By-Pass (Gazette Imminent)
 - Will T Connector Option
 - Extension to Lookout (Phase 2)
 - Northward Connector (Future)
- EWA Alignment - Lookout to Frank Sound Rd**
- EWA Alignment - Lookout to Frank Sound Rd
 - Approved or Planned Developments
 - National Trust Land

Base mapping data provided by the Lands & Survey Department - Map produced by Transportation & Planning Unit August 30, 2021



Proposed Timeline of Full Environmental Impact Assessment of EW Arterial extension to Frank Sound Road

Section 2 - Extension to Lookout Gardens

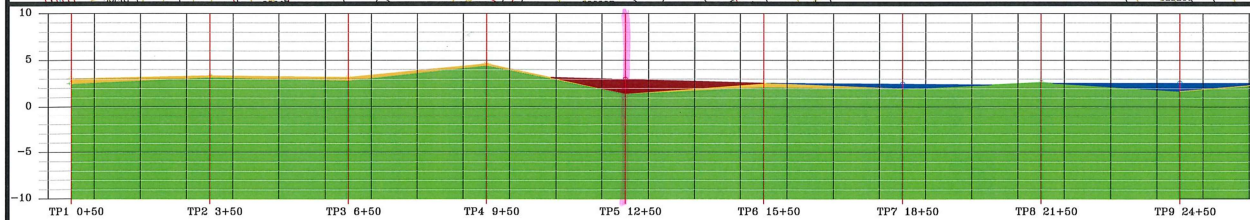
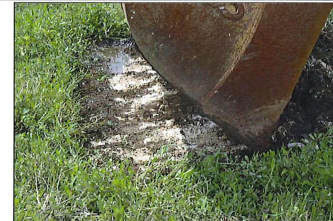
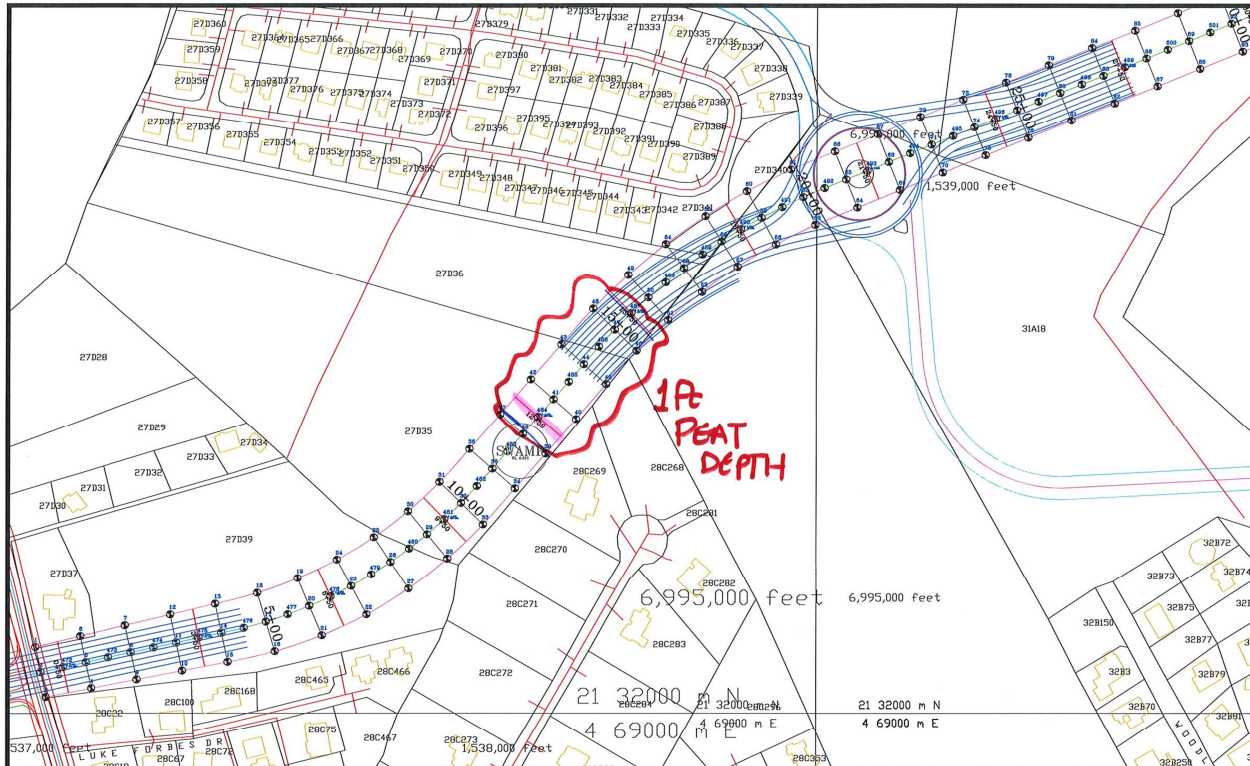


NRA Activities



Stepwise EIA Consultant Activities as per the EIA Directive
(Preliminary schedule – subject to change)

2008 TRIAL PIT DATA -
Hirst Road to Lookout Gardens



LEGEND

PEAT SOIL ROCK WATER LEVEL

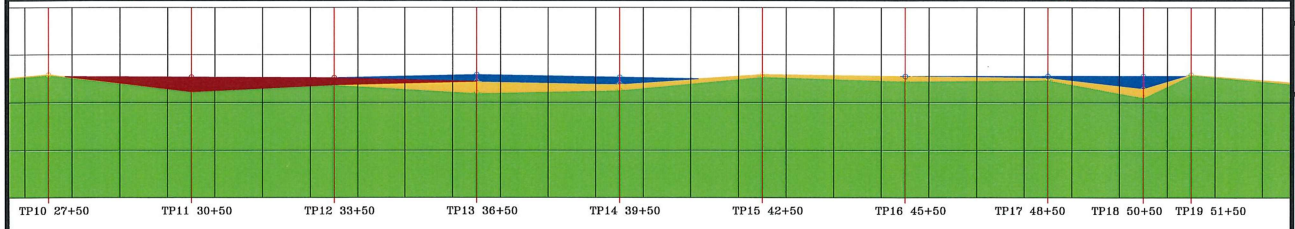
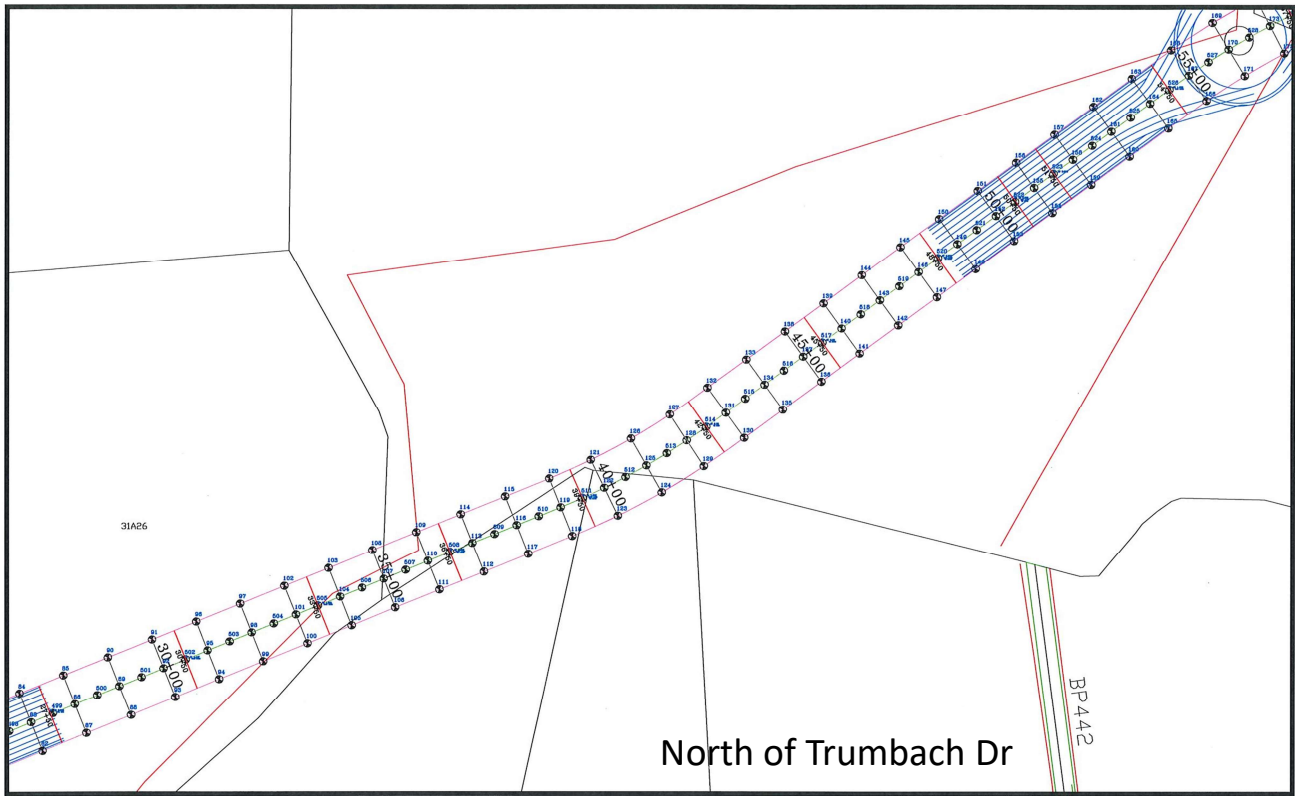
EAST WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008									
POINT #	TRIAL PIT	FOOTING LOC.	DEPTH	SOIL	ROCK	WATER LEVEL	DEPTH	SOIL	ROCK
472	TP1	0+50	300'	1.15	1.03	1.13			
473	TP2	3+50	300'	1.11	1.15	1.28			
474	TP3	6+50	300'	1.11	1.12	1.12			
475	TP4	9+50	300'	1.41	1.44	1.44			
476	TP5	12+50	300'	1.54	1.68	1.93	1.05		
477	TP6	15+50	300'	1.41	1.41	1.41	1.11		
478	TP7	18+50	300'	1.54	1.68	1.68	1.54		
479	TP8	21+50	300'	1.54	1.68	1.68	1.54		
480	TP9	24+50	300'	1.54	1.68	1.68	1.54		

NATIONAL ROADS AUTHORITY

C/O P. O. BOX # 10426 APO
370 NORTH SOUND ROAD, GEORGE TOWN
GRAND CAYMAN, CAYMAN ISLANDS, B.W.I.

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TITLE
PLAN AND PROFILE LOCATIONS
FOR GEOTECHNICAL SURVEY
ON THE EAST-WEST EXTENSION



LEGEND

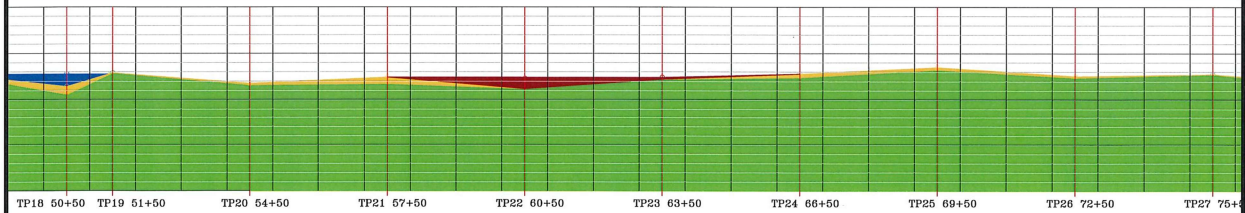
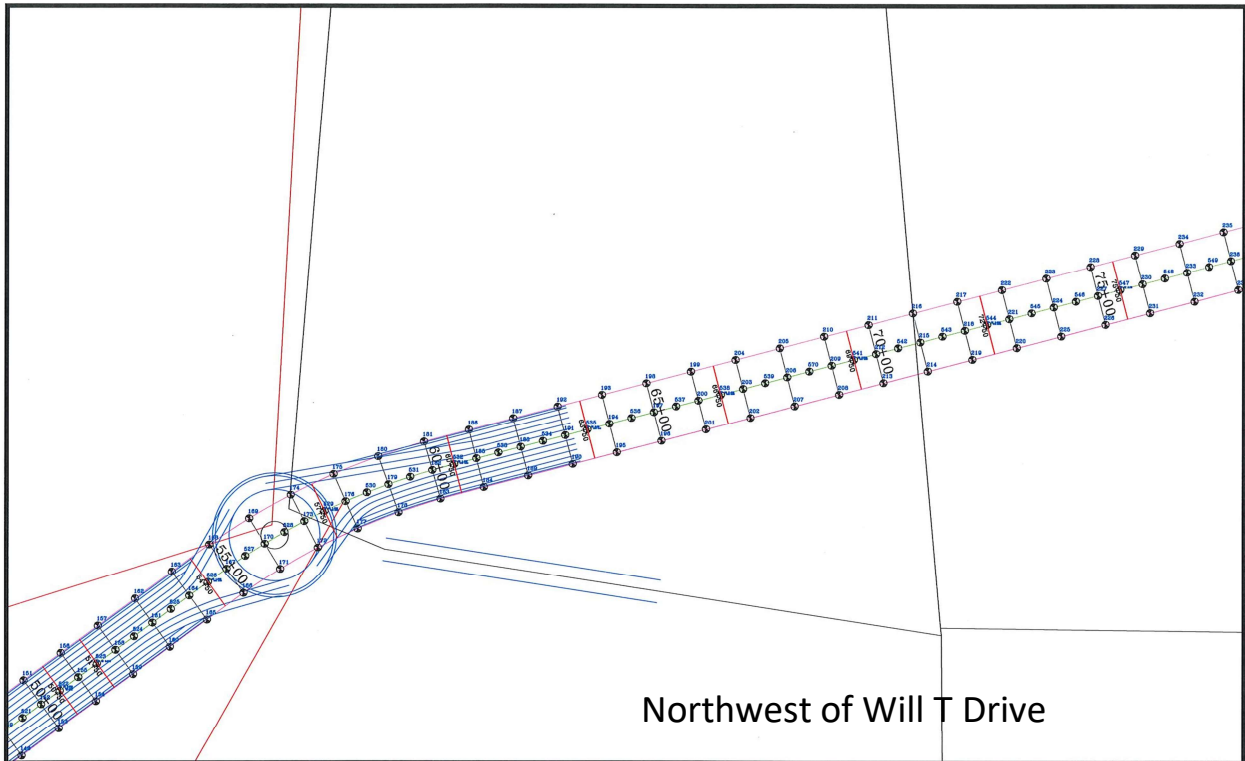


EAST-WEST EXTENSION HRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008									
POINT #	TRIAL PIT NO.	STATION	LOC.	DISTANCE FT.	DEPTH FT.	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
496	TP10	27+50	300'	0.0'	2.41	1.66	1.14		
503	TP11	30+50	300'	0.0'	2.15	1.27	1.52		
506	TP12	33+50	300'	0.0'	1.05	2.04	1.93		
508	TP13	36+50	300'	0.0'	1.35	2.15	1.27		
511	TP14	39+50	300'	0.0'	0.95	2.04	1.93		
514	TP15	42+50	300'	0.0'	0.95	2.15	1.27		
517	TP16	45+50	300'	0.0'	1.15	2.15	1.27		
520	TP17	48+50	300'	0.0'	1.15	2.15	1.27		
522	TP18	51+50	100'	0.0'	1.15	2.15	1.27		

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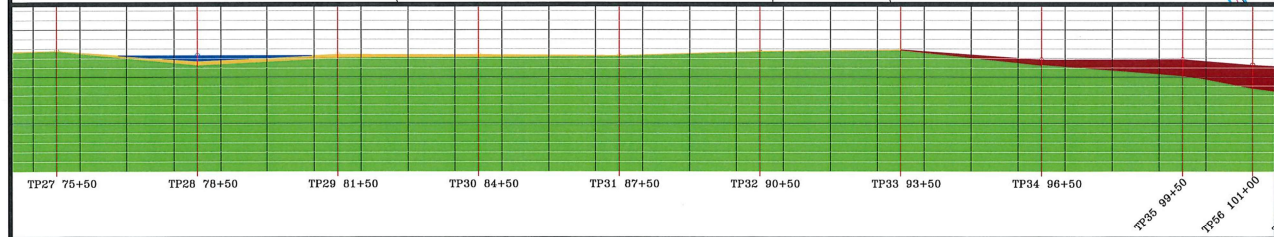
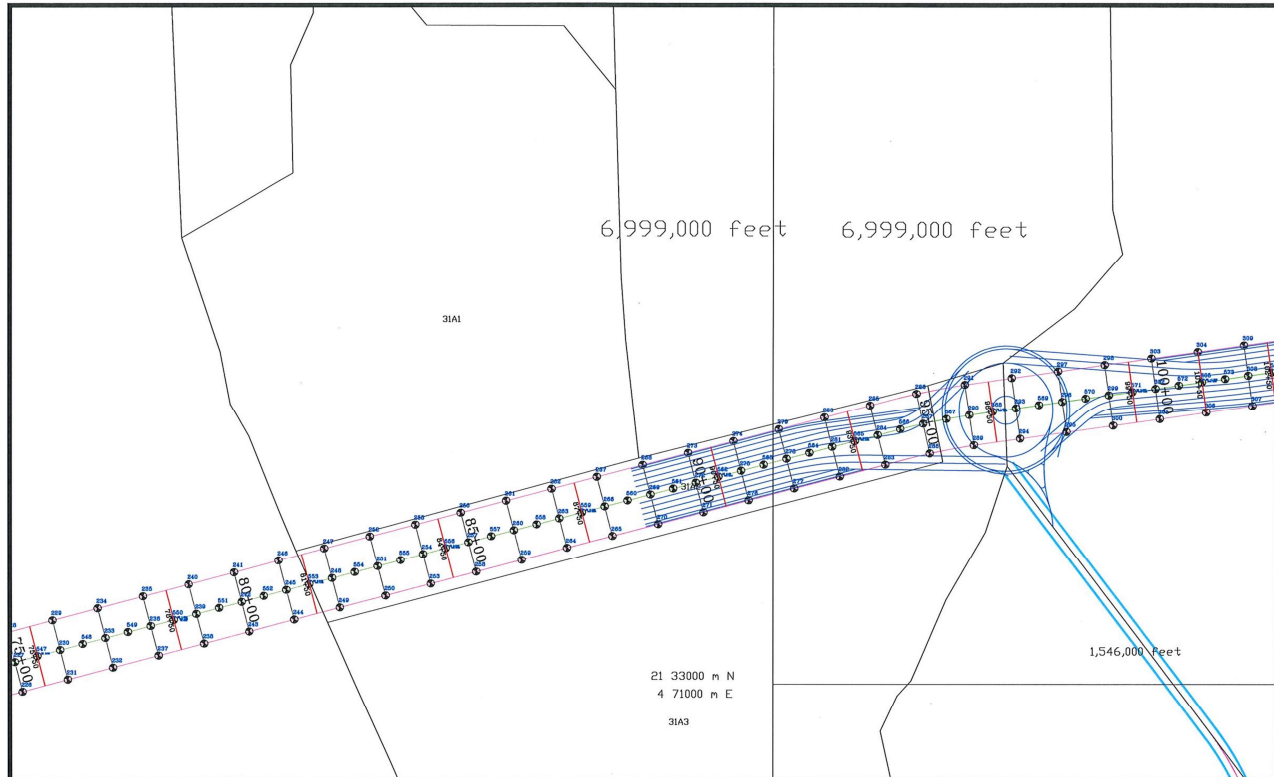


EAST-WEST EXTENSION HURRY ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008									
POINT #	TRIAL PIT NO.	SOIL TYPE	DEPTH (ft)	SOIL	ROCK	WATER LEVEL	DATE	TIME	BY
001	YP18	61-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
002	YP19	62-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
003	YP20	63-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
004	YP21	64-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
005	YP22	65-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
006	YP23	66-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
007	YP24	67-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
008	YP25	68-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
009	YP26	69-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.
010	YP27	70-60	30P	1.750	1.000	1.000	09/01/08	11:00	D.M.

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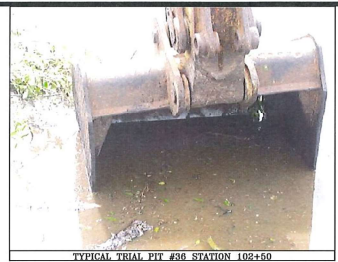
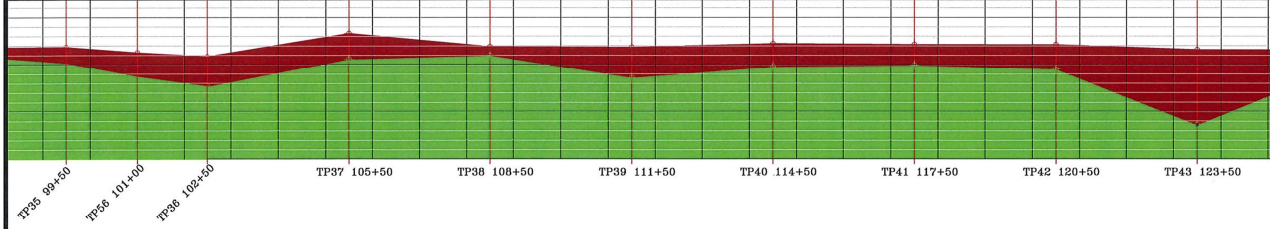
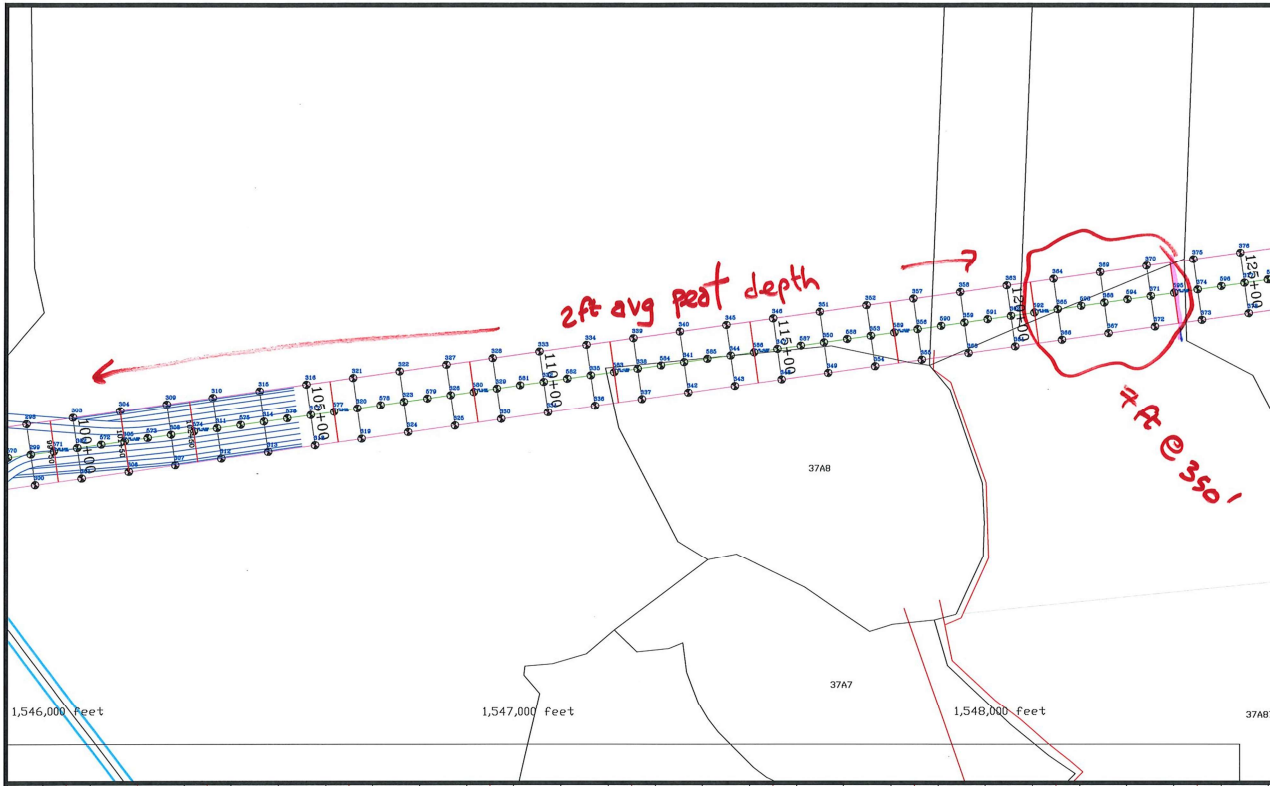
LEGEND

PEAT
 SOIL
 ROCK
 WATER LEVEL

EAST-WEST EXTENSION HRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008										
POINT #	TRIAL PIT NO.	STATION	LOC	DISTANCE (FT)	SOIL	ROCK	WATER LEVEL	SOIL LAYER	PEAT LAYER	ROCK LAYER
800	TP28	76+50	200'	2151'	2.0	1.1	2.432	2.048	2.048	1.758
800	TP28	81+50	200'	2151'	2.0	1.1	2.432	2.048	2.048	1.758
800	TP28	84+50	200'	2151'	2.0	1.1	2.432	2.048	2.048	1.758
800	TP28	87+50	200'	2151'	2.0	1.1	2.432	2.048	2.048	1.758
800	TP28	90+50	200'	2151'	2.0	1.1	2.432	2.048	2.048	1.758
800	TP28	93+50	200'	2151'	2.0	1.1	2.432	2.048	2.048	1.758
800	TP28	96+50	200'	2151'	2.0	1.1	2.432	2.048	2.048	1.758
800	TP28	99+50	200'	2151'	2.0	1.1	2.432	2.048	2.048	1.758
800	TP28	101+00	100'	1101'	1.0	1.1	1.101	1.101	1.101	1.101

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TITLE
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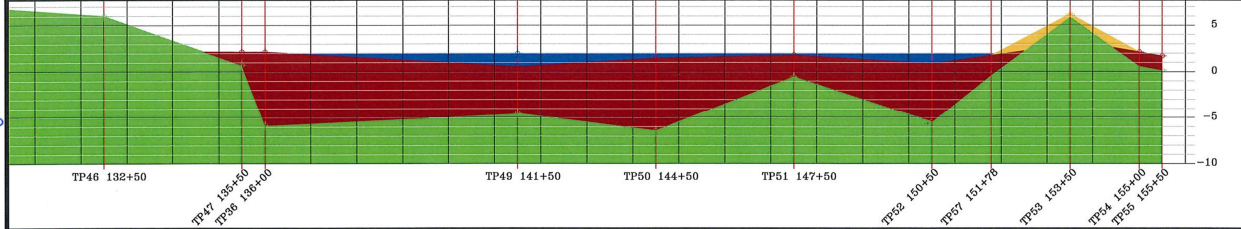
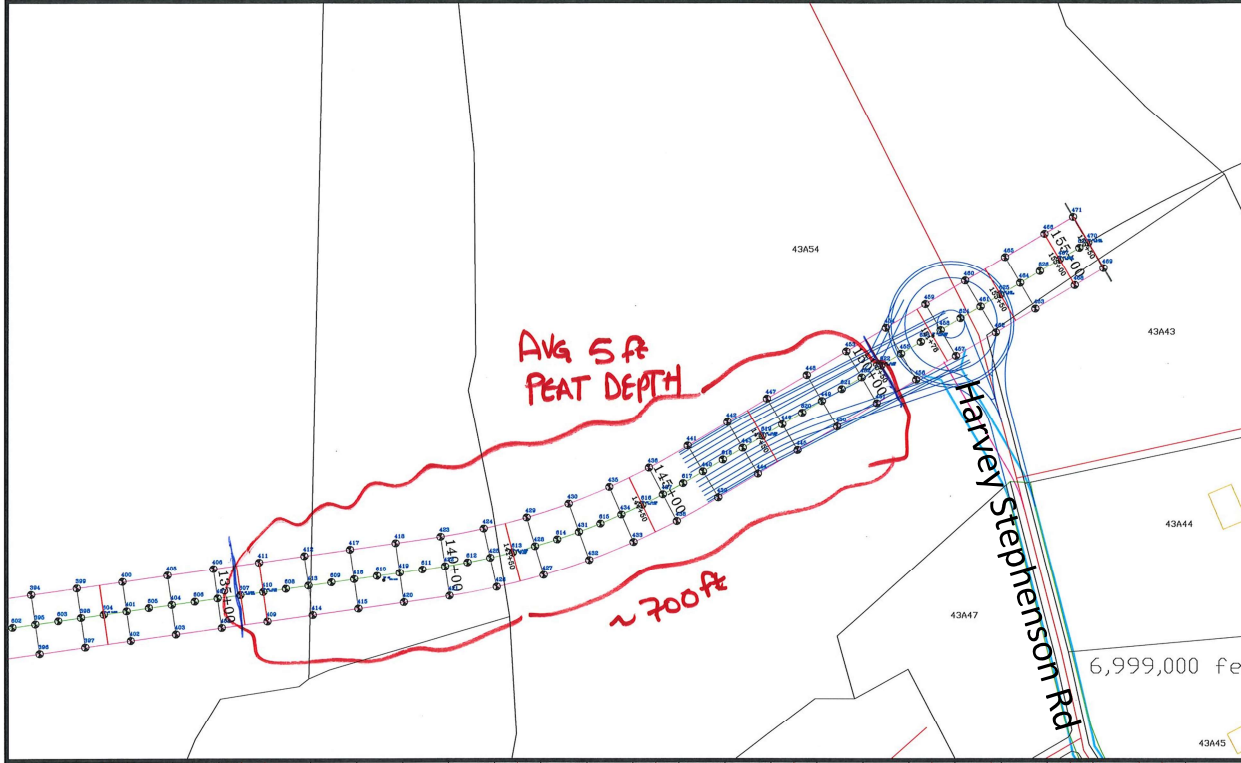
■ PEAT
 ■ SOIL
 ■ ROCK
 ■ WATER LEVEL

EAST-WEST EXTENSION HIRST ROAD TO LOOK OUT GARDENS GEOTECHNICAL SURVEY SEPTEMBER 2008										
POINT #	TRIAL PIT NOS	STATION/OC	DISTANCE IN	DEPTH TO WATER	SOIL LAYER	PEAT LAYER	ROCK LAYER	PEAT	SOIL	ROCK
214	1758	100+50	300	0.75	1.75	1.75	0.00	0.00	0.00	0.00
217	1757	100+50	300	1.10	1.10	1.10	0.00	0.00	0.00	
220	1758	100+50	300	1.75	1.75	1.75	0.00	0.00	0.00	
222	1759	111+50	300	1.50	1.50	1.50	0.00	0.00	0.00	
226	1748	114+50	300	1.75	1.75	1.75	0.00	0.00	0.00	
228	1748	114+50	300	1.75	1.75	1.75	0.00	0.00	0.00	
232	1742	120+50	300	1.10	1.10	1.10	0.00	0.00	0.00	
235	1743	123+50	300	0.75	0.75	0.75	0.00	0.00	0.00	

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TITLE
**PLAN AND PROFILE LOCATIONS
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 ON THE EAST-WEST EXTENSION**



LEGEND

PEAT	SOIL	ROCK	WATER LEVEL
------	------	------	-------------

TRIAL PIT NO.	STATION	LOC.	DIS.	PROF.	SOIL LAYER	ROCK LAYER	WATER LEVEL
51	147+50	147	147	147	147	147	147
52	160+50	160	160	160	160	160	160
55	155+50	155	155	155	155	155	155

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Dwg.No.	7								

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