

Appendix C - Washington State Ferries
3. November 26, 1997 Memorandum From Joe Bement
Re. WSF Bainbridge Island Ferry Terminal Master
Plan ROW Impacts to Adjacent Properties.

Sverdrup Civil, Inc. **Northwestern Region/Seattle**

November 26, 1997

CITY OF
BAINBRIDGE ISLAND

MEMORANDUM

FEB 17 1998

TO: Nicole McIntosh

DEPT. OF PLANNING &
COMMUNITY DEVELOPMENT

FROM: Joe Bement

SUBJECT: WSF Bainbridge Island Ferry Terminal Master Plan
 ROW Impacts to Adjacent Properties

Right-of-way (ROW) acquisition for the Washington State Ferries (WSF) Master Plan will impact the adjacent properties of the site, particularly along Olympic Drive (refer to the attached drawing). These impacts include vehicular access restrictions and conflicts with two buildings along the ROW boundaries. The ROW boundaries of the land parcels were determined from tax records and Sundry Site Plans. A complete boundary survey is required prior to final design of the facility to determine the actual boundaries of the ferry terminal with adjacent properties.

VEHICULAR ACCESS RESTRICTIONS

Improvements to traffic flow through the facility results in restrictions to vehicular access from adjacent properties to Olympic Drive. The Master Plan facility is designed to best accommodate the traffic flow of vehicles loading and unloading from the vessels, and entering and exiting from the transit deck, parking facilities, and Eagle Harbor developments. The plan allows only one access location from the land parcels along Olympic Drive. This driveway, which only allows exiting, provides access for the parking lot of the Winslow Marine Association. Vehicles will enter this parking lot at Ferncliff Avenue. The parcels served by the other existing driveways along Olympic Drive will enter and exit from driveways along Winslow Way. This requires that one business with existing access only to Olympic Drive be provided with another driveway. This business, Daigle Design, will be provided with a property easement through the City of Bainbridge Island (COBI) parking lot north of the facility to Winslow Way. This easement will provide unencumbered access to the land parcel, unlike the existing configuration where vehicles must cross exiting vehicles on Olympic Drive to enter the land parcel. This easement will allow two lanes of traffic in each direction.

In the WSF Master Plan, the intersection has been widened to provide travel lanes for bicyclists, single occupancy vehicles, and transit buses, and sidewalks for pedestrians. The

ROW IMPACTS TO ADJACENT PROPERTIES

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The curb radii on the northwest and northeast corners have been increased to better accommodate the turning movements of trucks and buses. With this widening, there are impacts to two land parcels on the northwest corner, operated by a multi-retail center on the corner and a tow truck facility directly north. Currently, these businesses share a driveway, which is located in the center of the existing curb radii. This driveway location does not meet the standard engineering design of a 50-foot offset between the driveway edge and the nearest cross street ROW. An alternative for access to these businesses include a property easement west of the intersection through an existing parking lot operated by Diamond Parking (refer to the attached drawing). Customers and employees of these businesses would enter the property on Winslow Way west of the intersection and travel to the land parcels on a two-lane roadway. This easement will not affect the operations of the parking lot, which is a self-pay facility. Mitigation for parking at the corner building, which will be impacted by the corner radius widening, could be relocated to the Union Oil land parcel on the southwest corner of the intersection. An area of 5,000 square feet is needed to replace the parking spaces displaced.

BUILDING IMPACTS

The City Hall building on the southeast corner of the Winslow Way and SR-305 intersection must be relocated to accommodate the proposed traffic lanes at the intersection. Currently, there are plans to construct this building elsewhere in the Winslow Area. Another building, operated as an automotive shop on the Bainbridge Parking Partnership property along Olympic Drive, also conflicts with the transit deck merge area with the exit lanes.

ROW PURCHASES

Olympic Drive will be widened to include entrance and exit lanes, transit deck, bicycle lanes, and sidewalks for the WSF Master Plan facility. This requires ROW purchases along both sides of the roadway, varying in width from 0 ft at the intersection to 69 feet at the proposed exit holding lane location (refer to the attached drawing). The following is a table summarizing the approximate ROW requirements (refer to the attached drawing for the land parcel number locations). All of the land parcels will be useable to the present businesses after the purchase of these ROW areas.

SUMMARY OF ROW PURCHASES *			
Land Parcel Number	Owner	Area (SF / Acres)	Percent of Land Parcel Area
1	Beach	100 / 0.002	2%
2	Clarke	630 / 0.01	1%
3	Union Oil	3,075 / 0.07	7%
4	COBI	5,480 / 0.13	14%
5	Daigle Design	890 / 0.02	18%
6	Winslow Marine Association	55,160 / 1.27	18%
7	Bainbridge Parking Partnership	9,600 / 0.22	21%
Total		74,950 / 1.72	

* It was assumed that the proposed ROW would offset the facility elements, such as, edge of pavement, retaining walls and sidewalks by 5 ft. In addition, the land required from Kitsap Transit is not included.

SUMMARY

In establishing the Master Plan design, impacts to the adjacent land parcels of the site were minimized by providing the necessary facility elements that meet the needs of the future demands. The Master Plan features have been established through standard engineering guidelines, with access alternatives for entrances and exits provided through property easements.

APPENDIX B

Calculation of Winslow Way/SR-305/Olympic Drive Intersection

Z = number of cars on boat
 X = number of cars that can be stored
 L = number of existing lanes
 Y = number of cars that must be cleared through cycle 1 (Z-X*L)
 U = unloading time in seconds (6 * 60)
 G = Green time
 Gnorm = Green normal cycle length with no ferry from HCS
 Gadj = Adjusted
 S = Saturated flow rate
 C = cycle length of Gnorm run

Storage capacity 120 vehicles, 60 per lane (Sverdrup Corp.)
 6 minute unloading
 218 vehicles outbound per boat
 8 other vehicles (bus etc)

Z = 228 vehicles
 X = 60 vehicle capacity
 L = 2 lanes
 Y = 106 vehicles
 U = 360
 C = 80
 S = 1739
 Gnorm = 14 see below nb green based on HCS run A1ww305N.Hc9
 G = 169 seconds (U x Y / Z)
 R = 191 seconds (U - G)
 Gadj = 33 seconds (Gnorm x R / C)
 Gfinal = 117 seconds (Yfinal / (Z / U))
 y/r = 5 seconds
 Yfinal = 74 vehicles (Y - (Gadj * S * L) / 3600)

From Winslow Way/SR 305 counts peak hour factor

			0.44
			0.44
0.83	0.83	0.83	0.44
		0.90	0.48 0.48 0.48
		0.90	
		0.90	Source: WSDOT 12/95 count

Base Numbers from AK 1 model 12.wk4 (2015 no action alt)

			182			
			320			
312	130	128	12			
		207	122	302	9	434
		255				
		99				

Estimated 15 minute peak volumes

			103
			182
94	39	39	7
		57	84 158 5
		71	
		28	

Use these volumes to calculate Gnorm 15 min volumes

Northbound Leg	Left	Thru	Right	total
From Model12.wk4	84	158	5	226
Percent turning movmnts	0.28	0.70	0.02	
Cleared volumes	30	74	2	106
Stored volumes	34	84	3	120

Use these volumes for the final 15 min volumes

Northbound Leg	Left	Thru	Right	total
From Model12.wk4	84	158	5	226
Percent turning movmnts	0.28	0.70	0.02	
Cleared volumes	21	51	2	74
Stored volumes	43	106	3	152
Net hourly volumes	101	251	8	360
Total Hourly volumes	122	302	9	434

	15 min period	335 98.9
Period in seconds	900 sec	
Cycle without "clear" phase	80 sec	
"Clear" phase	117 sec	
Remaining cycles/period	9.78 cycles	
Unload dummie phase	12 secs/cycle	

Theory: HCS calculates level of service on a peak 15 minute period. We look at the 15 minute period as a way to estimate the effects of the unloading of a ferry vessel.

WSF says that 6 minutes for unloading is necessary to meet 3 boat headway scenario.

Method:

1. The number of vehicles that must clear through the intersection is calculated assuming that all remaining cars must be stored on the northbound approaches to the Winslow Wy/Olympic (305) intersection. This overlooks that some stored cars will be released as the signal cycle returns to normal (accounted for below).
2. To represent the effect signal releasing vehicles, the seconds of green time are estimated as if there was not an initial push, but the peak 15 minute volume is based on the stored vehicle vol.
3. A new Y (number of NB vehicles) is calculated based upon the reduction in green time for the initial push.
4. The revised volumes are run in HCS with a dummy phase which represents the time allotted for the initial phase spread out over the phases of a 15 minute period.

Adjustments to delay calculations for Northbound movement, allowing for "Clear" phase

Northbound in HCS init. thru			Intersection from A1WW305F.HC9		
			delay	Vol	
AK 1: 4 lanes					
NB Vol.	638	74 712	EB 41.8	621	
avg delay	68.8	0.0	WB 84.7	1084	
total delay	43894	0.0	NB 61.6	712	
			SB 79.8	613	
Revised NB	61.6	LOS F	intersection delay	69.5	LOS F

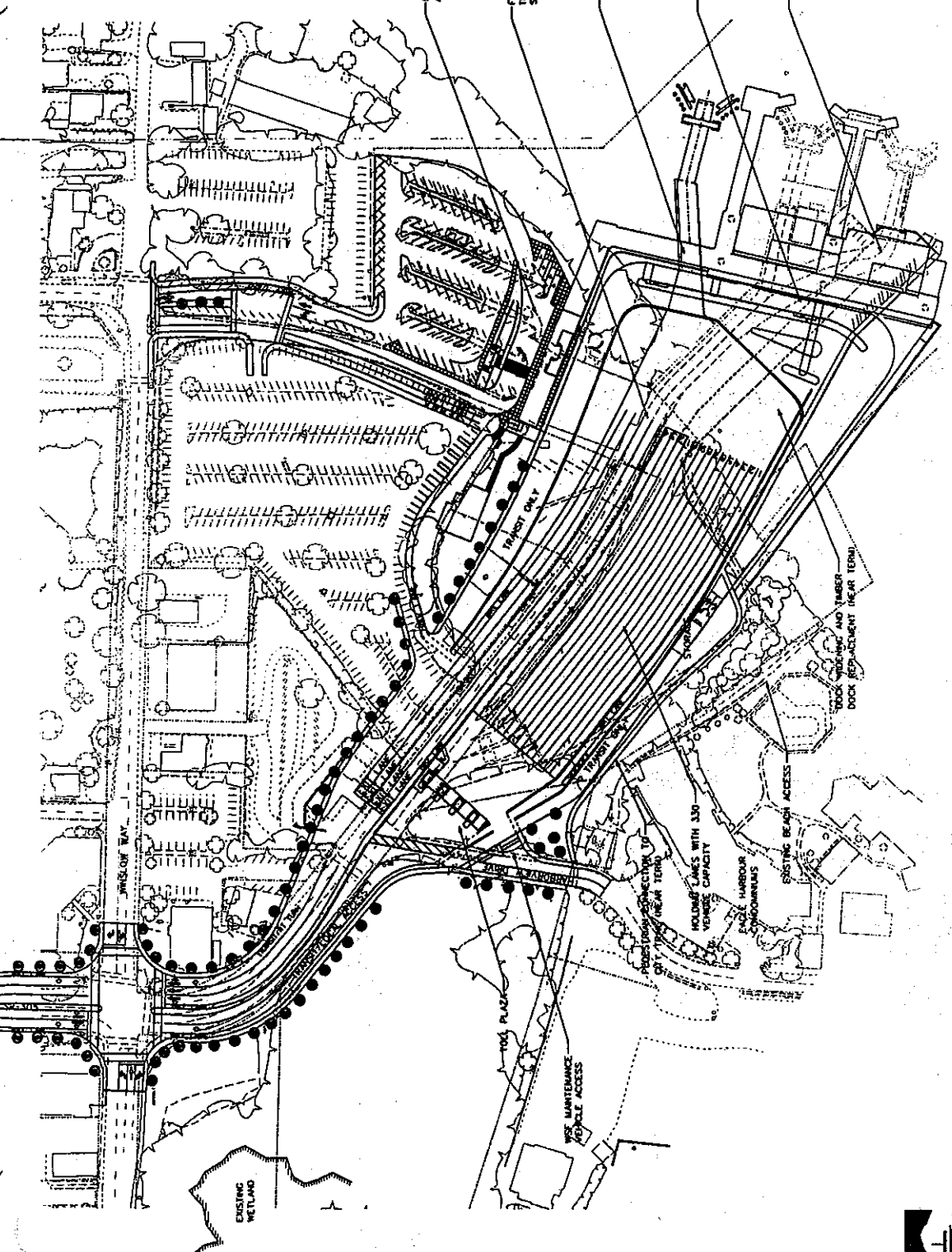
			from A2WW305F.HC9		
			delay	Vol	
AK 2: 5 lanes					
NB Vol.	638	74 712	EB 40.8	621	
avg delay	68.8	0.0	WB 73.2	1084	
total delay	43894	0.0	NB 61.6	712	
			SB 71.0	629	
Revised NB	61.6	LOS E	intersection delay	63.4	LOS F

			from A3WW305F.HC9		
			delay	Vol	
AK 3: 6 lanes					
NB Vol.	638	74 712	EB 48.3	624	
avg delay	60.3	0.0	WB 68.0	1084	
total delay	38471	0.0	NB 54.0	712	
			SB 71.0	665	
Revised NB	54.0	LOS E	intersection delay	61.0	LOS F

This section adjusts the NB delay to reflect that during the "Clear" phase NB travel has zero delay.

This involves recalculating the NB delay and intersection delay based on HCM methodology.

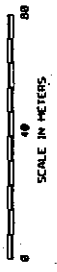
Note: No outbound holding lanes were assumed.



MP3

Sverdrup
CIVIL, INC.

HEWITT-ISELEY

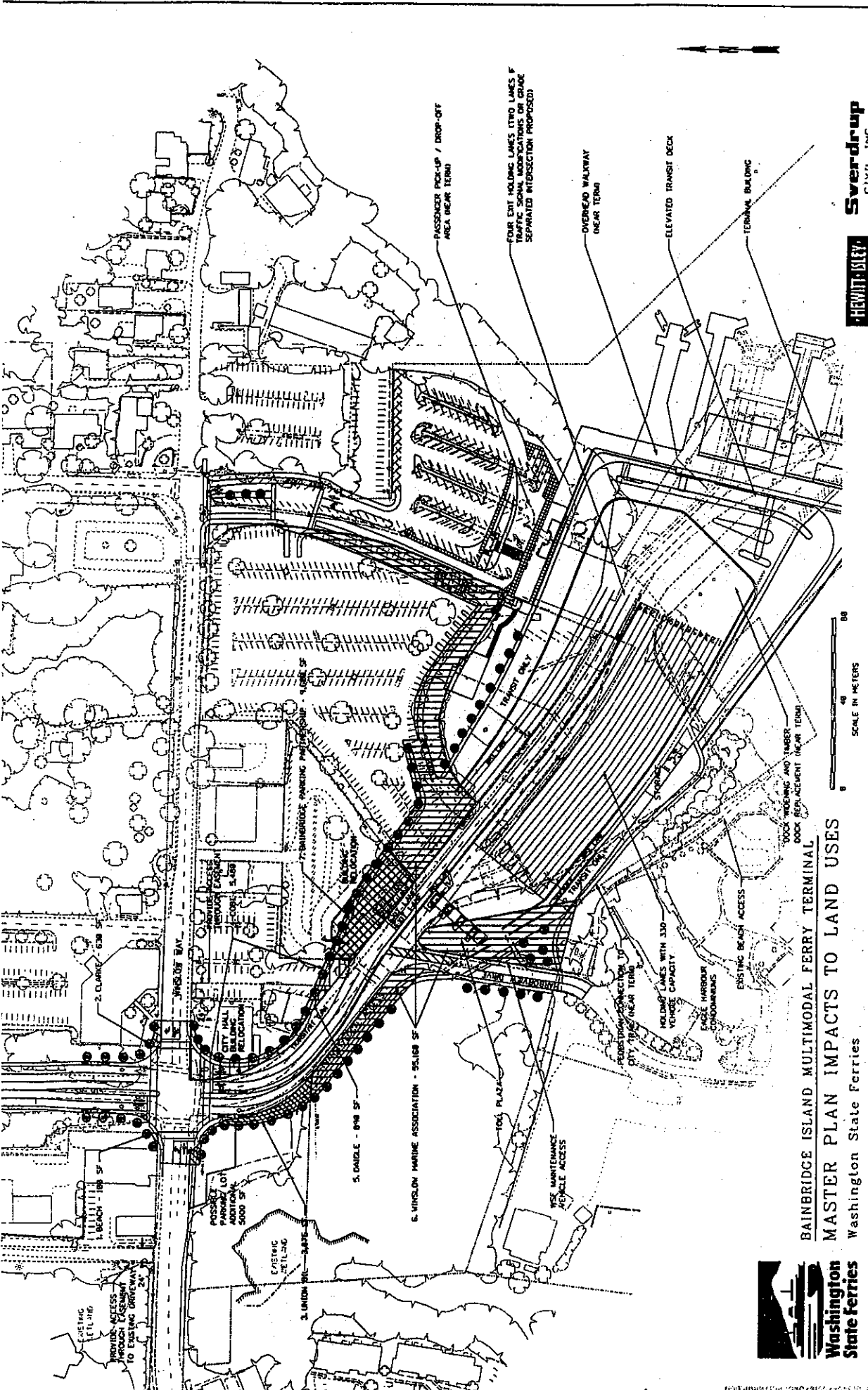


BAINBRIDGE ISLAND MULTIMODAL FERRY TERMINAL
WSF PREFERRED MASTER PLAN

Washington State Ferries



EXISTING WETLAND



Sverdrup
CIVIL, INC.

HEWITT

BAINBRIDGE ISLAND MULTIMODAL FERRY TERMINAL
MASTER PLAN IMPACTS TO LAND USES
Washington State Ferries



SCALE IN METERS
0 48 96

PASSENGER PICKUP / DROP-OFF
AREA (NEAR TERMINAL)

OVERHEAD WALKWAY
(NEAR TERMINAL)

ELEVATED TRANSIT DECK

TERMINAL BUILDING

FOUR ENT HOLDING LAKES (TWO LAKES FOR
TRUCKS, SIGNAL OPERATIONS OR CRUISE
SEPARATED INTERSECTION PROPOSED)

TRUCK ONLY

EXISTING BEACH ACCESS

HOLDING LAKES WITH 330
VEHICLE CAPACITY

EAGLE HARBOR
CONDOMINIUMS

WOOD WORKING AND LUMBER
BOOK REPLACEMENT (NEAR TERMINAL)

VEHICLE MAINTENANCE
VEHICLE ACCESS

DODD PLAZA

6. VINSLON MARINE ASSOCIATION - 55,168 SF

5. DANIEL - 694 SF

7. BAINBRIDGE PARKING
RELOCATION

8. JAMES
RELOCATION

9. JAMES
RELOCATION

10. CLARKE - 634 SF

11. CLARKE - 634 SF

12. CLARKE - 634 SF

13. CLARKE - 634 SF

14. CLARKE - 634 SF

15. CLARKE - 634 SF

16. CLARKE - 634 SF

17. CLARKE - 634 SF

18. CLARKE - 634 SF

19. CLARKE - 634 SF

20. CLARKE - 634 SF

EXISTING
CEILING

EXISTING
ELEVATOR

EXISTING
WALKWAY

EXISTING
CASEWAY

EXISTING
DRIVEWAY

EXISTING
DRIVEWAY

EXISTING
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